United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

INDEX

CONSERVATION STEWARDSHIP PROGRAM

New Enhancement for FY 2024

REVISED for FY2024

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E595A	E595A	Reduce risk of pesticides in surface water by utilizing precision pesticide application techniques
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E595G	E595G	Reduce resistance risk by utilizing PAMS techniques
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E612B	E612B	Planting for high carbon sequestration rate
E612C	E612C	Establishing tree/shrub species to restore native plant communities

E612D	E612D	Adding food-producing trees and shrubs to existing plantings to an agroforestry system
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E612F	E612F	Sugarbush management - Not offered in Nebraska
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E643B	E643B	Restoration and management of rare or declining habitat
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E646A	E646A	Close structures to capture and retain rainfall for waterfowl and wading bird winter habitat - Not offered in Nebraska
E646B	E646B	Extend retention of captured rainfall for migratory waterfowl and wading bird late winter habitat - Not offered in Nebraska
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E646D	E646D	Manipulate vegetation and maintain closed structures for shorebird late summer habitat
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E647B	E647B	Provide early successional shorebird habitat between first crop and ratoon crop - Not offered in Nebraska
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E666O	E666O	Snags, den trees, and coarse woody debris for wildlife habitat
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E666R	E666R	Forest songbird habitat maintenance
E666S	E666S	Facilitating longleaf pine regeneration and establishment- Not offered in Nebraska

New in 2024 | Revised for 2024 | Not offered in Nebraska | Use National Job Sheet

United States Department of Agriculture

CONSERVATION PLANNING ACTIVITY

E199A

CONSERVATION STEWARDSHIP PROGRAM

CSP Comprehensive Conservation Plan

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Forest; Pasture; Range; Associated Agricultural Land; & Farmstead

RESOURCE CONCERNS ADDRESSED: Applicable State Priority Resource Concern Categories

LIFE SPAN: 1 Year

Activity Description

The Conservation Stewardship Program (CSP) Comprehensive Conservation Plan (CCP) – E199A is a conservation plan developed by a Technical Service Provider (TSP) that will assess and recommend conservation alternatives to address each State priority resource concern category (PRCC) on all land uses included in the operation where stewardship thresholds are not met at time of application nor by the end of the CSP contract and not addressed through current, written conservation plans.

The CSP CCP – E199A is a planning activity a participant can elect to add to their contract, with payment only occurring one-time. The CSP CCP – E199A is not an activity used to reach or meet Stewardship Threshold Eligibility (STE) and can only be scheduled as a supporting contract item in addition to activities scheduled in a CSP contract.

CSP CCP – E199A will provide conservation alternatives to meet or exceed identified and eligible PRCCs that can be implemented by the participant(s) through any number of means, but outside the CSP contract in which the CSP CCP-E199A is included.

Criteria

NRCS has completed the Conservation Assessment and Ranking Tool (CART) and uses the CART Report to identify all State PRCCs that have not met stewardship thresholds by land use at time of application nor by the end of the CSP contract.

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- ☐ Participant is enrolled in the CSP program and has scheduled the CSP CCP E199A activity in the CSP contract.
- ☐ Participant must select a certified TSP to complete the CSP CCP - E199A.
- ☐ The TSP must follow the requirements of Conservation Planning Activity (CPA) – Conservation Plan - 199 or other land-use specific conservation planning activity documents such as CPA – 102 Certified Nutrient Management Plan (CNMP) or CPA – 106 Forest Management Plan (FMP) to develop at least one conservation system alternative to treat each identified and applicable State PRCCs for each land use in the operation.
- ☐ The TSP must be certified in the NRCS Registry of Technical Service Providers for all specific conservation planning activities to be used in development of the CSP CCP – E199A.

Documentation and Implementation Requirements

Participant(s) will:

- ☐ Select a certified TSP from the NRCS Registry of Technical Service Providers ensuring the TSP is certified for all specific conservation planning activities used in development of the CSP CCP – E199A.
- ☐ Work with the TSP during the development of the plan to identify conservation objectives for each land use included in the operation.
- ☐ Work with the TSP in development of the plan to provide records including CART summary reports and other information needed to formulate alternatives that will meet or exceed the identified State PRCCs for each land use.
- ☐ Provide information as requested by NRCS to certify completion of the CSP CCP – E199A.

NRCS will:

- ☐ Complete a CART assessment as part of the CSP application process that identifies the State PRCCs not met at the time of application nor by the end of the contract for each land use in the operation. State PRCCs not met at time of application but met by the end of the contract are not eligible for inclusion in the CSP CCP – E199A.
- ☐ Identify any current written conservation plans (e.g. Conservation Technical Assistance (CTA), Environmental Quality Incentives Program (EQIP) CAPs, CPAs, CNMPs, FMPs, etc.) that the participant has not yet implemented which identify conservation activities to address State PRCCs not met through the CSP contract.

Table 1: State PRCCs addressed through another conservation plan.

Land Use	State PRCC	Plan Type	Applicable Land Use(s)

☐ Provide to the participant a list of all State PRCCs by Land Use that the TSP must evaluate for the CSP CCP - E199A (List in Table 2), excluding State PRCCs addressed in Table 1.

Table 2: Unmet State PRCCs that must be addressed in the plan.

Unmet State PRCC	Applicable Land Use(s)

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- ☐ CSP CCP – E199A is a one-time payment to be planned in any year of the contract and required to be completed by the end of the contract.
- ☐ Review all applicable conservation planning activity requirements and documentation provided by the TSP ensuring all identified and eligible State PRCCs are planned to be addressed as required of the CSP CCP – E199A.

NRCS Documentation Review:

I have reviewed all required documentation and have determined the participant met all criteria and requirements.

Participant Name _____ Contract Number_____

Number of Land Uses _____

Types of Land Uses _____

Number of Eligible State PRCCs Planned Listed by Land Use _____

_____

_____

_____

Payment Schedule Scenario _____

FY Planned_____

FY Completed_____

_____ _____

NRCS Technical Adequacy Signature Date

Guidelines for Choosing a FY-24 Practice Payment Scenario for CSP E199A – Comprehensive Conservation Plan (CCP)

The following steps are provided to assist planners in choosing between the Fiscal Year (FY) 2024 E199A – CCP payment schedule scenarios to be used for contracting purposes. Payment scenarios are based on typical situations but E199A offers rates based on several factors that need to be considered when contracting. Ultimately, the planner will select the payment scenario best meeting the scale and complexity of the operation for the E199A.

1. **Determine the size/type of operation.**
    a. FY-24 E199A payment scenarios #85, #101 and #117 are aimed towards smaller scaled, multi-diversified operations with no livestock waste storage.
    b. FY-24 E199A payment scenarios #5, #21, and #37 are aimed towards larger scaled operations with only one enterprise.
    c. FY-24 E199A payment scenarios #53 and #69 are aimed towards larger scaled operations with multiple enterprises.

2. **Determine the number of enterprises.**
    a. Enterprises are the primary farm types included in an agricultural operation. Examples of enterprises include dairy, swine, poultry, beef/veal, field/row crops, fruit/vegetables, aquaculture, and nursery/greenhouse.

3. **Determine the number of land uses.**

4. **Determine the number of State PRCCs to be assessed on each land use with the E199A- CCP.**
    a. Identify State PRCCs not met at the time of application nor by the end of the contract.
    b. Of those State PRCCs, identify those that are being addressed through an existing conservation plan.

5. Select the FY-24 E199A Payment Scenario.

a. The following decision table is provided to assist in determining E199A Payment Scenarios.

Size/Type of Operation	Number of Enterprises	Number of Land Uses	Number of State PRCCs Not Met/Not Addressed by Existing Conservation Plan	FY-24 E199A Payment Scenario
50 acres or less total of all land uses and no livestock waste storage	N/A	1	ANY amount	#117 – Basic Comprehensive Conservation Plan – One Land Use
	N/A	2 or more	Less than 2 on ANY land use	#101 – Comprehensive Conservation Plan on 2 or more Land Use
	N/A	2 or more	2 or more on EVERY land use	#85 – Operation with > 2 Land uses and 2 or more Resource Concerns
More than 50 acres total of all land uses or operation of any size with livestock waste storage	1	1	4 or less	#5 – Single Enterprise - Low
		2-3	2 or less on EVERY land use	
	1	1	5 or more	#21 – Single Enterprise - Medium
		2-3	3 or 4 on EVERY land use	
		4 or more	2 or less on ANY land use	
	1	2-3	5 or more on EVERY land use	#37 – Single Enterprise - High
		4 or more	3 or more on EVERY land use	
	2 or more	1	ANY amount	#53 – Multiple Enterprise - Medium
		2-3	2 or less on EVERY land use	
	2 or more	2-3	3-4 on EVERY land use	#69 – Multiple Enterprise - High
		2-3	5 or more on EVERY land use	
		4 or more	ANY amount	

United States Department of Agriculture

Conservation Enhancement Activity

CONSERVATION STEWARDSHIP PROGRAM

E314A

Brush management to improve wildlife habitat

Conservation Practice 314: Brush Management

APPLICABLE LAND USE: Pasture, Range, Forest, Associated Ag Land

RESOURCE CONCERN: Plants; Animals

ENHANCEMENT LIFE SPAN: 10 years

Enhancement Description

Brush management is employed to create a desired plant community, consistent with the related ecological site steady state, which will maintain or enhance the wildlife habitat desired for the identified wildlife species. It will be designed to provide plant structure, density and diversity needed to meet those habitat objectives. This enhancement does not apply to removal of woody vegetation by prescribed fire or removal of woody vegetation to facilitate a land use change.

Criteria

- This enhancement will be applied in a manner to achieve the desired control of the target woody species while protecting the desired species through mechanical, chemical, or biological methods, alone or in combination. NRCS will not develop biological or chemical treatment recommendations except for biological control using grazing animals. NRCS may provide clients with acceptable biological and/or chemical control references.

- Identify wildlife species of concern and landscape specific brush habitat functionality that is consistent with the related ecological site steady state or another desired state that will meet the objective.

- Brush management will be planned and applied in a manner to meet the habitat requirements for wildlife species of concern as determined by the state's NRCS Wildlife Habitation Evaluation Guide (WHEG).

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- Evaluate wildlife habitat with the state NRCS WHEG and manage for a value of 0.60 or greater.
- Brush management will be designed to achieve the desired plant community based on species composition, structure, density, and canopy (or foliar) cover or height.
- Conduct treatments during periods of the year that accommodate reproduction and other life-cycle requirements of target wildlife and pollinator species.

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Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, meet with NRCS to complete the Wildlife Habitat Evaluation Guide (WHEG) evaluation at the site.
- ☐ Prior to implementation, determine and write down clear objectives for brush management and implementation of this enhancement.
- ☐ Prior to implementation, develop a map delineating the areas to be treated and enrolled in this enhancement.
- ☐ During implementation, maintain records of applied treatments (pesticide used, rate applied, timing, etc.) and grazing restrictions. The records must support the label requirements for re-entry or grazing restrictions when applicable.
- ☐ After implementation, reassess habitat condition with NRCS using the WHEG.
- ☐ After implementation, provide records for review by NRCS to verify enhancement was implemented to meet criteria.

NRCS will:

As needed, provide technical assistance to participant as requested.

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Brush Management (Code 314) as it relates to implementing this enhancement.
- ☐ Prior to implementation, confirm brush management and grazing management plan objectives clearly identify the wildlife of concern for the area.
- ☐ Prior to implementation, meet with participant to complete WHEG evaluation at the site.
  Existing WHEG score =_____Planned Post Implementation WHEG score = _____
- ☐ Prior to implementation, NRCS will make cover or density measurements at georeferenced transects on key areas within the treatment area.
- ☐ After implementation, NRCS will return to georeferenced area to measure cover or density and report the results.
- ☐ After implementation, review records to verify participant implemented enhancement to meet criteria.

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- ☐ After implementation, review record of applied treatment (pesticide used, rate applied, timing, etc.) and grazing restrictions.
- ☐ After implementation, reassess habitat condition using the Wildlife Habitat Evaluation Guide.
  Post Implementation WHEG score = _____

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name_____Contract Number _____

Total Amount Applied_____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E314A

Brush management for improved wildlife habitat

Conservation Practice 314: Brush Management

APPLICABLE LAND USE: Pasture, Range, Forest, Associated Ag Land

RESOURCE CONCERN: Plants; Animals

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

Prioritize wildlife species of concern found on the Tier I list of at-risk species of the Nebraska Natural Legacy Plan that are negatively impacted by brush or tree encroachment into grassland or herbaceous wetland habitats. The WHEW (Wildlife Habitat Evaluation Worksheet) to be commonly used includes the Pastureland Habitat Evaluation Worksheet 2006 or Rangeland Habitat Evaluation Worksheet 2007; or a species- oriented Habitat Evaluation Tool such as Greater Prairie Chicken Habitat Evaluation Tool 2009 or Plains Sharp-tailed Grouse Habitat Evaluation Tool 2009. Other models may be used including a Habitat Suitability Index for an appropriate species. Identify objectives, target species, and habitat functionality of completing this enhancement on the 645 NE IR Upland Wildlife Habitat Management 2007.

Brush management activities shall not occur if suitable nesting cover is being destroyed during the primary nesting period for migratory birds (May 1 through July 31) with consideration of early or late nesting species (i.e. raptors).

In situations where soil erosion is a concern, control methods and/or additional conservation practices will be implemented to reduce the amount of soil disturbance.

Evaluation tools such as Ecological site descriptions (ESD's) and associated reference sheets for Interpreting Indicators of Rangeland Health- Version5 (IIRH-v5), indicators 12 and 16, or Pasture Health Matrix, indicator 12will be used in determining acceptable levels of brush on the applicable land use. This information is to be used to develop brush management, grazing

management, and forest management plans. The recommended treatment will be keyed to state and plant community phases that have the potential for supporting the desired plant community and wildlife species of concern. If ESD's are not available for a specific site, range site descriptions will be used.

Use Brush Management Implementation Requirements 2019 or equivalent to document objectives, implementation and records of brush management activities.

The minimum area to be treated is one management unit (pasture, paddock, etc.).

Utilize E-1054 Reducing Woody Encroachment in Grasslands- A Guide for Understanding Risk and Vulnerability to determine woody encroachment phases and best management practices to include in the brush management plan. Plan must require elimination of all seed producing trees.

E-1054WoodyEncroachment.pdf (rangelands.app)

Use 528 NE IR Prescribed Grazing Design Tool September 2021 updated or equivalent may be used to document the grazing plan.

When chemical treatment of brush is planned, work with NRCS to complete a WinPST run.

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CONSERVATION ENHANCEMENT ACTIVITY

E315A

CONSERVATION STEWARDSHIP PROGRAM

Herbaceous weed treatment to create desired plant communities consistent with the ecological site

CONSERVATION PRACTICE: 315 - Herbaceous Weed Treatment

APPLICABLE LAND USE: Pasture, Range, Forest, Associated Ag Land

RESOURCE CONCERN: Plant, Wildlife

ENHANCEMENT LIFE SPAN: 5 years

Enhancement Description

Mechanical, chemical, or biological, herbaceous weed treatment will be used to control targeted, herbaceous weeds to create, release, or restore desired plant communities that are consistent with achievable, ecological site, steady state descriptions.

Criteria

- Herbaceous weed treatment will be applied to achieve the recorded desired level of control of the target weed species and protect the recorded desired species within the plant community. NRCS will not develop biological or chemical recommendations except biological control by grazing animals.

- Ecological site description (ESD), state and transition models will be employed in development of treatment specifications that are ecologically sound and defensible. The treatments must be congruent with dynamics of the ecological site(s) and keyed to state and plant community phases that have the potential for supporting the desired plant community. If an ESD is not available, base specifications on the best approximation of the desired plant community composition, structure, and function.

- Herbaceous weed treatment will include post treatment measures as needed to achieve the recorded resource management objectives.

- Treatment periods will accommodate reproduction and other life-cycle requirements of target recorded wildlife and/or pollinator species, and the resultant plant community will enhance the plant community composition and structure to meet their needs.

- Treatments will be conducted when target weed species are most vulnerable and will promote restoration of the desired plant communities.

- When herbicides are used, environmental hazards and site-specific application criteria listed on the pesticide label must be followed.

- Access to treated or targeted area will be controlled based on management methods applied and restrictions as listed on chemical labels.

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, obtain an appropriate management plan based upon land use where this enhancement is planned. The plan will be based on NRCS Conservation Practice Standards Prescribed Grazing (Code 528), Forest Stand Improvement (Code 666), or Upland Wildlife Habitat Management (Code 645). The management plan must identify desired plant community composition, structure, and function. The management strategy must complement NRCS Conservation Practice Standards Herbaceous Weed Treatment (Code 315) in supporting upward trends. (NRCS will provide technical assistance, as needed.)

- ☐ Prior to implementation, develop a map indicating areas to be treated as a part of the management plan.

- ☐ During implementation, notify NRCS of any planned changes to verify changes meet NRCS enhancement criteria.

- ☐ During implementation, keep records of all treatments, including application method, timing, and amount applied as recommended by NRCS. Refer to NRCS Conservation Practice Standard Herbaceous Weed Treatment (Code 315).

Treatment Date	
Treatment Method	
Amount Applied (acres)	

- ☐ During implementation, develop a map indicating treated areas.

- ☐ After implementation, make the following records and documents available for review by NRCS to verify implementation of the enhancement:

    - Monitoring data records associated with management plan that measures trend toward desired plant community.
    - Treatment records including timing, application method and amount (acres) applied.

NRCS will:

- ☐ Prior to implementation and as needed, NRCS will provide technical assistance.

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Herbaceous Weed Treatment (Code 315) as it relates to implementing this enhancement.

- ☐ Prior to implementation, provide and explain (depending on land use where the enhancement will be implemented) NRCS Conservation Practice Standard Prescribed Grazing (Code 528), Forest Stand Improvement (Code 666), or Upland Wildlife Habitat Management (Code 645) as they relate to implementing this enhancement.

- ☐ Prior to implementation, provide assistance as needed in the development of the management plan or completing state specific job sheet for NRCS Conservation Practice Standard Herbaceous Weed Treatment (Code 315) to treat targeted species.

- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.

- ☐ After implementation, review documentation and records to verify implementation of the enhancement.

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E315A

Herbaceous weed control to create desired plant communities consistent with the ecological site

Conservation Practice 315: Herbaceous Weed Control

APPLICABLE LAND USE: Pasture, Range, Forest, Associated Ag Land

RESOURCE CONCERN: Plant, Animals

ENHANCEMENT LIFE SPAN: 5 years

State Criteria

It is suitable to use this enhancement for the suppression of encroaching herbaceous species (i.e. smooth brome, sericea lespedeza, etc.) that detract from the ecological function or habitat value of the site.

Target a wildlife species that is of national/regional interest (i.e. Northern bobwhite quail) or species of concern found on the Tier I list of at-risk species of the Nebraska Natural Legacy Plan that are negatively impacted by herbaceous weeds, including invasive plant species, encroaching into grassland or herbaceous wetland habitats. The WHEW (Wildlife Habitat Evaluation Worksheet) to be commonly used includes the Pastureland Habitat Evaluation Worksheet 2006 or Rangeland Habitat Evaluation Worksheet 2007; or a species- oriented Habitat Evaluation Tool such as Greater Prairie Chicken Habitat Evaluation Tool 2009 or Plains Sharp-tailed Grouse Habitat Evaluation Tool 2009. Other models may be used including a Habitat Suitability Index for an appropriate species.

A WHEW will be completed prior to development of the forage management plan. A score of 0.60 or higher is required following the implementation of the treatment.

CONSERVATION STEWARDSHIP PROGRAM

In situations where soil erosion is a concern, control methods and/or additional conservation practices will be implemented to reduce the amount of soil disturbance.

Ecological site descriptions (ESD), and state and transition models will be used in development of herbaceous weed control and grazing management plans. The treatment will be keyed to state and plant community phases that have the potential for supporting the desired plant community.

For sites where ESD's are not available, Range Site Descriptions will be used in the development of treatment specifications.

The minimum area to be treated is one management unit (pasture, paddock, etc.).

Use Herbaceous Weed Treatment Implementation Requirements 2019 (NE-CPA-315 Plan for Herbaceous Weed Treatment Plan) or equivalent to document objectives, implementation and records of weed treatment activities. Use 528 NE IR Prescribed Grazing Design Tool 2021 or equivalent to document the grazing plan. When chemical treatment of herbaceous weeds is planned, work with NRCS to complete a WinPST run.

In situations where soil erosion is a concern, control methods and/or additional conservation practices will be implemented to reduce the amount of soil disturbance.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E327A

Conservation cover for pollinators and beneficial insects

Conservation Practice 327: Conservation

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 Years

Enhancement Description

Seed or plug nectar and pollen producing plants in non-cropped areas such as field borders, vegetative barriers, contour buffer strips, grassed waterways, shelterbelts, hedgerows, windbreaks, conservation cover, and riparian forest and herbaceous buffers.

Criteria

- Habitat areas must be at least 0.5 acres for each 40 acres of the selected land use. Where the selected land use is less than 40 acres, the required amount of habitat will be reduced according to the ratio of 0.5 acres to 40 acres. Where the selected land use is greater than 40 acres, the 0.5-acre habitat areas(s) may be a single site or interspersed sites in the larger land use areas as agreed to by the NRCS State Biologist.

- Establish habitat for pollinators (A) and beneficial insects (B) as described below:

A. Pollinators

1. NRCS at the state level will develop lists of plants suitable for pollinator habitat.

   The lists must emphasize as many native species as practical.

2. The habitat planting will include (as a minimum) three early, three mid, and three late flowering species from the NRCS state list including forbs, legumes, vines, shrubs, and/or trees. Plants that produce toxic nectar will not be planted.

3. Any other use of the pollinator habitat area must not compromise its intended purpose.

B. Beneficial insects

1. Identify pest species and associated beneficial insects targeted for control.

2. Inventory existing conditions on the farm to determine habitat needs of selected beneficial insects, including:

   (a) Permanent insectary sites,

   (b) Augmentation of existing hedgerows, field borders or other odd areas adjacent to fields, and/or

   (c) Trap crop areas.

3. Plant selection should be matched to attract identified beneficial insects.

4. Beneficial insect habitat may include either annual or perennial cover. If annual cover is used, the cover must be replanted each year during the life of the contract.

5. NRCS at the state level will develop lists of plants suitable for beneficial insect habitat. The lists must emphasize as many native species as practical.

C. Planting criteria for both pollinators and beneficial insects

1. Site selection should consider existing weed pressures and available methods of control, delay planting if high weed pressure requires aggressive treatment.

2. Site preparation and plant establishment shall be accomplished according to the appropriate NRCS conservation practice and specifications.

3. Successful establishment is when the planting provides at least 80% soil cover

when visually estimated and the resultant cover consists primarily of the early, mid, and late blooming species planted for pollinators and/or other beneficial insects.

4. Insecticides should not be used in the habitat planting area.

5. Herbicides are allowed during site preparation (prior to planting) when it is necessary to eliminate competing weeds from a planting area in order for nectar and pollen producing plants to establish.

6. After a pollinator enhancement has been planted, herbicides may be spot-sprayed to remove broad-leaf weeds, or grass-selective herbicides may be applied to larger areas to eliminate persistent weedy grasses. Similarly, the entire site may be mowed in the first year post-planting to reduce annual or biennial weeds that persist (site should be mowed just before dominant annual weeds flower).

D. Operation and maintenance for both pollinators and beneficial insects

1. Management and/or maintenance activities such as mowing, haying, burning, or grazing must be conducted outside of the growing season or bloom period. Maintenance should be done on less than 1/3 of the acreage during any given year, except during the first year post-planting.

2. Insecticides should not be used in the habitat planting area. Even non-synthetic botanical insecticides can harm beneficial insects. If adjacent crop areas are treated with insecticides use one or more of the following actions to limit insecticides in the pollinator habitat area:

   (a) Create insecticide free buffers in the first 25 feet of crop area,

   (b) Use application methods that minimize drift to the adjacent habitat,

   (c) Apply active ingredients in the evening when most insect pollinators are not active.

3. The planted habitat areas must be regularly inspected for invasive and/or noxious plants or other plants that may compromise the purpose of this enhancement. Undesirable species should be controlled using the method least damaging method, for example, spot-spraying with herbicide or physical removal.

4. If habitat is part of an organic farming operation, only materials allowed according to the USDA National Organic Program's National List of Allowed and Prohibited Substances may be used.

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

- ☐ Prior to implementation, develop a map showing the location of proposed habitat areas with notes on land use adjacent to proposed habitat areas to discuss with NRCS staff.
- ☐ During implementation, purchase specified seed mix or plant materials that meets pollinator-specific seeding or planting requirements provided by NRCS.
- ☐ During implementation, follow habitat establishment guidance provided by NRCS in the state specifications for NRCS Conservation Practice Standard Conservation Cover (Code 327).
- ☐ After implementation, provide for review by NRCS a list of management and/or maintenance activities carried out to manage the habitat areas and the dates on which those activities occurred.
- ☐ After implementation, take and provide for review photographs as documentation of pollinator habitat area condition.

NRCS will:

- ☐ Prior to implementation, discuss with participant the proposed habitat areas to verify they are in locations suitable for the enhancement.
- ☐ Prior to implementation, provide participant with suitable plant lists.
- ☐ Prior to implementation, provide and explain State specifications for NRCS Conservation Practice Standard Conservation Cover (Code 327).
- ☐ Prior to implementation, provide participant with a recommended seed mix and planting specifications per above criteria (grass/forb ratio; number of forb species per bloom period for pollinator habitat plantings)
- ☐ After implementation, verify successful establishment (per planting criteria above) by review of documentation and photographs.

NRCS Documentation Review:

CONSERVATION STEWARDSHIP PROGRAM

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E327A

Conservation cover for pollinators and beneficial insects

Conservation Practice 327: Conservation Cover

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 years

State Criteria

Configuration: Habitat areas must be at least 0.5 acres, regardless of the size of the selected land use. Habitat areas must be located within each 40 acre block unless sites with unique configurations are approved by the NRCS/Xerces biologist. As a general rule, habitat areas established within the cropland land use must follow these criteria. Habitat areas for adjoining 40 acre blocks may be located side-by-side. It may be useful to install longer, narrower, habitat areas (minimum of 100 feet wide) along the border of crop fields to benefit spatial distribution.

For sites containing perennial cover as the land use (pasture, range, forest, etc.) and flowering plants are a component of that perennial cover, additional "grouping" of habitat areas may occur provided that no portion of the internal land use is greater than ½ mile (2,640 feet) from an established habitat area.

Protection from direct application and drift of insecticides, fungicides, and herbicides should be addressed by site selection and ongoing management. If pollinator plantings are next to a treated crop/area (including treated seed and insecticide, fungicide, or herbicide applications) a 30 ft buffer is required, 100 ft buffers are recommended. Buffers should be maintained as flower free areas. Leaving 30-100 ft of crop rows untreated near field borders can serve as a buffer.

Species Composition, Selection, and Planting: This enhancement requires the use of wildflowers and native grass species found in the region listed in Pollinator Plants of Nebraska. Contact the Xerces/NRCS biologist for approval of the use of any additional species for this enhancement. Seedings must incorporate nine flowering species, with three blooming species in each bloom period, at a minimum of 75% of the seeding rate (based on PLS seeds/ft^2). One species of acceptable non-native forbs in Pollinator Plants of Nebraska may be included. One species of acceptable regionally native species in Pollinator Plants of Nebraska may be included. No single

wildflower species (native or non-native) should comprise more than 10% of the mix (based on PLS seeds/ft^2). Total seeding rates should be a minimum of 15 PLS/ft^2 but higher seeding rates are encouraged and may provide better cover and establishment and reduce weed invasion.

CONSERVATION STEWARDSHIP PROGRAM

If pest control by beneficial insects is desired, select plant species identified as valuable for beneficial insects for the region on Pollinator Plants of Nebraska. For targeted pest control, see Habitat Planning for Beneficial Insects: Guidelines for Conservation Biological Control (available on The Xerces Society website) or contact the NRCS/Xerces biologist. Use the NE-CPA-8 Grass Seeding Job Sheet to document seed mixes for this enhancement.

If existing habitat areas are comprised of mostly native grasses and forbs and no non-native aggressive grasses are present, pollinator plants may be interseeded after grass suppression and thatch management outlined in Early Successional Habitat Development/Management Procedures (647 DP). The minimum seeding rate of 10 PLS/ft^2 should be used for interseeded forbs and seeding guidelines above must be followed.

Generally, it will be required to eliminate existing vegetation within the habitat areas using an herbicide application followed by seeding of the necessary grasses and flowering plant species. Multiple treatments (herbicide, tillage, etc.) will be needed to remove aggressive, sod-forming grasses such as smooth brome. A dormant season seeding is recommended for pollinator plantings. Broadcast seeding is recommended for pollinator plantings, especially if the planting is less than 5 acres. Cultipacking after broadcast seeding is recommended. Due to the high forb content, the typical increases in seed mix required when broadcast seeding are not applicable for this enhancement. Bare ground is essential for seed soil contact for broadcast seedings and is recommended for drilled seed as well, even a moderate amount of thatch can affect planting depth and seed germination. If drilled, a native grass seed drill should be used by an experienced operator with frequent calibration checks to ensure that seeds are planted at or less than 1/4" deep.

Establishment: During the first year and second year of growth, one or multiple cuttings at 8-10" high but no shorter when the stand reaches 18-24" are recommended to help prevent weed seed set and promote establishment of native forbs. Cut vegetation should be removed promptly. Mowing or haying as directed above is allowed throughout the growing season in the first and second year of growth, thereafter, follow guidelines below for disturbance timing. Establishment of '80% soil cover' can also be measured as 80% canopy cover of seeded species during the peak of the growing season.

Management: To maintain quality habitat for pollinators and beneficial insects, an annual disturbance regime is strongly recommended. Grazing, burning, haying, or mowing 1/3-1/5 of the planting will prevent tree encroachment and grass dominance. Disturb a different section (1/3-1/5) of the site every year, do not disturb more than 1/3 of the site in any given year. Use the NE-CPA-14 Wildlife Development and Management Plan to document. If possible, avoid disturbance from May 1 until July 31 unless approved by NRCS as part of a management plan intended to maintain and enhance plant diversity and vigor.

Spot spray noxious weeds in the planting. If spot spraying weeds that also serve as pollinator plants (e.g. exotic thistles or other flowering noxious weeds), spray when the plants are not in bloom. If spot spraying must occur during the bloom period, spray during the evening, in order to avoid spraying herbicide directly on pollinators.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E327B

CONSERVATION STEWARDSHIP PROGRAM

Establish Monarch butterfly habitat

Conservation Practice 327: Conservation Cover

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land; Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 years

Enhancement Description

Seed or plug milkweed (*Asclepias* spp.), and high-value monarch butterfly nectar plants on marginal cropland, field borders, contour buffer strips, and similar areas.

Criteria

- Habitat areas must be at least 0.5 acres.
- Establish and maintain habitat for monarch butterflies as described below:

A. Monarch butterflies

- Lists of larval host plants and nectar plants suitable for monarch butterfly habitat are provided in the NRCS Field Office Technical Guide (FOTG).
- A grass component to a monarch habitat planting is commonly needed for ecological stability, weed control, and fuel for prescribed burning. The FOTG provides information on the grass/forb ratio for monarch habitat plantings.
- To provide food (nectar and pollen) for adult monarch butterflies, at least 60% of the forb seeds (pure live seed) in the mix shall be from the monarch butterfly planting list

(FOTG). Milkweed seeds are included in meeting the 60% minimum because milkweeds are excellent nectar plants. The FOTG provides information on the required number of forb species per bloom period (early, mid, or late season) for monarch habitat plantings. Bloom periods are to coincide with monarch presence in the area.

- To provide food for monarch butterfly larvae, plantings shall include at least one species of milkweed (*Asclepias* spp.) from the FOTG monarch butterfly planting list. All milkweed species used in the mix must be from this list and shall represent at least 1.5% of the total seeds in the mix. The total seeds include pure live seed from both grass and forbs. Tropical milkweed (*Asclepias curassavica*) shall not be planted.

  Waiver: In some regions, a commercial source of native Asclepias species is limited or not available. In these situations, the NRCS State Conservationist may apply for a waiver, and only require that plantings include monarch nectaring species. In this situation, milkweed seed or plugs are still encouraged to be planted, if possible. If such a waiver is granted, the mix will result in at least 80% of the seed being from the state's monarch nectaring plant list.

- Any other use of the monarch butterfly habitat area must not compromise its intended purpose.

- If a Monarch Butterfly Wildlife Habitat Evaluation Guide (WHEG) is available for use in the state, a minimum planned Monarch WHEG score of "0.60 will be obtained for the planted area.

B. Planting criteria for monarch butterfly habitat

- Site selection should consider existing weed pressures and available methods of control. Delay planting and conduct an additional growing season of weed control if high weed pressure requires aggressive treatment.

- Site preparation and plant establishment shall be accomplished according to the state's specifications for NRCS Conservation Practice Standard Conservation Cover (Code 327) or Wildlife Habitat Planting (Code 420).

- Successful establishment is when the planting provides at least 80 percent soil cover when visually estimated, and resultant cover consists of at least 500 milkweed plants

per acre (approx. 1 stem per each 100-sq. ft.), and successful establishment of at least two targeted nectar plants per bloom period when monarchs are present in the state. A milkweed plant is defined as a single stem emerging from the ground.

- Insecticides should not be used in the habitat planting area.
- Herbicides are allowed during site preparation (prior to planting) when it is necessary to eliminate competing weeds from a planting area in order for nectar and pollen producing plants to establish.
- After a monarch habitat enhancement has been planted, herbicides may be spot-sprayed to remove broad-leaf weeds, or grass-selective herbicides may be applied to larger areas to eliminate persistent weedy grasses. Similarly, in the first-year post-planting, the entire site may be mowed 8 to 10 inches high to reduce annual or biennial weeds that persist (site should be mowed just before dominant annual weeds flower).

C. Operation and maintenance for monarch butterfly habitat

- Management and/or maintenance activities such as mowing, haying, burning, or grazing shall be conducted outside of the season when monarch larvae or adults are present.
- Insecticides should not be used in the habitat planting area.
- The planted habitat areas shall be regularly inspected for invasive and/or noxious plants or other plants that may compromise the purpose of this enhancement. Undesirable species shall be controlled using Individual Plant Treatment methods, for example, spot-spraying with herbicide or physical removal of individual plants.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide a map showing the location of proposed habitat areas with notes on land use adjacent to proposed habitat areas to discuss with NRCS staff.
- ☐ During implementation, purchase specified seed mix or plant materials that meets monarch-specific seeding or planting requirements provided by NRCS.
- ☐ During implementation, follow habitat establishment guidance provided by NRCS in the state specifications for NRCS Conservation Practice Standard Conservation Cover (Code 327).
- ☐ After implementation, provide a list of management and/or maintenance activities carried out to manage the habitat areas and the dates on which those activities occurred.
- ☐ After implementation, provide photo documentation of monarch habitat areas.

NRCS will:

- ☐ Prior to implementation, assess habitat condition using a monarch Wildlife Habitat Evaluation Guide (WHEG) to calculate current WHEG score and anticipated WHEG score after implementation of Enhancement. **Benchmark WHEG score = _____ Planned Post Implementation WHEG score = _____**
- ☐ Prior to implementation, provide participant with suitable larval host plants and nectar plants lists.
- ☐ Prior to implementation, provide and explain State specifications for NRCS Conservation Practice Standard Conservation Cover (Code 327) or Wildlife Habitat Planting (Code 420).
- ☐ Prior to implementation, provide participant with a recommended seed mix and planting specifications per above criteria (grass/forb ratio; number of forb species per bloom period for monarch habitat plantings).
- ☐ After implementation, verify successful establishment (per planting criteria above).

NRCS Documentation Review:

CONSERVATION STEWARDSHIP PROGRAM

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E327B

Establish Monarch butterfly habitat

Conservation Practice 327: Conservation Cover

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 years

State criteria

Configuration: Habitat areas must be at least 0.5 acres, regardless of the size of the selected land use. Habitat areas must be located within each 40 acre block unless sites with unique configurations are approved by the NRCS/Xerces biologist. As a general rule, habitat areas established within the cropland land use must follow these criteria. Habitat areas for adjoining 40 acre blocks may be located side-by-side. It may be useful to install longer, narrower, habitat areas (minimum of 100 feet wide) along the border of crop fields to benefit spatial distribution.

For sites containing perennial cover as the land use (pasture, range, forest, etc.) and flowering plants are a component of that perennial cover, additional “grouping” of habitat areas may occur provided that no portion of the internal land use is greater than ½ mile (2,640 feet) from an established habitat area.

Protection from direct application and drift of insecticides, fungicides, and herbicides should be addressed by site selection and ongoing management. If monarch plantings are next to a treated crop/area (including treated seed and insecticide, fungicide, or herbicide applications) a 100 ft buffer is required. Buffers should be maintained as flower free areas. Leaving 100 ft of crop rows untreated near field borders can serve as a buffer.

Complete the Monarch Habitat Evaluation Guide: Northern Plains before implementation of the seeding. All planned habitat components must score "Excellent".

Species Composition, Selection and Planting: This enhancement requires the use of the flowering plant species that benefit monarch butterflies including the host plant (Asclepias spp. – milkweeds) and identified nectar plants. A minimum of 60% (based on PLS seeds/ft2) of the

seeding mixture must come from at least 10 species on the Monarch Planting List: Northern Plains Edition-Nebraska supplement. A minimum of 0.4 milkweed PLS seed/ft2 is required, it is required that more than 1 milkweed species be used in each planting Use milkweed species found on the Monarch Planting List: Northern Plains Edition-Nebraska supplement. The remaining 40% of the mixture will consist of other native pollinator forbs and allowed native grasses from the region found on the Pollinator Plants of Nebraska, the use of non-native forbs or grasses is not allowed for this enhancement. The seed

mix must contain at least 3 species in each bloom period and a minimum of 20 species. Seed mixes with 30 or more species are expected. Total seeding rates (forbs and allowed native grasses) should be a minimum of 25 seeds/ft2 and higher seeding rates are encouraged. Local ecotype seed should be utilized when available. Use the NE-CPA-8 Grass Seeding Job Sheet.

If existing habitat areas are comprised of mostly native grasses and forbs and no non-native aggressive grasses are present, monarch nectar and host plants may be interseeded after grass suppression and thatch management outlined in Early Successional Habitat Development/ Management Procedures (647 DP). A minimum of 15 PLS seeds/ft2 are required for interseeding and must follow the guidelines above, however interseeding rates approaching or exceeding 30 PLS seeds/ft2 are encouraged and expected.

Generally, it will be required to eliminate existing vegetation within the habitat areas using one or multiple disturbances followed by seeding of the necessary plant species. Multiple treatments (herbicide, tillage, etc.) will be needed to remove aggressive, sod-forming grasses such as smooth brome. A dormant season seeding is recommended for monarch plantings. Broadcast seeding is recommended, especially if the planting is less than 5 acres. Cultipacking is recommended after broadcast seeding. Due to the high forb content, the typical increases in seed mix required when broadcast seeding are not applicable for this enhancement. Bare ground is essential for seed soil contact for broadcast seedings and is recommended for drilled seed as well, even a moderate amount of thatch can affect planting depth and seed germination. If drilled, a native grass seed drill should be used by an experienced operator with frequent calibration checks to ensure that seeds are planted at or less than 1/4" deep.

Establishment: During the first year and second year of growth, one or multiple cuttings at 8-10" high but no shorter when the stand reaches 18-24" are recommended to help prevent weed seed set and promote establishment of native forbs. Cut vegetation should be removed promptly.

Mowing or haying as directed above is allowed throughout the growing season in the first and second year of growth, thereafter, follow guidelines below for disturbance timing.

Management: At least one disturbance (grazing, burning, haying, or mowing) occurring after the second year of growth is required. Monarchs may be present in Nebraska from April 15 to October 15 and vegetation should not be disturbed during that time period unless approved by NRCS as part of a management plan necessary to maintain and enhance plant diversity and vigor. To maintain quality habitat for monarchs, an annual disturbance regime is strongly recommended.

The required disturbance may happen on all acres at once but grazing, burning, haying, or mowing 1/3-1/5 of the planting annually when monarchs are not present is ideal. Best management plans would disturb a different section (1/3-1/5) of the site every year, with no more than 1/3 of the site disturbed in any given year. Varying the timing and type of disturbance maintains diverse plant communities. Use the NE-CPA-14 Wildlife Development and Management Plan to document.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E328C

CONSERVATION STEWARDSHIP PROGRAM

Conservation crop rotation on recently converted CRP grass/legume cover

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Crop rotation on acres converted, no more than 2 years prior, from CRP grass/legume cover to annual crops. Rotation minimizes disturbance (STIR less than 10) and reduces soil erosion below soil tolerance level. Enhancement not applicable on hayland.

Criteria

- Enhancement limited to acres where the conversion from Conservation Reserve Program (CRP) grass/legume conservation cover to annual cropland took place not more than 2 years prior to enrollment in Conservation Stewardship Program.
- This enhancement is not applicable on hayland.
- Crops shall be grown in a planned sequence as outlined in the implementation requirements.
- The crop rotation must include a minimum of three different crop types. For the purpose of this enhancement a cover crop is considered a different crop.
- Select crops, a tillage system, and cropping sequence(s) that will produce sufficient and timely quantities of biomass or crop residue which, in conjunction with other

practices in the management system that will reduce soil erosion from water and wind to a level below the soil tolerance (T) level (average annual soil loss).

CONSERVATION STEWARDSHIP PROGRAM

- Crop management must minimize soil disturbance resulting in a Soil Tillage Intensity Rating (STIR) less than 10 for the crop rotation (management STIR value).
- Where applicable, plan suitable crop substitutions when the planned crop cannot be planted due to weather, soil conditions, or other local situations.

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

☐ Prior to implementation, provide NRCS with the planned crop rotation and tillage operation(s) used for each crop.

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

Field	Crop	Field Operation	Timing of Field Operation (month/year)

☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

☐ After implementation, if changes to the rotation were made, complete the tables above to document the applied Conservation Crop Rotation for the contract period and provide to NRCS.

NRCS will:

☐ As needed, provide technical assistance in selecting crop rotations or substitute crops that would meet the criteria of the enhancement.

☐ As needed, provide additional assistance to the participant as requested.

☐ Prior to implementation, verify the enhancement is planned for acres where the conversion from CRP grass/legume conservation cover to annual cropland took place no more than 2 years prior to enrollment in CSP. **Date of Conversion:** _____

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- ☐ Prior to implementation, verify the enhancement is not planned on hayland.
- ☐ Prior to implementation, use information provided from the participant to calculate soil loss estimates and STIR calculations using the current NRCS approved wind and water erosion prediction technologies. The planned rotation must meet the enhancement criteria of a management STIR value of less than 10 and average annual soil erosion from water and wind less than "T".

  "T" = _____t/ac/year Soil erosion = _____t/ac/year STIR value = _____

- ☐ During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if the applied crop rotation is different than the planned crop rotation, use information provided from the participant to calculate soil loss estimates and STIR calculations. The applied rotation must meet the enhancement criteria above. **Soil erosion = _____t/ac/year and STIR value = _____**

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E328C

Conservation crop rotation on recently converted CRP grass/legume cover

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Documentation Requirements

Participant will:

1. Complete the attached Cropping System Inventory Sheet instead of the tables in the National Job Sheet to provide more detailed information about the planned crop rotation.
2. If cover crops are added to rotation complete, sign, and attach 340 NE IR Cover Crop 2019 (formerly known as Cover Crop worksheet NE-CPA-7).

NRCS will:

1. Attach the printouts from the current NRCS approved water erosion prediction technologies to document the average annual soil loss and STIR value for the participant's planned crop rotation.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans – cover crop	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn	15”	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E328D

CONSERVATION STEWARDSHIP PROGRAM

Leave standing grain crops unharvested to benefit wildlife

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: ANIMALS

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Implement a crop rotation which allows a portion of grain crops to be left in fields un-harvested to provide food and cover for wildlife during winter months.

Criteria

- Crops must be grown in a planned sequence as outlined in the plan. The crop rotation shall include a minimum of three different crops. For this purpose, a cover crop is considered a different crop.
- Where applicable, plan suitable crop substitutions when the planned crop cannot be planted due to weather, soil conditions, or other local situations.
- Select the crops and crop management activities that provide food, cover, and shelter for the targeted wildlife species using an approved habitat evaluation procedure.
- Leave a minimum ½ acre of unharvested, standing grain crops for each 40 acres of cropland. Unharvested plots shall be located in a single location on the 40 acre unit and additional plots shall be located on different 40 acres. *This enhancement is to be planned, contracted, and implemented on an entire field, not just the unharvested acres.*

CONSERVATION STEWARDSHIP PROGRAM

- Locate the unharvested plots adjacent to permanent cover such as brushy fence rows, field borders, forest land, or wetlands (this does not include newly established vegetation).
- Leave unharvested crops standing over winter until it is time to prepare the soil for planting the next crop.

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

- ☐ Prior to implementation, provide NRCS with the planned crop rotation.

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

- ☐ Prior to implementation, develop a map showing planned location(s), crop type(s), and acreage of crops to be left unharvested.
- ☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or unharvested areas to verify the planned system meets the enhancement criteria.
- ☐ During implementation, take photos of all unharvested plots. Photos must indicate field location and date.
- ☐ After implementation, if changes to the rotation were made, complete the tables above to document the applied Conservation Crop Rotation for the contract period and provide to NRCS.
- ☐ After implementation, make a map showing implemented location(s), crop type(s), and acreage of crops that were left unharvested each year available for review by NRCS to verify implementation of the enhancement.
- ☐ After implementation, make photos of the unharvested plots available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- ☐ As needed, provide technical assistance in selecting crop rotations or substitute crops that would meet the criteria of the enhancement.
- ☐ As needed, provide technical assistance in selecting crops for food, cover, and shelter according to the approved habitat evaluation procedure.
- ☐ As needed, provide additional assistance to the participant as requested.

- ☐ During implementation, evaluate planned crop changes, crop rotation, or unharvested areas to verify the planned system meets the enhancement criteria.
- ☐ After implementation, review the map(s) showing implemented location(s), crop type(s), and acreage of crops that were left unharvested each year, to verify implementation of the enhancement.
- ☐ After implementation, review photos of unharvested plots to verify implementation of the enhancement.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SHUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY E328D

CONSERVATION STEWARDSHIP PROGRAM

Leave standing grain crops unharvested to benefit wildlife

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: ANIMALS

ENHANCEMENT LIFE SPAN: 1 Year

State Criteria

Areas must be left unharvested and undisturbed through March 31 of the following year. Acceptable grain crops include corn, milo/sorghum, hay and grain millets, sunflower and all small grains (wheat, oats, barely, etc.). Low value grains such as soybeans and dry edible beans are only eligible provided no weed control is applied during the growing season to the area to be left unharvested.

Each unharvested area must have a minimum width of 30 feet. Two half acre plots may be located adjacently together to address 80 acres of crop. Fields which do not contain or have adjacent permanent perennial vegetation are not eligible for this practice. Mowed road ditches do not count as permanent perennial vegetation.

United States Department of Agriculture

Conservation Enhancement Activity

E328E

CONSERVATION STEWARDSHIP PROGRAM

Soil health crop rotation

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

PRACTICE LIFE SPAN: 1 Year

Enhancement Description

Implement a crop rotation which addresses all four principle components of soil health: increases diversity of the cropping system; maintains residue throughout the year; keeps a living root; and minimizes soil chemical, physical and biological disturbance. The rotation will include at least 4 different crop and/or cover crop types (crop types include cool season grass, warm season grass, cool season broadleaf, warm season broadleaf) grown in a sequence that will produce a positive trend in the Organic Matter (OM) subfactor value over the life of the rotation, as determined by the Soil Conditioning Index (SCI). The current NRCS wind and water erosion prediction technologies must be used to document the rotation and SCI calculations.

Criteria

- Crops must be grown in a planned sequence as outlined in the plan. The crop rotation must include a minimum of four different crop types. For the purpose of this criteria a cover crop is considered a different crop.
- Where applicable, plan suitable crop substitutions when the planned crop cannot be planted due to weather, soil conditions, or other local situations.
- Grow crops that will produce a positive trend in the Organic Matter (OM) subfactor value over the life of the rotation, as determined by the Soil Conditioning Index (SCI). (management SCI value)

CONSERVATION STEWARDSHIP PROGRAM

- The crop rotation includes at least 2 years of high residue crops and/or cover crops per 3 years of the rotation. **(See STATE list of high residue crops)**
- For crop diversity, the planned crop sequence should contain four different crop types; for example, a mix of the following: warm season grass; warm season broadleaf; cool season grass; cool season broadleaf.
- Leave crop residue on the soil surface throughout the year.
- Keep a living root system established as much as practical for the given soil, cropping system, and climate area. Maximize root growth periods by planting the next crop or cover crop as soon as practical after the harvest and/or utilize perennial crops in the rotation. Aim to have living roots at least 90% of available growing days. **(See STATE provided guidance of options to maximize living root systems in local climate and cropping systems; determine available growing days and period of no growth, such as frozen periods in the north.)** Show before and after management files from current NRCS wind and water erosion prediction technologies to document benchmark and planned crop rotation to show increase in living root periods.
- Minimize all types of soil disturbance. No more than one crop-year in the rotation will have a Soil Tillage Intensity Rating (STIR) value greater than 20 (crop STIR value) and the rotation will have a positive trending SCI (management SCI value).

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

- ☐ Prior to implementation, provide NRCS with the current and planned crop rotation and planned field operation(s) used for each crop.

Current Management – Crop Rotation

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)	Crop Type (Warm Grass-WG, Cool Grass-CG, Warm Broadleaf-WB, Cool Broadleaf-CB)

Current Management – Field Operations

Field	Crop	Field Operation	Timing of Field Operation (month/year)

Planned Management – Crop Rotation *(Planned crop rotation must include at least 2 years of high residue crops and/or cover crops per 3 years of the rotation and at least 4 different crop types. Use STATE list of high residue crops.)*

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)	Crop Type (Warm Grass-WG, Cool Grass-CG, Warm Broadleaf-WB, Cool Broadleaf-CB)

Planned Management – Field Operations

Field	Crop	Field Operation	Timing of Field Operation (month/year)

- ☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- ☐ During implementation, take dated pictures with field indicated at least every 3 months to show residue or growing crops.
- ☐ During implementation, leave crop residue on the soil surface throughout the year.
- ☐ After implementation, if changes to the rotation were made, complete the tables above to document the applied Conservation Crop Rotation for the contract period and provide to NRCS.
- ☐ After implementation, provide for review pictures showing residue or growing crops throughout the year.

NRCS will:

- ☐ As needed, provide technical assistance in selecting crop rotations or substitute crops that would meet the criteria of the enhancement.
- ☐ Prior to implementation, verify the planned crop rotation includes at least four different crop types.
- ☐ Prior to implementation, verify the crop rotation includes at least 2 years of high residue crops and/or cover crops per 3 years of the rotation. (Use STATE list of high residue crops.)
- ☐ Prior to implementation, use information provided from the participant to calculate the management Soil Conditioning Index (SCI) value for each field using current NRCS wind

and water erosion prediction technologies. Crop rotation must produce a positive trend in the Organic Matter (OM) subfactor value.
Management SCI Value = _____
OM subfactor value = _____

- ☐ Prior to implementation, use NRCS wind and water erosion prediction technologies to document benchmark and planned crop rotation to show increase in living root periods.
- ☐ During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if the applied crop rotation is different than the planned crop rotation, use information provided from the participant to calculate SCI value to document that the applied rotation met the enhancement criteria.
  Management SCI Value = _____ OM subfactor value = _____
- ☐ After implementation, review pictures showing residue or growing green crops throughout the year to verify the applied system meets the enhancement criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____
NRCS Technical Adequacy Signature Date

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USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E328E

Soil health crop rotation

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

High Residue Producing Annual Crops include:

- Corn
- Grain Sorghum
- Millet
- Small grains such as wheat, rye, oats, barley or triticale
- Forage sorghums and similar forage crops with at least 18" of regrowth following harvest

Removal of stover by baling or other methods is not allowed.

Removal of straw following small grains is allowed when at least 10 inches of stubble height is maintained after removal.

Incidental grazing is allowed when managed to maintain 50% or more crop residue ground cover after grazing.

Cover Crop Requirements

- Cover crops must follow planting dates, seeding rates, method of planting and other requirements in 340 NE CPS Cover Crop 2014. Specifications will be provided on the 340 NE IR Cover Crop 2019 (formerly known as Cover Crop worksheet NE-CPA-7).
- Cover crop mixes must include a cool season grass that will overwinter to provide a living root for at least 90% of available growing days each year.
- Cover crops cannot be mechanically harvested. If the cover crops will be grazed, complete, sign and attach Prescribed Grazing Job Sheet – NE-ECS-528 Cover Crops located in the 528 NE IR Prescribed Grazing Design Tool showing the cover crops grown, estimated production, animal type, number and weight, and planned and actual grazing dates.

CONSERVATION STEWARDSHIP PROGRAM

Documentation Requirements

Participant will:

1. Complete the attached Cropping System Inventory Sheets instead of the tables in the National Job Sheet to provide more detailed information about the existing Crop Rotation and the planned Crop Rotation.
2. If cover crops are added to rotation complete, sign, and attach 340 NE IR Cover Crop 2019 (formerly known as Cover Crop worksheet NE-CPA-7).

NRCS will:

1. Attach the printouts from the current NRCS approved water erosion prediction technologies to document the SCI and Organic Matter subfactor values existing Crop Rotation and the planned Crop Rotation.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the current cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn	15”	May 15	Planter with double disk openers
					October 20	Harvest

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans – Wheat – Cover Crop	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn	15”	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E328F

CONSERVATION STEWARDSHIP PROGRAM

Modifications to improve soil health and increase soil organic matter

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Use of soil health assessment to evaluate impact of current conservation crop rotation in addressing soil organic matter depletion (primary assessment made in Year 1). Modifications to the crop rotation and/or crop management will be made as a result of the assessment results (adding a new crop and/or cover crop to the rotation; making changes to planting and/or tillage system, harvest timing of crops, or termination timing of cover crops). During Year 3 a follow up assessment will be completed to allow time for the modifications to show increased soil organic matter. Modified system must produce a positive trend in the Organic Matter (OM) sub factor value over the life of the rotation, as determined by the Soil Conditioning Index (SCI). The current NRCS wind and water erosion prediction technologies must be used to document the rotation and SCI calculations.

Criteria

- Crops must be grown in a planned sequence as outlined in plan. The crop rotation must include a minimum of four different crops. For purposes of these criteria a cover crop is considered a different crop.
- Where applicable, plan suitable crop substitutions when the planned crop cannot be planted due to weather, soil conditions, or other local situations.

CONSERVATION STEWARDSHIP PROGRAM

- Evaluation of the modified cropping system must produce a soil conditioning index (SCI) of zero or higher and results in a positive trend in the Organic Matter (OM) subfactor value over the life of the rotation. (management SCI value)

- Soil health assessment will be used to evaluate impact of current conservation crop rotation in addressing soil organic matter depletion, as well as additional soil health objectives of the individual grower (primary assessment made in Year 1). During Year 3, a follow up assessment will be completed to allow time for changes to crop rotation and management activities to have an impact on soil health. No specific soil health assessment type is required or recommended by NRCS, but at a minimum the assessment must account for soil organic matter. The specific assessment selected should provide the grower information based on their soil health objectives.

- Modifications to the crop rotation and/or crop management will be made as a result of the assessment results (adding a new crop and/or cover crop to the rotation; making changes to planting and/or tillage system, harvest timing of crops, or termination timing of cover crops).

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide NRCS with the current/planned crop rotation and field operation(s) used for each crop.

Current/Planned Management – Crop Rotation

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

Current/Planned Management – Field Operations

Field	Crop	Field Operation	Timing of Field Operation (month/year)

- ☐ Prior to implementation, select an assessment based on your soil health objectives.

Soil Health Assessment

Producer Objective	**Year 1 Assessment (Value)**	**Year 3 Assessment (Value)**
Soil Organic Matter (Required)		

CONSERVATION STEWARDSHIP PROGRAM

☐ During implementation, adjust crops, crop rotation, or field operations to improve the system after receiving the results of the soil health assessment. Complete in Year 1 and Year 3 at a minimum. Document adjustments below:

Adjusted Management – Crop Rotation

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

Adjusted Management – Field Operations

Field	Crop	Field Operation	Timing of Field Operation (month/year)

NRCS will:

☐ As needed, provide technical assistance in selecting crop rotations or substitute crops that would meet the criteria of the enhancement.

☐ Prior to implementation, verify the planned crop rotation includes at least four different crops.

☐ Prior to implementation, use information provided from the participant to calculate the management Soil Conditioning Index (SCI) value for each field using current NRCS wind and water erosion prediction technologies. Crop rotation must produce a positive trend in the Organic Matter (OM) subfactor value. **Management SCI Value = _____**
OM subfactor value = _____

- ☐ During implementation, evaluate planned adjustments in crops, crop rotation, or field operations to verify the new system meets the enhancement criteria.

- ☐ After implementation, evaluate the applied crop rotation or management using information provided from the participant to calculate SCI values to document that the applied rotation met the enhancement criteria.
  Management SCI Value = _____ OM subfactor value = _____

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E328F

Modifications to improve soil health and increase soil organic matter

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Documentation Requirements

Participant will:

In year one:

1. Complete the attached Cropping System Inventory Sheets instead of the tables in the National Job Sheet to provide more detailed information about the existing Crop Rotation.
2. Complete a soil health assessment for each field. Document assessment results using the table on Page 3 of the National Job Sheet.

In year two:

1. Complete the attached Cropping System Inventory Sheet to document the planned cropping system.

In year three:

1. Complete the same soil health assessment used in year one for each field. Samples should be taken at the same time of year as the original samples. Document assessment results using the table on Page 3 of the National Job Sheet.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

1. Attach the printouts from the current NRCS approved water erosion prediction technologies to document the SCI and Organic Matter subfactor values existing Crop Rotation and the planned Crop Rotation.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the current cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn	15”	May 15	Planter with double disk openers
					October 20	Harvest

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans – Wheat – Cover Crop	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn	15”	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E328G

CONSERVATION STEWARDSHIP PROGRAM

Crop rotation on recently converted CRP grass/legume cover for soil organic matter improvement

Conservation Practice 328: Conservation crop rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCMENT LIFE SPAN: 1 Year

Enhancement Description

Crop rotation on acres converted, no more than 2 years prior, from CRP grass/legume cover to annual crops. Diverse rotation with living roots and residue cover throughout year and minimal disturbance. Enhancement not applicable on hayland.

Criteria

- This enhancement is limited to acres where the conversion of CRP grass/legume conservation cover to annual crops took place not more than 2 years prior to enrollment in CSP. This enhancement is not applicable on hayland.
- Crops must be grown in a planned sequence as outlined in plan. The crop rotation must include a minimum of four different crops. For purposes of these criteria a cover crop is considered a different crop.
- Where applicable, plan suitable crop substitutions when the planned crop cannot be planted due to weather, soil conditions, or other local situations.

CONSERVATION STEWARDSHIP PROGRAM

- Grow crops that will produce a positive trend in the Organic Matter (OM) subfactor value over the life of the rotation, as determined by the Soil Conditioning Index. (management SCI value)
- The crop rotation includes at least 2 years of high residue crops and/or cover crops per 3 years of the rotation. **(See STATE list of high residue crops)**
- For crop diversity, the planned crop sequence of at least 4 different crops should contain at least 3 different crop types; for example a mix of the following: warm season grass; warm season broadleaf; cool season grass; cool season broadleaf.
- Leave crop residue on the soil surface throughout the year.
- Keep a living root system established as much as practical for the given soil, cropping system, and climate area. Maximize root growth periods by planting the next crop or cover crop as soon as practical after the harvest and/or utilize perennial crops in the rotation. Aim to have living roots at least 90% of available growing days. **(See STATE provided guidance of options to maximize living root systems in local climate and cropping systems; determine available growing days and period of no growth, such as frozen periods in the north)**. Show before and after management files from current NRCS wind and water erosion prediction technologies to document benchmark and planned crop rotation to show increase in living root periods.
- Minimize all types of soil disturbance. No more than one crop-year in the rotation will have a Soil Tillage Intensity Rating (STIR) value greater than 20 and the rotation will have a positive trending SCI.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide NRCS with the current and planned crop rotation and planned field operation(s) used for each crop.

Current Management – Crop Rotation

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)	Crop Type (Warm Grass-WG, Cool Grass-CG, Warm Broadleaf-WB, Cool Broadleaf-CB)

Current Management – Field Operations

Field	Crop	Field Operation	Timing of Field Operation (month/year)

Planned Management – Crop Rotation *(Crop rotation must include at least 4 different crops from 3 of the different crop types. The rotation must also include 2 years of high residue crops and/or cover crops per 3 years of the rotation. Use STATE list of high residue crops.)*

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)	Crop Type (Warm Grass-WG, Cool Grass-CG, Warm Broadleaf-WB, Cool Broadleaf-CB)

Planned Management – Field Operations

Field	Crop	Field Operation	Timing of Field Operation (month/year)

☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

☐ During implementation, leave crop residue on the soil surface throughout the year.

☐ During implementation, take dated pictures with field indicated at least every 3 months to show residue or growing crops.

☐ After implementation, if changes to the rotation were made, complete the tables above to document the applied Conservation Crop Rotation for the contract period and provide to NRCS.

☐ After implementation, provide for review pictures showing residue or growing crops throughout the year.

NRCS will:

☐ As needed, provide technical assistance in selecting crop rotations or substitute crops that would meet the criteria of the enhancement.

☐ Prior to implementation, verify the enhancement is planned for acres where the conversion from CRP grass/legume conservation cover to annual cropland took place no more than 2 years prior to enrollment in CSP. **Conversion Date:**_____

☐ Prior to implementation, verify the enhancement is not planned on hayland.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ Prior to implementation, verify the crop rotation includes at least 2 years of high residue crops and/or cover crops per 3 years of the rotation. (Use STATE list of high residue crops)

- ☐ Prior to implementation, verify the planned crop rotation includes at least 4 different crops and contains at least 3 different crop types; for example a mix of the following: warm season grass; warm season broadleaf; cool season grass; cool season broadleaf.
  Planned number of crops: _____
  Planned number of crop types:_____

- ☐ Prior to implementation, use information provided from the participant to calculate the management Soil Conditioning Index (SCI) value for each field using current NRCS wind and water erosion prediction technologies. Crop rotation must produce a positive trend in the Organic Matter (OM) subfactor value.
  Management SCI Value = _____ **OM subfactor value = _____**

- ☐ During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

- ☐ After implementation, if the applied crop rotation is different than the planned crop rotation, use information provided from the participant to document that the applied rotation met the enhancement criteria.
  Applied number of crops: _____
  Applied number of crop types:_____

- ☐ After implementation, if the applied crop rotation is different than the planned crop rotation, use information provided from the participant to calculate SCI value to document that the applied rotation met the enhancement criteria.
  Management SCI Value = _____ OM subfactor value = _____

- ☐ After implementation, review pictures showing residue or growing green crops throughout the year to verify the applied system meets the enhancement criteria.

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E328G

Crop rotation on recently converted CRP grass/legume cover for soil organic matter improvement

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

High Residue Producing Annual Crops include:

- Corn
- Grain Sorghum
- Millet
- Small grains such as wheat, rye, oats, barley or triticale
- Forage sorghums and similar forage crops with at least 18" of regrowth following harvest

Removal of stover by baling or other methods is not allowed.

Removal of straw following small grains is allowed when at least 10 inches of stubble height is maintained after removal.

Incidental grazing is allowed when managed to maintain 50% or more crop residue ground cover after grazing.

Cover Crop Requirements

- Cover crops must follow planting dates, seeding rates, method of planting and other requirements in 340 NE CPS Cover Crop 2014. Specifications will be provided on the 340 NE IR Cover Crop 2019 (formerly known as NE-CPA-7).
- Cover crop mixes must include a cool season grass that will overwinter to provide a living root for at least 90% of available growing days each year.

- Cover crops cannot be mechanically harvested. If the cover crops will be grazed, complete, sign and attach Prescribed Grazing Job Sheet – NE-ECS-528 Cover Crops located in the 528 NE IR Prescribed Grazing Design Tool showing the cover crops grown, estimated production, animal type, number and weight, and planned and actual grazing dates.

Documentation Requirements

Participant will:

1. Complete the attached Cropping System Inventory Sheets instead of the tables in the National Job Sheet to provide more detailed information about the existing Crop Rotation and the planned Crop Rotation.
2. If cover crops are added to rotation complete, sign, and attach 340 NE IR Cover Crop 2019 (formerly known as Cover Crop worksheet NE-CPA-7.

NRCS will:

1. Attach the printouts from the current NRCS approved water erosion prediction technologies to document the SCI and Organic Matter subfactor values existing Crop Rotation and the planned Crop Rotation.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the current cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn	15”	May 15	Planter with double disk openers
					October 20	Harvest

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans – Wheat – Cover Crop	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn	15”	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E328I

CONSERVATION STEWARDSHIP PROGRAM

Forage harvest to reduce water quality impacts by utilization of excess soil nutrients

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Establish a forage crop (single species or mix) following a primary annual crop to take up excess soil nutrients. Select forage known to effectively utilize and scavenge nutrients. Forage shall be harvested for forage, but not be grazed or burned.

Criteria

- This enhancement is applicable on fields where excess soil nutrients cause or increase water quality degradation concerns. Presence of excess nutrients must be identified in recent soil tests or increased risk to water quality documented by risk assessment tool. **(Refer to state specific guidance of options to maximize nutrient uptake in local climate and cropping systems)**

- Forage species, seedbed preparation, seeding rates, seeding dates, seeding depths, fertility requirements, and planting methods will be consistent with applicable local criteria and soil/site conditions. **(Refer to state specific lists of forage crops known to effectively utilize and scavenge nutrients)**

- Select forage crop (single species or mix of two or more species) and planting dates which will not compete with the other crop(s) yield or harvest. ***If legumes are part of the forage mix, consider that this may add nutrients to the system.***

- Select forage crop that is compatible with other components of the crop rotation and for its ability to efficiently scavenge and utilize excess soil nutrients, specifically nitrogen or phosphorous, whichever is identified as a potential risk to water quality. Nutrient uptake only occurs when a crop is actively growing. Therefore, it is imperative that the crops in rotation be planted as soon as possible after forage crop harvest (hay/balage/haylage/etc.) to maximize nutrient cycling and minimize offsite transport of nutrients.

- Determine method and timing of forage crop harvest to meet client objectives. Harvest the forage crop as late as practical to maximize plant biomass production and nutrient uptake.

- Ensure any herbicides used in the crop rotation are compatible with forage crop selections.

- Do not burn forage or residue.

- Do not graze forage crop.

- Reduce or maintain soil erosion from water and wind to below soil tolerance (T) level (average annual soil loss).

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide NRCS with the current and planned crop rotation and field operation(s) used for each crop.

Document excess nutrients identified in soil tests. *Soil tests should be taken as close to production crop harvest as possible.*

Field	Soil Test Date	Nutrient (Nitrogen or Phosphorus)	Soil Test Nutrient Result (ppm or lbs/ac)

Current Management Rotation

Field	Current Crops (in sequence)	Planting Date	Harvest Date

Current Field Operations for Each Crop

Field	Crop	Field Operation	Timing of Field Operation (month/year)

Planned Management Rotation including Forage Crop

Field	Planned Crops/Forage Crop (in sequence)	Planting Date	Harvest Date

Planned Field Operations for Each Crop

Field	Crop	Field Operation	Timing of Field Operation (month/year)

Planned Forage Crop and Seeding Rate *(forage crop may be single species or mix of two or more species)*

Species	Variety	Seed Size	Typical Seeding Depth	Seeding Rate (PLS lbs/acre)	Percent of Mix (%)

Forage Crop Establishment and Management Considerations:

- ☐ Establish forage crop mix as soon as practical prior to or after harvest of the production crop.
- ☐ During implementation, forage crop must not be grazed or burned.
- ☐ During implementation, notify NRCS of any planned changes in forage crop mix or crop rotation, or management to verify the planned system meets the enhancement criteria.

☐ After implementation, if changes were made, update the tables above to document the applied crop rotation for the contract period and provide to NRCS.

After implementation, complete the table below and provide to NRCS

Task	Provide information and details
Seedbed Preparation	
Seeding Date	
Seeding Depth	
Seeding Method	
Fertilizer, as needed	
Weed Management, as needed	
Harvest Date (window)	
Harvest Method	

NRCS will:

☐ As needed, provide technical assistance in selecting forage crop for the crop rotation or substitute species that would meet the criteria of the enhancement. Forage crop may consist of a single species or mix of two or more species.

☐ As needed, provide additional assistance to the participant as requested.

☐ Prior to implementation, verify the enhancement is being planned on fields where excess soil nutrients cause or increase water quality degradation concerns. Presence of excess nutrients must be identified in recent soil tests or increased risk to water quality documented by risk assessment tool. **<REFER TO STATE SPECIFIC GUIDANCE>**

☐ Prior to implementation, use information provided from the participant to calculate the average annual soil erosion value (water and wind) for each field using NRCS erosion prediction technologies.

Benchmark Management Soil Loss = _____ tons/acre/year

Planned Management Soil Loss = _____ tons/acre/year

☐ During implementation, evaluate any planned changes in forage crop selected, timing in crop rotation, management, or field operations to verify the new system meets the enhancement criteria.

☐ After implementation, if there were any changes to planned rotation or management evaluate the applied crop rotation using information provided from the participant to calculate average annual erosion value to document that the applied rotation meets the enhancement criteria.

Applied Management Soil Loss = _____ tons/acre/year

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

CLEAR

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E328I

Forage harvest to reduce water quality impacts by utilization of excess soil nutrients

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Documentation Requirements

Participant will:

1. Complete the attached Cropping System Inventory Sheet instead of the tables in the National Job Sheet to provide more detailed information about the planned crop rotation.
2. Provide current soil test results to document nitrogen and/or phosphorus levels. Nitrate tests must be taken prior to planting forage crop.
3. Complete page 2 of 340 NE IR Cover Crop 2019 (formerly known as Cover Crop worksheet NE-CPA-7) to certify actual seeding rate, method and timing.

NRCS will:

1. Attach the printouts from the current NRCS approved water erosion prediction technologies to document that the soil loss from the planned and applied cropping systems meet the national criteria.
2. Complete water quality risk assessments (P-Index, Nitrate Leaching Potential) based on current soil tests and planned nutrient applications.
3. Provide technical assistance in selecting forage crop for the crop rotation and complete 340 NE IR Cover Crop 2019 (formerly known as Cover Crop worksheet NE-CPA-7) to document seeding rate, method and timing.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the current cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn	15”	May 15	Planter with double disk openers
					October 20	Harvest

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans – Wheat – Cover Crop	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn	15”	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E328J

CONSERVATION STEWARDSHIP PROGRAM

Improved crop rotation to provide benefits to pollinators

Conservation Practice 328: Conservation Cropping System

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Improve the existing crop rotation by adding pollinator friendly crops into the rotation. The crop rotation shall include a minimum of three different crops in a minimum five-year crop rotation. Each year, the pollinator friendly crop will be planted on a minimum of 5% of cropland acres contained within the agricultural operation. Use of insecticides is limited for the pollinator friendly crop.

Criteria

- Crops will be grown in a planned sequence over a five-year rotation. The crop rotation shall include a minimum of three different crops in a minimum five-year crop rotation.

- The crop rotation must include at least one pollinator friendly. For these criteria, a pollinator friendly cover crop is considered a different crop. A pollinator friendly crop is defined as a crop, planted for harvest or as a cover crop, which provides nectar for pollinators and other beneficial insects. Examples of pollinator friendly crops are canola, sunflowers, clovers, and borage. To meet the purpose and definition of a pollinator friendly crop, these "flowering" crops must be allowed to bloom prior to harvest or termination. **<REFER TO STATE SPECIFIC LIST OF POLLINATOR FRIENDLY CROPS>**

- Each year the enhancement is planned, the pollinator friendly crop will be planted on a minimum of 5% of cropland acres contained within the agricultural operation. Plan/contract the actual acres planted to the pollinator friendly crop.
- Where applicable, plan suitable crop substitutions when the planned crop cannot be planted due to weather, soil conditions, or other local situations.
- Foliar systemic insecticides may not be applied to the pollinator friendly crop.
- Insecticides may not be applied during crop bloom period of the pollinator friendly crop.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide NRCS with the current and planned crop rotation for all cropland acres on the operation. **<REFER TO STATE SPECIFIC LIST OF POLLINATOR FRIENDLY CROPS>**
- ☐ Prior to implementation, as needed, NRCS can provide technical assistance in selecting pollinator crops for the crop rotation or substitute species that would meet the criteria of the enhancement.
- ☐ Prior to implementation, provide maps for review by NRCS of the planned crop rotation, including areas which will include the pollinator friendly crops. Each year the enhancement is planned, at least 5% of the cropland acres on the operation must be planted to a pollinator friendly crop.

Current Management Rotation (complete table for each rotation)

Field	Current Crops (in sequence)	Planting Date	Harvest Date

Planned Management Rotation including Pollinator Friendly Crops (complete table for each rotation)

Field	Planned Crops (in sequence)	Planting Date	Harvest Date	Acres in rotation

- ☐ During implementation, maintain records of any insecticide applications to the pollinator friendly crop, including timing, material/product, application rate, and crop stage.

Field	Crop	Insecticide Applied	Application Date	Application Rate	Crop Stage

- ☐ During implementation, notify NRCS of any planned changes in crop rotation, insecticide applications, or management to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if changes were made, complete the tables above to document the applied crop rotation for the contract period and provide to NRCS for review.
- ☐ After implementation, provide insecticide application records to NRCS for review to verify implementation meets the enhancement criteria.

NRCS will:

- ☐ As needed, provide technical assistance in selecting pollinator crops for the crop rotation or substitute species that would meet the criteria of the enhancement.
- ☐ As needed, provide additional assistance to the participant as requested.
- ☐ Prior to implementation, verify the crop rotation meets the criteria of the enhancement. The rotation must include a minimum of three different crops in a five-year crop rotation and each year the enhancement is planned the pollinator friendly crop must be planted on a minimum of 5% of cropland acres contained within the operation. *Plan/contract the actual acres planted to the pollinator friendly crop.*
- ☐ During implementation, evaluate any planned changes in crop rotation, insecticide applications, or management to verify the new system meets the enhancement criteria.

- ☐ After implementation, if there were any changes to planned rotation or management evaluate the applied crop rotation using information provided from the participant to verify the applied rotation meets the enhancement criteria.
- ☐ After implementation, review insecticide application records to verify implementation meets the enhancement criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____Contract Number_____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E328J

Improved crop rotation to provide benefits to pollinators

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Refer to the Species Guide in 340 NE IR Cover Crop 2019 (formerly known as Cover Crop worksheet NE-CPA-7) for a list of crops/cover crops that would provide pollinator benefits.

Documentation Requirements

Refer to National Documentation and Implementation Requirements.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E328K

CONSERVATION STEWARDSHIP PROGRAM

Multiple crop types to benefit wildlife

Conservation Practice 328: Conservation Cropping System

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Alternating crops in a systematic arrangement of strips across a field to provide diverse rotations of crops that provide wildlife food. At least two crops will be planted in adjacent strips a minimum of 0.5 acres in size.

Criteria

- If the field is currently divided and planted to more than one crop, further division would be required.
- The crop rotation must include a minimum of two different crops in a minimum three-year rotation. **<REFER TO STATE SPECIFIC LIST OF WILDLIFE FOOD FRIENDLY CROPS>**
- Crop strips will be a minimum of 0.5 acres in size not to exceed 40 acres. Grazing of crop residues and cover crops are permissible provided 60 percent cover remains after grazing.
- Annual crop strips will be rotated each year. If annual crops are used in conjunction with perennial crops, only that annual crop type would change the following year or growing season.

- Harvested crop residue will remain standing through state identified critical wildlife periods.

CONSERVATION STEWARDSHIP PROGRAM

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide NRCS with the current and planned crop rotation for all cropland acres on the operation. **<REFER TO STATE SPECIFIC LIST OF WILDLIFE FOOD FRIENDLY CROPS>**
- ☐ Prior to implementation, as needed, NRCS can provide technical assistance in selecting wildlife food crops for the crop rotation or substitute species that would meet the criteria of the enhancement.
- ☐ Prior to implementation, provide maps for review by NRCS of the planned crop rotation, including the strips which will include the wildlife food friendly crops.

Current Management Rotation (complete table for each rotation)

Field	Current Crops (in sequence)	Planting Date	Harvest Date

Planned Management Rotation including Wildlife Food Friendly Crops (complete table for each rotation)

Field	Planned Crops (in sequence)	Planting Date	Harvest Date	Acres in rotation

- ☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or management to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if changes were made, complete the tables above to document the applied crop rotation for the contract period and provide to NRCS for review.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ After implementation, make photos of strips available for review by NRCS to verify implementation meets the enhancement criteria.

NRCS will:

- ☐ As needed, provide technical assistance in selecting wildlife food crops for the crop rotation or substitute species that would meet the criteria of the enhancement.
- ☐ As needed, provide additional assistance to the participant as requested.
- ☐ Prior to implementation, verify the crop rotation meets the criteria of the enhancement. The rotation must include a minimum of two different crops in a three-year crop rotation. *Plan/contract the actual acres planted to the wildlife food friendly crop.*
- ☐ During implementation, evaluate any planned changes in crops, crop rotation, or management to verify the new system meets the enhancement criteria.
- ☐ After implementation, if there were any changes to planned rotation or management evaluate the applied crop rotation using information provided from the participant to verify the applied rotation meets the enhancement criteria.
- ☐ After implementation, review photos of strips to verify implementation of the enhancement.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____Contract Number_____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO

CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E328K

Multiple crop types to benefit wildlife

State Criteria

Wildlife friendly crops would consist of any small grain (winter and spring wheat, oats, barley, rye, etc.) and alfalfa or any other perennial grass/legume stand.

- If the cropping system ONLY consists of those wildlife friendly crops listed above (i.e. continuous wheat or long-term perennial forage), then strips of one of the following crops could be used to meet the requirements of this enhancement: corn, milo, forage sorghum, hay and grain millets, or sunflower.
- If the current cropping system does not include a wildlife friendly crop, then adding strips of small grain or perennial forage to the cropping system will fulfill the requirements of this enhancement.
- If the current cropping system includes a fallow year (wheat-fallow or wheat-corn-fallow) and doesn't currently allow the previous stubble to persist through the following growing season (i.e. doesn't use chemical fallow), then leaving strips of standing residue will fulfill the requirements for this enhancement.

Low-residue or food value crops such as soybeans, dry edible beans, sugarbeets, and potatoes are not eligible to use as a "newly added" crop for this enhancement.

For any other crop type not listed, please contact the State Wildlife Biologist for guidance and suitability.

United States Department of Agriculture

Conservation Enhancement Activity

E328L

CONSERVATION STEWARDSHIP PROGRAM

Leaving tall crop residue for wildlife

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (annual and mixed)

RESOURCE CONCERN ADDRESSED: Animals

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Fields may be harvested but must leave crop residue standing a minimum of 14 inches. Residue will be left through winter and into spring, providing valuable winter cover and forage for wildlife spanning late summer and through the following winter.

Criteria

- The entire crop field must be harvested with residual stubble height minimum of 14 inches on average throughout the field. Only acres with this minimum stubble height are eligible for payment.
- Stubble must remain undisturbed until the State designated date in the following year to provide cover throughout winter months
- Planting and management of cover crops is not prohibited if it does not compromise the height and structure of the stubble cover
- States will supply a list of eligible crops and specify the dates that stubble must remain undisturbed for this enhancement.
- When possible, reduce or eliminate the use of herbicide treatments on weedy growth between the rows to provide additional cover and food sources for wildlife.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, develop a map showing planned location(s), crop type(s) and acreage of crops to leave tall standing stubble.

☐ After implementation, provide photo documentation of stubble height left standing.

NRCS will:

☐ As needed, provide technical assistance in selecting crop rotations or substitute crops that would meet the criteria of the enhancement.

☐ As needed, provide additional assistance to the participant.

☐ After implementation, verify stubble height and ensure stubble is left standing after winter months.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

CONSERVATION STEWARDSHIP PROGRAM

E328L

Leaving tall crop residue for wildlife

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (annual and mixed)

RESOURCE CONCERN: Plants; Animals

ENHANCEMENT LIFE SPAN: 1 Year

State Criteria

Same as national criteria.

To be eligible for this enhancement, crops stubble must remain until April 1. This will provide the most opportunity for crop stubble to be used for winter cover for wildlife species.

Eligible crop species:

- Wheat
- Sorghum

For any other crop type not listed, please contact the State Wildlife Biologist for guidance and suitability.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E328M

Diversify crop rotation with canola or sunflower to provide benefits to pollinators

Conservation Practice 328: Conservation Cropping System

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Diversify existing crop rotation by adding pollinator friendly canola or sunflower crops into the rotation. The crop rotation shall include a minimum of three different crops. Each year, the pollinator friendly crop will be planted on a minimum of 5% of cropland acres contained within the agricultural operation. Use of insecticides compliant with grower industry best management practice is allowed only during pre-bloom and bloom of canola or sunflower.

Criteria

- Crops will be grown in a planned sequence and shall include a minimum of three different crops.
- The crop rotation must include at least one year of canola or sunflower. Other pollinator friendly crops may be included. For these criteria, a pollinator friendly cover crop is considered a different crop. A pollinator friendly crop is defined as a crop, planted for harvest or as a cover crop, which provides nectar for pollinators and other beneficial insects. Examples of pollinator friendly crops are canola, sunflowers, clovers, and borage. To meet the purpose and definition of a pollinator friendly crop, these "flowering" crops must be allowed to bloom prior to harvest or termination. **<REFER TO STATE SPECIFIC LIST OF POLLINATOR FRIENDLY CROPS>**

CONSERVATION STEWARDSHIP PROGRAM

- Each year the enhancement is planned, the pollinator friendly crop will be planted on a minimum of 5% of cropland acres contained within the agricultural operation. Plan/contract the actual acres planted to the pollinator friendly crop.
- Where applicable, plan suitable crop substitutions when the planned crop cannot be planted due to weather, soil conditions, or other local situations.
- Foliar systemic insecticides may not be applied to the pollinator friendly crop.
- Insecticides and fungicides applied during crop pre-bloom and bloom period of the canola or sunflower crop must be mitigated through integrated pest management and must follow industry best management practices.
    - Apply pesticides only when economic thresholds are met.
    - Apply pesticides at night or within two hours of sunset as this is when bees are least active.
    - Follow best practices for minimizing drift:
        - Use a low-drift nozzle, calibrate spray equipment, and use medium-to-coarse droplet size if possible.
        - Install cones or shrouds on field sprayers to reduce off- field movement.
        - When spraying fields, consider spot spraying or only applying pesticides to infested areas.
    - Select crop pest products with a residual activity of less than 8 hours.
    - Improve foraging areas for bees and other pollinators. Where possible, include flowering plants in non-crop areas. Avoid pesticide drift onto non-crop areas that include floral resources. Leave areas that include these resources intact whenever possible.

References

National Sunflower Association of Canada. Sunflower Production Guide. http://www.canadasunflower.com/production/sunflower-production-guide/

U. S. Canola Association. 2019. Best management Practices (BMPS) for Pollinator Protection in Canola Fields. https://www.uscanola.com/wp-content/uploads/2019/07/HBHC_Canola_030119.pdf

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide NRCS with the current and planned crop rotation for all cropland acres on the operation. **<REFER TO STATE SPECIFIC LIST OF POLLINATOR FRIENDLY CROPS>**
- ☐ Prior to implementation, as needed, NRCS can provide technical assistance in selecting pollinator crops for the crop rotation or substitute species that would meet the criteria of the enhancement.
- ☐ Prior to implementation, provide maps for review by NRCS of the planned crop rotation, including areas which will include the pollinator friendly crops. Each year the enhancement is planned, at least 5% of the cropland acres on the operation must be planted to a pollinator friendly crop.

Current Management Rotation (complete table for each rotation)

Field	Current Crops (in sequence)	Planting Date	Harvest Date

Planned Management Rotation including Pollinator Friendly Crops (complete table for each rotation)

Field	Planned Crops (in sequence)	Planting Date	Harvest Date	Acres in rotation

☐ During implementation, maintain records of any pesticide applications to canola, sunflower or pollinator friendly crops, including timing, material/product, application rate, and crop stage.

Field	Crop	Insecticide Applied	Application Date	Application Rate	Crop Stage

☐ During implementation, notify NRCS of any planned changes in crop rotation, pesticide applications, or management to verify the planned system meets the enhancement criteria.

☐ After implementation, if changes were made, complete the tables above to document the applied crop rotation for the contract period and provide to NRCS for review.

☐ After implementation, provide insecticide application records to NRCS for review to verify implementation meets the enhancement criteria.

NRCS will:

☐ As needed, provide technical assistance in selecting pollinator crops for the crop rotation or substitute species that would meet the criteria of the enhancement.

☐ As needed, provide additional assistance to the participant as requested.

☐ Prior to implementation, verify the crop rotation meets the criteria of the enhancement. *Plan/ contract the actual acres planted to canola or sunflower.*

☐ During implementation, evaluate any planned changes in crop rotation, pesticide applications, or management to verify the new system meets the enhancement criteria.

- ☐ After implementation, if there were any changes to planned rotation or management evaluate the applied crop rotation using information provided from the participant to verify the applied rotation meets the enhancement criteria.
- ☐ After implementation, review pesticide application records to verify implementation meets the enhancement criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____Contract Number_____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

CONSERVATION STEWARDSHIP PROGRAM

E328M

Diversify crop rotation with canola or sunflower to provide benefits to pollinators

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (annual and mixed)

RESOURCE CONCERN: Plants; Animals

ENHANCEMENT LIFE SPAN: 1 Year

State Criteria

Add canola or sunflower to existing crop rotation on minimum of 5% of cropland acres each year. No systemic pesticides allowed. Only pesticide application on canola or sunflower during pre-bloom and bloom following integrated pest management and industry best management practices.

Eligible crop species:

- Canola
- Sunflower

One year of canola or sunflower on at least 5% of cropland acres is required. Additional pollinator friendly crops count towards the 3 crop rotation minimum required. Canola, sunflower, and other pollinator friendly crops must be allowed to bloom prior to termination or harvest. No pesticide applications may be applied to the pollinator friendly crops in the table below. Herbicide applications to control pervasive weeds in pollinator friendly crops may be considered, contact Xerces partner staff for guidance.

Nebraska Pollinator Friendly Crops

Common name	Scientific name	Common name	Scientific name
brown mustard	*Brassica juncea*	berseem clover	*Trifolium alexandrinum*
black mustard	*Brassica nigra*	alsike clover	*Trifolium hybridum*
camelina	*Camelina sativa**	crimson clover	*Trifolium incarnatum*
safflower	*Carthamus tinctorius*	red clover	*Trifolium pratense*
chicory	*Cichorium intybus*	white clover	*Trifolium repens*
buckwheat	*Fagopyrum esculentum*	cowpea	*Vigna unguiculata*
blue flax	*Linum perenne*	radish	*Raphanus sativus*
flax	*Linum usitatissimum*	white mustard	*Sinapis alba*
alfalfa	*Medicago sativa*		
sainfoin	*Onobrychis vicifolia*		
field pea	*Pisum sativum*		

United States Department of Agriculture

Conservation Enhancement Activity

E328O

CONSERVATION STEWARDSHIP PROGRAM

Perennial grain crop conservation rotation

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERNS: Soil; Plants

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Establish a perennial grain crop as part of a rotation with two other crops. The crop rotation will reduce soil erosion (water and wind), improve soil health, improve soil moisture efficiency, and reduce plant pest pressures.

Criteria

- Crops shall be grown in a planned sequence. The rotation must include one perennial grain crop with two other crops in rotation. The perennial grain crop will be grown for at least two years after planting.
- Crop rotation must produce a positive trend in the Organic Matter (OM) subfactor value, as determined by the Soil Conditioning Index (SCI) calculated using current NRCS wind and water erosion prediction technologies. (management SCI value)
- Design the crop sequence to provide sufficient diversity in plant family and species as well as timing and type of field operations to suppress the pest(s) of concern, which may include weeds, insects, and pathogens. Use land grant university or industry standards to determine a suitable crop sequence.

- Select crops, varieties of crops, and the sequences of crops based on local climate patterns, soil conditions and irrigation water availability. Plan for rotation substitutions for planting delays or crop failures.

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

- Prior to implementation, provide NRCS with the planned crop rotation including the perennial grain and tillage operation(s) used for each crop.

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

Field	Crop	Field Operation	Timing of Field Operation (month/year)

- During implementation, notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- After implementation, if changes to the rotation were made, complete the tables above to document the applied Conservation Crop Rotation for the contract period and provide to NRCS.

NRCS will:

- As needed, provide technical assistance in selecting crop rotations or substitute crops that would meet the criteria of the enhancement.
- Prior to implementation, verify that the crop rotation includes a perennial grain crop in a minimum three-year crop rotation.
- Prior to implementation, verify the perennial grain crop.

CONSERVATION STEWARDSHIP PROGRAM

- Prior to implementation, use the information provided from the participant to calculate the management Soil Conditioning Index (SCI) value using current NRCS wind and water erosion prediction technologies. Crop rotation must produce a positive trend in the Organic Matter (OM) subfactor value.

  Management SCI Value =_____OM subfactor value = _____

- During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

- After implementation, if the applied crop rotation is different than the planned crop rotation, use the information provided from the participant to calculate SCI value to document that the applied rotation met the enhancement criteria.

  Management SCIValue =_____OM subfactor value = _____

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

_____ _____

Participant Name Contract Number

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY
E328O

CONSERVATION STEWARDSHIP PROGRAM

Perennial grain crop conservation rotation

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERNS: Soil; Plants

ENHANCEMENT LIFE SPAN: 1 year

Participant will:

1. Complete the attached Cropping System Inventory Sheets instead of the tables in the National Job Sheet to provide more detailed information about the existing Crop Rotation and the planned Resource Conserving Crop Rotation.
2. Identify the source and type of perennial grain crop being added to the rotation.

NRCS will:

1. Attach the printouts from the current NRCS approved water erosion prediction technologies to document the SCI and Organic Matter subfactor values existing Crop Rotation and the planned Resource Conserving Crop Rotation.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the current cropping system below (include all crops in the rotation including cover crops):**
Group all tracts/fields with the same crop rotation and field operations.
As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans – wheat – cover crop	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**
Group all tracts/fields with the same crop rotation and field operations.
Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn		May 1	Disk, tandem
				15”	May 15	Planter with double disk openers
					October 20	Harvest

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**
Group all tracts/fields with the same crop rotation and field operations.
As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans – wheat – cover crop	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**
Group all tracts/fields with the same crop rotation and field operations.
Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn		May 1	Disk, tandem
				15”	May 15	Planter with double disk openers
					October 20	Harvest

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E328P

CONSERVATION STEWARDSHIP PROGRAM

Low Nitrogen Requirement Annual Crop Rotation

CONSERVATION PRACTICE: 328 - Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil, Water

ENHANCEMENT LIFE SPAN: 1 years

Enhancement Description

Design a planned annual crop rotation which requires less average annual nitrogen fertilizer than the current (benchmark) crop rotation. This is accomplished by replacing high N-requirement annual crops with low N-requirement annual crops. Examples include replacing high N-requirement small grain crops such as spring wheat, with low N-requirement small grain crops (oats or malt barley) or annual legumes. The crop rotation will reduce fertilizer N application, decrease the potential for nitrates to leach to groundwater, maintain soil organic matter, and slow the effects of soil acidification.

Criteria

- Both the benchmark and planned rotation will be grown in a planned sequence and must have a minimum of two different crops. A cover crop is considered a different crop.

- The planned crop rotation must produce a Soil Conditioning Index (SCI) value of greater than or equal to zero, as calculated by the current NRCS wind and water erosion prediction technologies.

- Sufficient residues must be left on the soil surface to prevent potential erosion issues. Use the current NRCS wind and water erosion prediction technologies to calculate residue requirements.

CONSERVATION STEWARDSHIP PROGRAM

- Use Land Grant University guidance and average county crop yields for the past 5 years to determine the N-requirement of each crop in both the benchmark and planned rotations.

- Design the crop sequence to provide sufficient diversity in plant family and species as well as timing and type of field operations to suppress pest(s) of concern, which may include weeds, insects, and pathogens. Use Land Grant University or industry standards to determine a suitable crop sequence.

- Select crops, varieties of crops, and the sequences of crops based on local climate patterns, soil conditions and irrigation water availability. Plan for rotation substitutions, for planting delays, or crop failures.

- Perennials are allowed in both the benchmark and planned rotation; however, they cannot be included in the average annual N-requirement calculation to meet the enhancement criteria.

- Fallow periods are allowed in both the benchmark and planned rotation; however, they cannot be included in the average annual N-requirement calculation to meet the enhancement criteria.

Documentation and Implementation Requirements

Participant will:

☐ Provide NRCS with the current (benchmark) and a suggested planned annual crop rotation.

☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

NRCS will:

☐ As needed, provide technical assistance in selecting crop rotations or substitute crops that would meet the criteria of the enhancement.

☐ Calculate the 5-year average county yield for each crop in both the benchmark and planned rotation. If this information is not available, consult with LGU personnel to make an informed decision.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ Calculate the average annual LGU nitrogen requirement for the benchmark and planned rotations based on the crops and their 5-year county yield averages. Fill in the tables below with this information.
- ☐ Verify that the average annual nitrogen requirement of the planned rotation is less than the average annual nitrogen requirement of the benchmark rotation.
- ☐ Prior to implementation, verify that both the benchmark and planned crop rotation include at least two different crops.
- ☐ Prior to implementation, use the information provided from the participant to calculate the average annual erosion and Soil Conditioning Index (SCI) using current NRCS wind and water erosion prediction technologies. The planned crop rotation must produce an SCI value of greater than or equal to 0, and the average annual erosion must be at or below T.

Average Annual Erosion (ton/ac/yr) = _____ SCI value = _____

Benchmark Rotation and N Requirement

Field: _____ Acres: _____

Current Annual Crops (in sequence) (Do not include fallow or perennial crops)	**5-year County Average Yield**	**LGU Nitrogen Requirement (lb/ac)**
Total Rotation N Requirement		
AVERAGE ANNUAL N REQUIREMENT (Total/Rotation Years)		

Planned Rotation and N Requirement

Field: _____ Acres: _____

Planned Annual Crops (in sequence) (Do not include fallow or perennial crops)	**5-year County Average Yield**	**LGU Nitrogen Requirement (lb/ac)**
Total Rotation N Requirement		
AVERAGE ANNUAL N REQUIREMENT (Total/Rotation Years)		

☐ During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

☐ After implementation, if the applied crop rotation is different than the planned crop rotation, use the information provided from the participant to re-calculate the average annual N requirement, average annual erosion, and SCI values to document that the applied rotation met the enhancement criteria.

Re-calculated Average Annual Erosion (ton/ac/yr) = _____ SCI value = _____

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E328P

Low Nitrogen Requirement Annual Crop Rotation

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

Participant will:

1. Complete the attached Cropping System Inventory Sheets In addition to the tables in the National Job Sheet to provide more detailed information about the existing Crop Rotation and the planned Crop Rotation for running erosion prediction tools.

NRCS will:

1. Attach the printouts from the current NRCS approved water or wind erosion prediction technologies to document the SCI and soil loss values for the existing Crop Rotation and the planned Crop Rotation.
2. Yield data to determine 5-year county average yields for most common crops can be obtained from the National Ag Statistics Service using the quick stats website.
3. Nitrogen requirements for each crop will be based on the following table. Data for the table was taken from the USDA Plants Database - Crop Nutrient Tool.

Crop	Units	Nitrogen
Corn	lbs/bu	0.7929
Proso Millet	lbs/bu	1.0497
Oats	lbs/bu	0.5984
Grain Sorghum	lbs/bu	0.9288
Sunflower - oil	lbs/cwt	2.7729
Wheat - HRW	lbs/bu	1.2205

CROPPING SYSTEM INVTORY SHEET

☐ **Document the current cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn	15”	May 15	Planter with double disk openers
					October 20	Harvest

CROPPING SYSTEM INVTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans – Wheat – Cover Crop	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn	15”	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E329A

CONSERVATION STEWARDSHIP PROGRAM

No till to reduce soil erosion

Conservation Practice 329: Residue & Tillage Management, No Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Establish no till system to reduce sheet and rill and wind erosion soil loss. Field(s) must have a soil loss at or below the soil tolerance (T) level for water and wind erosion for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 10 for each crop in the planned rotation. The current NRCS wind and water erosion prediction technologies must be used to calculate soil loss and STIR.

Criteria

- Residue shall not be burned.
- All residues shall be uniformly distributed over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.
- Field(s) must have a soil loss at or below the soil tolerance (T) level for water and wind erosion for the crop rotation (average annual soil loss).
- No full-width tillage may be performed from the time of harvest or termination of one cash crop to the time of harvest or termination of the next cash crop in the rotation regardless of the depth of the tillage operation.
- The Soil Tillage Intensity Rating value must include all field operations that are performed during the crop interval between harvest or termination of the previous cash crop and harvest or termination of the current cash crop (includes fallow

periods). Each crop must have a Soil Tillage Intensity Rating value of no greater than 10.

CONSERVATION STEWARDSHIP PROGRAM

- Use the current approved water and wind erosion prediction technology to determine the:
    - amount of randomly distributed surface residue needed;
    - time of year the residue needs to be present in the field, and
    - amount of surface soil disturbance allowed to reduce erosion to the desired level.
- Calculations must account for the effects of other practices in the management system.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, provide NRCS with the planned crop rotation and tillage operation(s) used for each crop.

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

Field	Crop	Field Operation	Timing of Field Operation (month/year)

☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

☐ During implementation, no residue will be burned.

☐ During implementation, all residues will be uniformly distributed over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.

☐ During implementation, no full-width tillage may be performed from the time of harvest or termination of one cash crop to the time of harvest or termination of the next cash crop in the rotation regardless of the depth of the tillage operation.

☐ After implementation, if changes to the rotation were made, complete the tables above to document the applied Conservation Crop Rotation for the contract period and provide to NRCS.

NRCS will:

☐ As needed, provide technical assistance to meet the criteria of the enhancement.

☐ Prior to implementation, use information provided from the participant to calculate the soil loss and the Soil Tillage Intensity Rating values using current NRCS wind and water erosion prediction technologies. Verify the enrolled field(s) will have a soil loss at or

CONSERVATION STEWARDSHIP PROGRAM

below the soil tolerance (T) level for water and wind erosion for the crop rotation and a Soil Tillage Intensity Rating value of no greater than 10 for each crop in the planned rotation.

"T" = _____t/ac/year Soil erosion = _____t/ac/year STIR values = _____

☐ During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

☐ After implementation, if the applied crops, crop rotation, or field operations are different than the planned crops, crop rotation, or field operations, use information provided from the participant to calculate soil loss and the Soil Tillage Intensity Rating values to document that the applied rotation met the enhancement criteria.
Soil erosion = _____t/ac/year and STIR values = _____

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____
NRCS Technical Adequacy Signature Date

CLEAR

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E329A

No till to reduce soil erosion

Conservation Practice 329: Residue & Tillage Management, No Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Documentation Requirements

Participant will:

- Complete the attached Cropping System Inventory Sheet instead of the tables in the National Job Sheet to provide more detailed information about the planned continuous no-till cropping system.

NRCS will:

- Attach the printouts from the current NRCS approved erosion prediction technologies to document the estimated soil loss and STIR for the participant's planned crop rotation.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans – cover crop	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn	15”	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E329B

CONSERVATION STEWARDSHIP PROGRAM

No till to reduce tillage induced particulate matter

Conservation Practice 329: Residue and Tillage Management, No Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Air

PRACTICE LIFE SPAN: 1 Year

Enhancement Description

Establish no till system to reduce tillage induced particulate matter. Field(s) must have a soil loss at or below the soil tolerance (T) level for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 10 for each crop in the planned rotation. The current NRCS wind and water erosion prediction technologies must be used to document soil loss and STIR calculations.

Criteria

- Residue shall not be burned.
- All residues shall be uniformly distributed over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.
- Field(s) must have an average annual soil loss at or below the soil tolerance (T) level for the crop rotation.
- No full-width tillage is performed from the time of harvest or termination of one cash crop to the time of harvest or termination of the next cash crop in the rotation regardless of the depth of the tillage operation. The Soil Tillage Intensity Rating (STIR) value shall include all field operations that are performed during the crop interval between harvest or termination of the previous cash crop and harvest or termination

of the current cash crop (includes fallow periods). Each crop must have a STIR value of no greater than 10.

- Use the current approved water and/or wind erosion prediction technology to determine the:
    - amount of randomly distributed surface residue needed;
    - time of year the residue needs to be present in the field, and
    - amount of surface soil disturbance allowed to reduce erosion to the desired level.
- Calculations shall account for the effects of other practices in the management system.

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

☐ Prior to implementation, provide NRCS with the planned crop rotation and tillage operation(s) used for each crop.

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

Field	Crop	Field Operation	Timing of Field Operation (month/year)

☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

☐ During implementation, no residue shall be burned.

☐ During implementation, all residues shall be uniformly distributed over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.

☐ During implementation, no full-width tillage may be performed from the time of harvest or termination of one cash crop to the time of harvest or termination of the next cash crop in the rotation regardless of the depth of the tillage operation.

☐ After implementation, if changes to the rotation were made, complete the tables above to document the applied Conservation Crop Rotation for the contract period and provide to NRCS.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ Prior to implementation, verify that the field to be establish in no-till has a soil loss at or below the soil tolerance (T) level for water erosion for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 10 for each crop in the planned rotation.
  "T" = _____t/ac/year Soil erosion = _____t/ac/year STIR values = _____
- ☐ During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if the applied crops, crop rotation, or field operations are different than the planned crops, crop rotation, or field operations, use information provided from the participant to calculate soil loss and the Soil Tillage Intensity Rating values to document that the applied rotation met the enhancement criteria.
  Soil erosion = _____t/ac/year and STIR values = _____

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E329B

No till to reduce tillage induced particulate matter

Conservation Practice 329: Residue & Tillage Management, No Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Air

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Documentation Requirements

Participant will:

- Complete the attached Cropping System Inventory Sheet instead of the tables in the National Job Sheet to provide more detailed information about the planned continuous no-till cropping system.

NRCS will:

- Attach the printouts from the current NRCS approved wind or water erosion prediction technologies to document the estimated soil loss, STIR and estimated residue cover for the participant's planned crop rotation.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1	40	N	Wheat – Corn - Fallow	C-80, W-40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1	corn	wheat	30”	April 30	Planter with double disk openers
					October 15	Harvest

United States Department of Agriculture

Conservation Enhancement Activity

E329C

CONSERVATION STEWARDSHIP PROGRAM

No till to increase plant-available moisture

Conservation Practice 329: Residue & Tillage Management, No Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Establish a no till system to increase plant-available moisture. Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 20. The current NRCS wind and water erosion prediction technologies must be used to document STIR calculations. Maintain a minimum 60 percent surface residue cover throughout the year to reduce evaporation from the soil surface.

Criteria

- Residue shall not be burned.
- All residues shall be uniformly distributed over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.
- No full-width tillage is performed from the time of harvest or termination of one cash crop to the time of harvest or termination of the next cash crop in the rotation regardless of the depth of the tillage operation. The Soil Tillage Intensity Rating (STIR) value shall include all field operations that are performed during the crop interval between harvest or termination of the previous cash crop and harvest or termination of the current cash crop (includes fallow periods). The crop STIR value shall be no greater than 20.

CONSERVATION STEWARDSHIP PROGRAM

- Maintain a minimum 60 percent surface residue cover throughout the year to reduce evaporation from the soil surface.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, provide NRCS with the planned crop rotation and tillage operation(s) used for each crop.

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

Field	Crop	Field Operation	Timing of Field Operation (month/year)

☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

☐ During implementation, no residue will be burned.

☐ During implementation, all residues will be uniformly distributed over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.

☐ During implementation, no full-width tillage may be performed from the time of harvest or termination of one cash crop to the time of harvest or termination of the next cash crop in the rotation regardless of the depth of the tillage operation.

☐ During implementation, maintain a minimum 60 percent surface residue cover throughout the year to reduce evaporation from the soil surface.

☐ After implementation, if changes to the rotation were made, complete the tables above to document the applied crop rotation for the contract period and provide to NRCS.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ Prior to implementation, use information provided from the participant to calculate the Soil Tillage Intensity Rating values and estimated surface residue cover using the NRCS wind and water erosion prediction technologies. Verify the enrolled field(s) will have a Soil Tillage Intensity Rating value of no greater than 20 for each crop in the planned rotation, and the estimated surface residue cover.
  STIR values for each crop in the rotation = _____

  Estimated surface residue cover for each crop in the rotation = _____
- ☐ During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if the applied crops, crop rotation, or field operations are different than the planned crops, crop rotation, or field operations, use information provided from the participant to the Soil Tillage Intensity Rating value, and estimated surface residue cover to document that the applied rotation met the enhancement criteria.
  STIR values for each crop in the rotation = _____

  Estimated surface residue cover for each crop in the rotation = _____

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E329C

No till to increase plant-available moisture

Conservation Practice 329: Residue & Tillage Management, No Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Documentation Requirements

Participant will:

- Complete the attached Cropping System Inventory Sheet instead of the tables in the National Job Sheet to provide more detailed information about the planned continuous no-till cropping system.

NRCS will:

- Attach the printouts from the current NRCS approved water or wind erosion prediction technologies to document the STIR and surface residue cover values.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1	160	Y	Corn – Soybeans	C-200, B- 50

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1	Soybeans	Corn	15”	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E329D

CONSERVATION STEWARDSHIP PROGRAM

No till system to increase soil health and soil organic matter content

Conservation Practice 329: Residue & Tillage Management, No Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Establish a no till system to increase soil health and soil organic matter content. Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 20. The crop rotation must achieve a soil conditioning index (SCI) of zero or higher. The current NRCS wind and water erosion prediction technologies must be used to document STIR and SCI calculations. Residue shall not be burned, grazed, or harvested.

Criteria

- All residues must be uniformly distributed over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.
- Residue must not be burned, grazed, or harvested.
- No full-width tillage is performed from the time of harvest or termination of one cash crop to the time of harvest or termination of the next cash crop in the rotation regardless of the depth of the tillage operation. The Soil Tillage Intensity Rating (STIR) value shall include all field operations that are performed during the crop interval between harvest or termination of the previous cash crop and harvest or termination of the current cash crop (includes fallow periods). The crop STIR value shall be no greater than 20.

CONSERVATION STEWARDSHIP PROGRAM

- Evaluation of the cropping system (management) using the current approved soil conditioning index (SCI) procedure results in zero or higher and results in a positive trend in the Organic Matter (OM) subfactor value over the life of the rotation.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, provide NRCS with the planned crop rotation and tillage operation(s) used for each crop.

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

Field	Crop	Field Operation	Timing of Field Operation (month/year)

☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

☐ During implementation, no residue will be burned, grazed, or harvested.

☐ During implementation, all residues will be uniformly distributed over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.

☐ During implementation, no full-width tillage may be performed from the time of harvest or termination of one cash crop to the time of harvest or termination of the next cash crop in the rotation regardless of the depth of the tillage operation.

☐ After implementation, if changes to the rotation were made, complete the tables above to document the applied crop rotation for the contract period and provide to NRCS.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ Prior to implementation, use information provided from the participant to calculate the Soil Tillage Intensity Rating (STIR) values using NRCS wind and water erosion prediction technologies. Verify the enrolled field(s) will have a Soil Tillage Intensity Rating value of no greater than 20 for each crop in the planned rotation.
  STIR values for each crop = _____
- ☐ Prior to implementation, use information provided from the participant and the approved soil conditioning index (SCI) procedure to verify the SCI is zero or higher and results in a positive trend in the Organic Matter (OM) subfactor value over the life of the rotation. **SCI value = _____ and OM subfactor value = _____**
- ☐ During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if the applied crops, crop rotation, or field operations are different than the planned crops, crop rotation, or field operations, use information provided from the participant to calculate the Soil Tillage Intensity Rating values to document that the applied rotation met the enhancement criteria.
  STIR values for each crop = _____
- ☐ After implementation, if the applied crops, crop rotation, or field operations are different than the planned crops, crop rotation, or field operations, use information provided from the participant to calculate soil conditioning index (SCI) and Organic Matter (OM) subfactor values to document that the applied rotation met the enhancement criteria. **SCI value = _____ and OM subfactor value = _____**

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E329D

No till system to increase soil health and soil organic matter content

Conservation Practice 329: Residue & Tillage Management, No Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Documentation Requirements

Participant will:

- Complete the attached Cropping System Inventory Sheet instead of the tables in the National Job Sheet to provide more detailed information about the planned continuous no-till cropping system.

NRCS will:

- Attach the printouts from the current NRCS approved water or wind erosion prediction technologies to document the STIR, SCI and Organic Matter subfactor values.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans – cover crop	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn	15”	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E329E

CONSERVATION STEWARDSHIP PROGRAM

No till to reduce energy

Conservation Practice 329: Residue & Tillage Management, No Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Energy

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Establish a no till system which reduces total energy consumption associated with field operations by at least 25% compared to current tillage system (benchmark). Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 20. The current NRCS wind and water erosion prediction technologies must be used to document STIR calculations and energy consumption.

Criteria

- Residue shall not be burned.
- All residues must be uniformly distributed over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.
- No full-width tillage is performed from the time of harvest or termination of one cash crop to the time of harvest or termination of the next cash crop in the rotation regardless of the depth of the tillage operation.
- The Soil Tillage Intensity Rating (STIR) value must include all field operations that are performed during the crop interval between harvest or termination of the previous cash crop and harvest or termination of the current cash crop (includes fallow periods). Each crop must have a STIR value no greater than 20.

- Reduce the total energy consumption associated with field operations by at least 25% compared to the current benchmark tillage system. Use the current NRCS wind and water erosion prediction technologies for determining energy use to document energy use reductions.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, provide NRCS with the current (benchmark) and planned crop rotation and tillage operation(s) used for each crop.

Field	Acres	Current (Benchmark) Crops (in sequence)	Length of Crop Rotation (years)

Field	Crop	Current (Benchmark) Field Operation	Timing of Field Operation (month/year)

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

Field	Crop	Planned Field Operation	Timing of Field Operation (month/year)

☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

- ☐ During implementation, no residue will be burned.
- ☐ During implementation, all residues will be uniformly distributed over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.
- ☐ During implementation, no full-width tillage may be performed from the time of harvest or termination of one cash crop to the time of harvest or termination of the next cash crop in the rotation regardless of the depth of the tillage operation.
- ☐ During implementation, reduce the total energy consumption associated with field operations by at least 25% compared to the current benchmark tillage system.
- ☐ After implementation, if changes to the rotation were made, complete the tables above to document the applied Conservation Crop Rotation for the contract period and provide to NRCS.

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ Prior to implementation, use the information provided from the participant to calculate the Soil Tillage Intensity Rating values and energy consumption for both the current system and the planned system using the approved NRCS wind and water erosion prediction technologies. Verify the Soil Tillage Intensity Rating value is no greater than 20 for each crop in the planned rotation and total energy consumption is reduced by at least 25%.

  Current STIR values = _____ and Energy Consumption = _____

  Planned STIR values = _____ and Energy Consumption = _____
- ☐ During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if changes were made to the planned crop(s), crop rotation, or field operations, use information provided from the participant to calculate the Soil Tillage Intensity Rating values and total energy consumption to document that the applied rotation met the enhancement criteria.

  Applied STIR values = _____ and Energy Consumption = _____

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

CLEAR

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E329E

No till to reduce energy

Conservation Practice 329: Residue & Tillage Management, No Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Energy

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Documentation Requirements

Participant will:

- Complete the attached Cropping System Inventory Sheet instead of the tables in the National Job Sheet to provide more detailed information about the existing and planned cropping systems.

NRCS will:

- Attach the printouts from the current NRCS approved wind or water erosion prediction technologies to document the STIR and energy use for the existing and planned cropping systems.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the current cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1	40	N	Corn – Soybeans	C-120, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1	Soybeans	Corn		May 1	Disk
				15”	May 15	Planter with double disk openers
					October 15	Harvest
		Corn	Soybeans	30”	April 25	Planter with double disk openers
					October 20	Harvest

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1	40	N	Corn – Soybeans	C-120, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1	Soybeans	Corn	15”	May 15	Planter with double disk openers
					October 15	Harvest
		Corn	Soybeans	30”	April 25	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E329F

CONSERVATION STEWARDSHIP PROGRAM

No-till into green cover crops to improve soil organic matter quantity and quality

Conservation Practice 329: Residue and Tillage Management, No-Till

APPLICABLE LAND USE: Crop (Annual and Mixed), Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Prepare fields using appropriate site preparation to establish a no till, planting green system to increase soil health and soil organic matter content. Planting green methods will be used to maximize the benefits of the cover crop by leaving the cover crop in place for an extended growing period. The current NRCS wind and water erosion prediction technologies must be used to document STIR and SCI calculations. The health of the soil will be monitored using the In-Field Soil Health Assessment and through a laboratory analysis.

Criteria

- All residues must be uniformly distributed over the entire field.
- Residue must not be burned, grazed, or harvested.
- Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 20. No full-width tillage is performed from the time of harvest or termination of one cash crop to the time of harvest or termination of the next cash crop in the rotation regardless of the depth of the tillage operation.
- The crop rotation must achieve a soil conditioning index (SCI) of zero or higher. If there is a planned change in crop rotation, the planned crop rotation must have an SCI greater than the current crop rotation.

CONSERVATION STEWARDSHIP PROGRAM

- Evaluation of the cropping system (management) using the current approved soil conditioning index (SCI) procedure results in zero or higher and results in a positive trend in the Organic Matter (OM) subfactor value over the life of the rotation.

- Use the Cropland In-Field Soil Health Assessment Guide to record the benchmark conditions prior to adopting no-till green planting in Year 1. During Year 3, a follow up assessment for soil health with laboratory testing will be completed. Soil samples will be collected and tested for soil organic carbon content measured by dry combustion and carbon mineralization potential measure by 24 hour carbon dioxide burst OR permanganate-oxidizable carbon laboratory methods.
- The current version of the NRCS Cover Crop Termination Guidelines must be followed to ensure the next crop is eligible for crop insurance. Risk Management Agency's Good Farming Practices Handbook indicates that following NRCS 340 Cover Crop and the Termination Guidelines are acceptable practices. In some zones, an agreement with the insurer may be needed, check with local crop insurance provider.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

- ☐ Provide NRCS with the planned crop rotation and tillage operation(s) used for each crop prior to implementation using the following tables. If the implemented rotation differs from the planned rotation, provide NRCS with updated tables.

Field	Acres	Planned Crops (in sequence)	Length of Rotation (years)

Field	Crop	Field Operation	Timing of Operation (month/year)

- ☐ Notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- ☐ Collect soil samples in the area of field where this enhancement action has been applied. Follow the soil sample collection protocol for soil health assessments as outlined in Tech Note 450-3. Submit for laboratory analysis.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ Provide laboratory test results and sampling locations to NRCS for interpretation by e-mailing the data to SoilHealthTest@usda.gov
- ☐ Will not burn, graze, or harvest residues.
- ☐ Uniformly distribute residues over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.
- ☐ Not use any full-width tillage from the time of harvest or termination of one cash crop to the time of harvest or termination of the next cash crop in the rotation regardless of the depth of the tillage operation.
- ☐ After implementation, provide NRCS with representative pictures of the implemented enhancement as well as the following information:

Crop	Height of Cover Crop When Planting (inches)	Mechanical Termination Methods Used	Chemical Methods Used	Days Between Cover Crop Termination and Planting of Cash Crop

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ Provide technical assistance to meet the criteria of the enhancement, as needed.
- ☐ Provide participant with current NRCS Cover Crop Termination Guidelines.
- ☐ Prior to implementation, evaluate the field condition using the Cropland In-Field Soil Health Assessment.
- ☐ Prior to implementation, use information provided by the participant to calculate the Soil Tillage Intensity Rating (STIR) values using NRCS wind and water erosion prediction technologies. Verify the enrolled field(s) will have a Soil Tillage Intensity Rating value of no greater than 20 for each crop in the planned rotation.

Crop	STIR Value Planned	STIR Value Implemented (if different than planned)

- ☐ Prior to implementation, use information provided from the participant and the approved soil conditioning index (SCI) procedure to verify the SCI is zero or higher and results in a positive trend in the Organic Matter (OM) subfactor value over the life of the rotation. If the crop rotation is changing, the planned rotation must have a higher SCI than the original crop rotation. If the implemented rotation differs from the planned rotation, note the values below.

Planned SCI value = _____ and Planned OM Subfactor Value = _____

Implemented SCI value = _____ and Implemented OM Subfactor Value = _____

- ☐ During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria. After implementation, if the applied

crops, crop rotation, or field operations are different than the planned crops, crop rotation, or field operations, use information provided from the participant to calculate the Soil Tillage Intensity Rating values to document that the applied rotation met the enhancement criteria. STIR values for each crop = _____

- □ After implementation, if the applied crops, crop rotation, or field operations are different than the planned crops, crop rotation, or field operations, use information provided from the participant to calculate soil conditioning index (SCI) and Organic Matter (OM) subfactor values to document that the applied rotation met the enhancement criteria.
- □ Review soil health assessment lab test results and SHAPE interpretation with the participant.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E329F

No-till into green cover crops to improve soil organic matter quantity and quality

Conservation Practice 329: Residue and Tillage Management, No-Till

APPLICABLE LAND USE: Crop (Annual & Mixed), Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Participant will:

- Complete the Cropping System Inventory Sheet below instead of the tables on page 3 in the National Job Sheet to provide more detailed information about the planned continuous no- till cropping system.

NRCS will:

- Attach the printouts from the current NRCS approved water or wind erosion prediction technologies to document the STIR, SCI, and Organic Matter subfactor values.

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans – cover crop	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn	15”	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E334A

CONSERVATION STEWARDSHIP PROGRAM

Controlled traffic farming to reduce compaction

Conservation Practice 334: Controlled Traffic Farming

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 5 Year

Enhancement Description

Establish a controlled traffic system where no more than 25% of the surface is tracked with heavy axel loads to minimize soil compaction. For row crops (e.g. corn in 30-inch rows) no tire should run on a row except for flotation tires on combines and/or fertilizer and lime spreading trucks. If wide flotation tires are used, they must be big enough that the inflation pressure will be below 18 psi to minimize compaction on trafficked rows.

Criteria

- Ensure that controlled traffic lanes are designed and used in a manner that avoids concentrated flow that may result in gully erosion.
- Limit wheel/track traffic to no more than 25 percent of the soil surface. The same tracks must be used for all high load traffic continually. High wheel load traffic is defined here as any tire or track that bears a load higher than 6,000 pounds at 30 psi or 6 tons per axle.
- For row crops (e.g. corn in 30-inch rows) no tire should run on a row except for flotation tires on combines and/or fertilizer and lime spreading trucks.
- If wide flotation tires are used, they must be big enough that the inflation pressure will be below 18 psi to minimize compaction on trafficked rows.

- Use a Geographic Positioning System (GPS) to guide field operations and wheeled/track traffic when the designated traffic lanes are obscured.
- Once the tram lines or traffic pattern is established, do not till deeper than 4 inches**.**

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, develop a plan to limit wheel/track traffic to no more than 25 percent of the soil surface.
- ☐ Prior to implementation, complete the following table to provide the current and any planned changes to crop row width.

Crops in Rotation (shown in sequence)	Current Crop Row Width	Planned Crop Row Width

- ☐ Prior to implementation, complete the following table to provide the current equipment width and spacing used for the above crop rotation.

Equipment Used in Crop Rotation	Width of Equipment (feet)	Tire/Track Spacing (on-center Inches)

- ☐ Prior to implementation, complete the following table to provide any **planned changes** to equipment width and spacing used for the above crop rotation.

Equipment used in Crop Rotation	Width of equipment (feet)	Tire/Track spacing (on-center Inches)

Equipment used in Crop Rotation	Width of equipment (feet)	Tire/Track spacing (on-center Inches)

- ☐ During implementation, the same tracks must be used for all high load traffic continually. High wheel load traffic is any tire or track that bears a load higher than 6,000 pounds at 30 psi or 6 tons per axle.
- ☐ During implementation, use a Geographic Positioning System (GPS) to guide field operations and wheeled/track traffic when the designated traffic lanes are obscured.
- ☐ During implementation, once the tram lines or traffic pattern is established, do not till deeper than 4 inches**.**
- ☐ During implementation, if ruts develop, use tillage or other specialized equipment to remove ruts and reestablish controlled traffic lanes.

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ Prior to implementation, verify the developed plan will limit wheel/track traffic to no more than 25 percent of the soil surface. **Percent wheel/track traffic = _____**
- ☐ Prior to implementation, ensure that controlled traffic lanes are planned and implemented in a manner that avoids concentrated flow that may result in gully erosion.
- ☐ After implementation, verify the plan was implemented to limit wheel/track traffic to no more than 25 percent of the soil surface. **Percent wheel/track traffic = _____**

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____
Fiscal Year Completed _____

CONSERVATION STEWARDSHIP PROGRAM

_____ _____
NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E334A

Controlled traffic farming to reduce compaction

Conservation Practice 334: Controlled Traffic Farming

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 5 years

State Criteria

Same as National Criteria.

Documentation Requirements

NRCS will:

- Using the information provided in the tables on the national jobsheet, calculate the percent of the field that is trafficked (use Figure 1 and the attached diagram to assist with calculations).

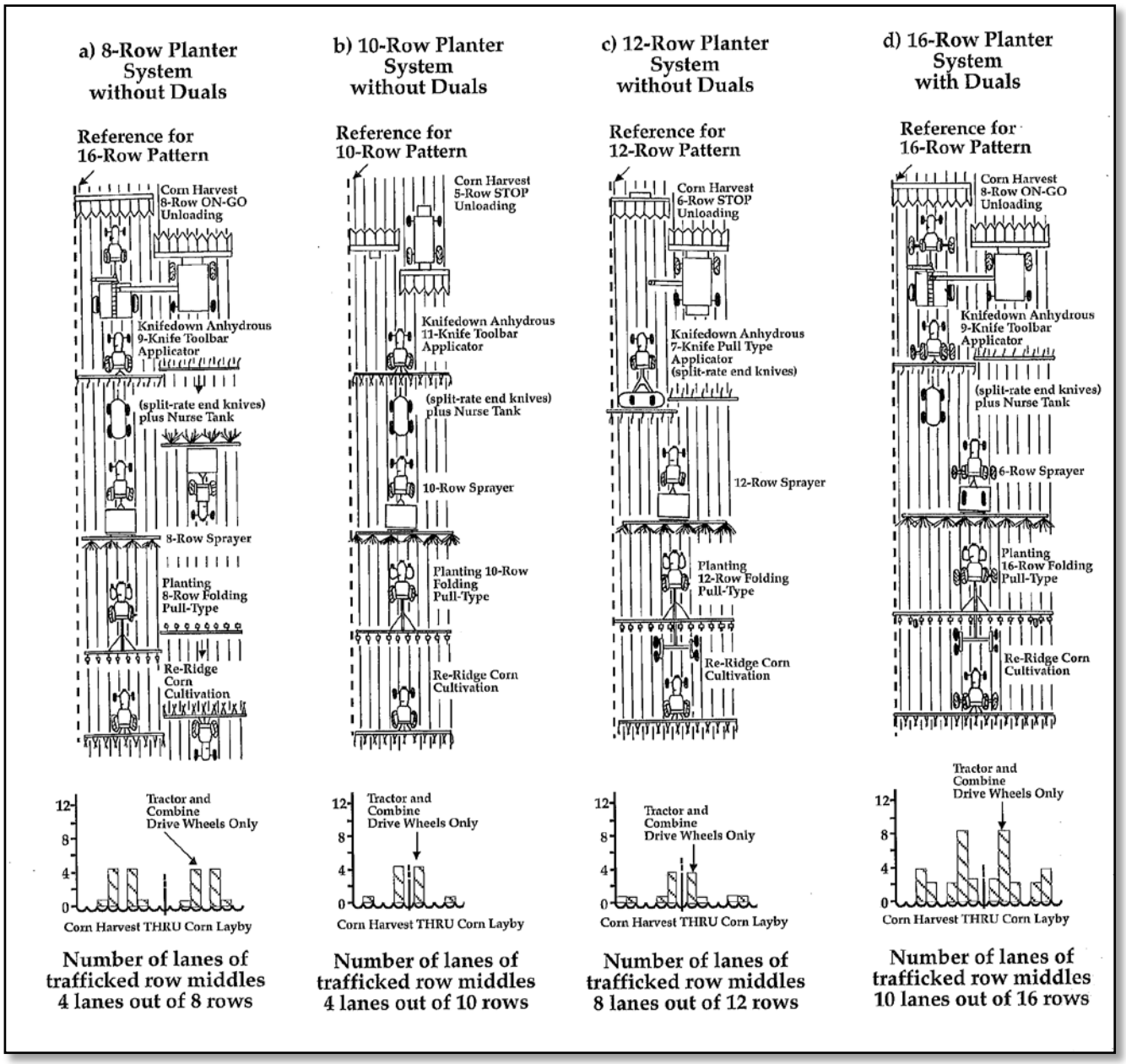
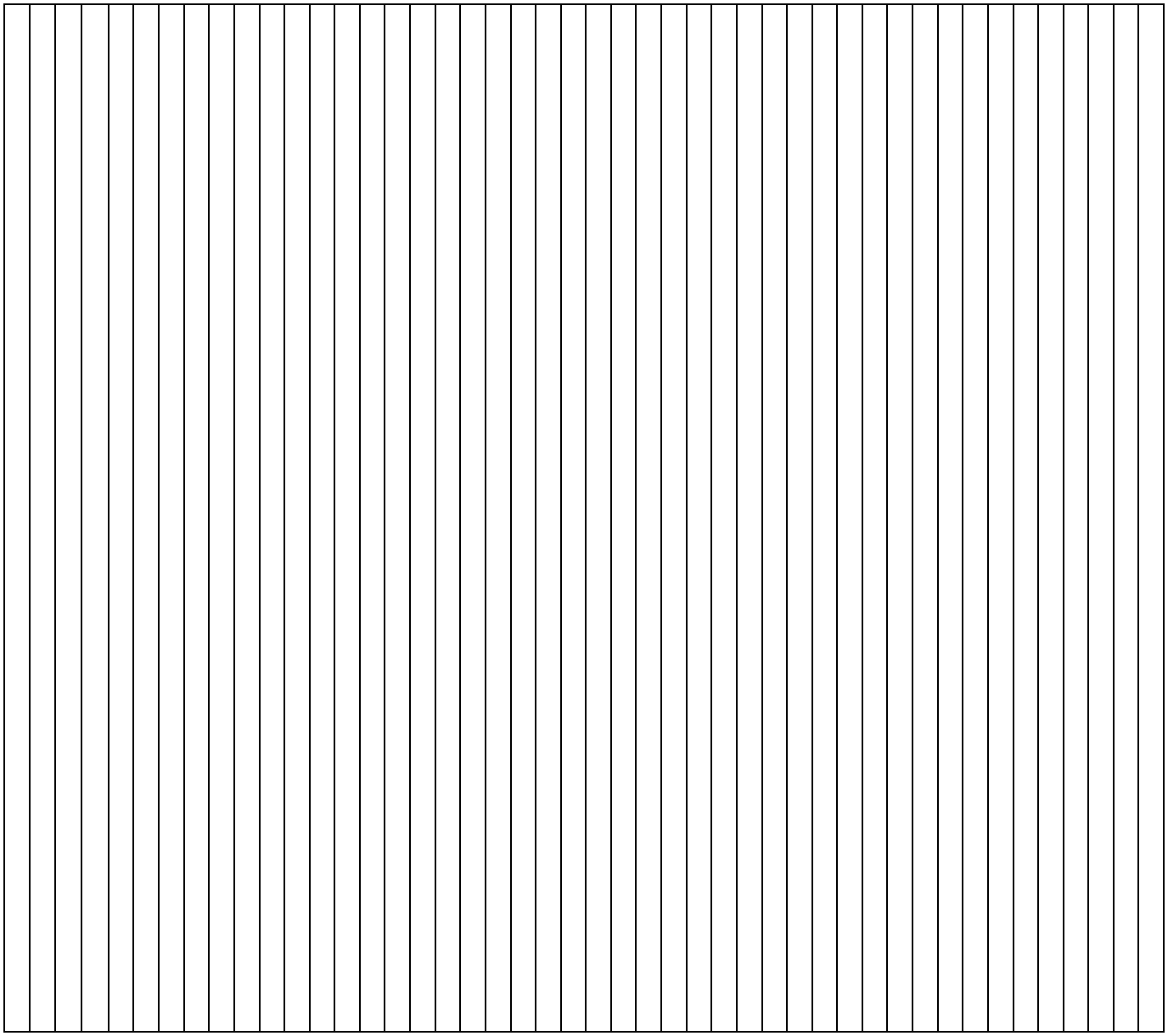


Figure 1: Examples for determining trafficked area for a controlled traffic system.

CONTROLLED TRAFFIC PLANNING TOOL



Delineate wheel/track spacing and paths on the above diagram to calculate the trafficked area for the planned controlled traffic system.

United States Department of Agriculture

Conservation Enhancement Activity

E338A

CONSERVATION STEWARDSHIP PROGRAM

Strategically planned, patch burning for grazing distribution and wildlife habitat

Conservation Practice 338: Prescribed Burning

APPLICABLE LAND USE: Forest, Pasture, and Range

RESOURCE CONCERN: Plants

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Patch burn grazing is the application of prescribed fires on portions of an identified grazing unit at different times of the year. Patch burn grazing allows grazing animals to select where they want to graze creating a mosaic of vegetation structures and diversity that will maintain or enhance the wildlife habitat desired for the identified wildlife species and maintain livestock production.

Criteria

Each burn event will cover 10% to 50% of any grazing unit's acreage. Subsequent individual burn events will occur during different seasons (as defined by the state NRCS office), whether conducted during the same year or a subsequent year as the prior burn event.

The following examples are to be used for illustration purposes only:

- Grazing unit A is burned in March. Another part of grazing unit A is burned in August of the same year.
- Grazing unit A is burned in March. Grazing unit B is burned in August two years later.
- Grazing unit A is burned in March. Grazing unit C is burned in August of the same year.

- At least two burn applications will be applied during the contract period.

- Annual application by burning different patches each year or different patches in different seasons in one year is acceptable and desirable for many wildlife species.
- Prescribed burning will be planned and applied in a manner to meet the habitat requirements for wildlife species of concern as determined by the state's NRCS Wildlife Habitation Evaluation Guide (WHEG).
- Conduct treatments during periods of the year that accommodate reproduction and other life-cycle requirements of target wildlife and pollinator species.
- Evaluate wildlife habitat with the state NRCS Wildlife Habitat Evaluation Guide (WHEG) and manage for a WHEG value of 0.60 or greater.
- A written prescribed burn plan for each burn that meets or exceeds NRCS Conservation Practice Standard Prescribe Burning (Code 338) criteria.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- Prior to implementation, obtain a written grazing plan with guidelines and recommendations for matching the forage quantity and quality produced with the grazing and/or browsing demand and clearly identify the wildlife species of concern for the area that includes a Wildlife Habitat Evaluation Guide.
- Prior to implementation, obtain a written prescribed burn plan with map delineating the areas that will be burned, burn prescription, timing of burn, and method of burn.
- During implementation, keep grazing/herd in/out records,
- During implementation, keep prescribed burn documentation such as date, weather conditions, etc.
- After implementation, make the following items available for review by NRCS to verify implementation of the enhancement:
  - Written grazing plan, including Wildlife Habitat Evaluation Guide with before and after evaluation values.
  - Grazing /herd in/out records
  - Prescribed burn plan with documentation of conditions during implementation.

NRCS will:

- Prior to implementation, provide and explain NRCS Conservation Practice Standard Prescribed Burning (Code 338) as it relates to implementing this enhancement.
- As needed, provide technical additional assistance to the participant as requested.
- After implementation, complete forage utilization jobsheet for NRCS Conservation Practice Standard Prescribed Grazing (Code 528).
- After implementation, verify implementation of the written grazing plan, by reviewing plan and grazing/herd in/out records kept during enhancement implementation.

CONSERVATION STEWARDSHIP PROGRAM

- After implementation, verify the completed and certified Wildlife Habitat Evaluation Guide (WHEG) has a total score after implementation of equal or greater than 0.60.
  WHEG score after = _____

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name_____Contract Number _____

Total Amount Applied_____Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E338A

Strategically planned, patch burning for grazingdistribution and wildlife habitat

Conservation Practice 338: Prescribed Burning

APPLICABLE LAND USE: Forest, Pasture, and Range

RESOURCE CONCERN: Plant

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Target a wildlife species that is of national/regional interest (i.e. Northern bobwhite quail) or species of concern found on the Tier I list of at-risk species of the Nebraska Natural Legacy Plan that are negatively impacted by herbaceous weeds, including invasive plant species, encroaching into grassland or herbaceous wetland habitats. The WHEW (Wildlife Habitat Evaluation Worksheet) to be commonly used includes the Pastureland Habitat Evaluation Worksheet 2006 or Rangeland Habitat Evaluation Worksheet 2007; or a species- oriented Habitat Evaluation Tool such as Greater Prairie Chicken Habitat Evaluation Tool 2009 or Plains Sharp-tailed Grouse Habitat Evaluation Tool 2009. Other models may be used including a Habitat Suitability Index for an appropriate species.

A WHEW will be completed prior to development of the prescribed burn and grazing management plans. A score of 0.60 or higher is required following the implementation of the treatment.

Pre-treatments (i.e. firebreaks and fuel breaks) and prescribed burning shall not occur if suitable nesting cover is being destroyed during the primary nesting period for migratory birds (May 1 to July 15) with consideration or early or late nesting species (i.e. raptors). Some pre-treatments are recommended to occur one season prior to the burn with additional maintenance occurring closer to the burn date (i.e. till firebreaks in the fall for a spring burn).

The minimum area to be treated is one management unit (pasture, paddock, etc.) with a suitable amount of that unit being treated with a prescribed burn followed by livestock grazing according to the plan.

Use 338 NE IR Prescribed Burn Management Plan (NE-CPA-72) 2019 or equivalent to document the prescribed burn plan. Use 528 NE IR Prescribed Grazing Design Tool 2016 or equivalent to document the grazing plan. Provide digital photos of the areas before and after the burn to document the plant community composition.

Conservation Enhancement Activity

E338B

CONSERVATION STEWARDSHIP PROGRAM

Short-interval burns to promote a healthy herbaceous plant community

Conservation Practice 338: Prescribed Burning

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Animals, Plants

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description:

The controlled use of fire is applied in a forest to restore fire-adapted plants and forage while improving wildlife habitat, wildlife food supply, and reducing the risk of damage from intense, severe wildfires. The ideal interval between prescribed burns is not often achieved. To improve the effectiveness of prescribed burning, the frequency of prescribed burning is increased appropriately, for a specified time period, to help restore ecological conditions in forests and woodlands. Short return interval prescribed burning is used to regenerate desirable tree species, improve the condition of fire-adapted plants and native herbaceous vegetation, improve wildlife food supply and forage quantity and quality, create wildlife habitat (snags and den/cavity trees), limit encroachment of competing vegetation including non-native species, and reduce the future risk of damage from intense, severe wildfires.

Criteria:

- States will apply general criteria from the NRCS National Conservation Practice Standard Prescribed Burning (Code 338) as listed below, and additional criteria as required by the NRCS State Office.

- Update the Prescribed Burning Plan (Conservation Activity Plan 112), or other Prescribed Burn prescription, in consultation with NRCS personnel to address restoration needs for fire-adapted vegetative communities and forages on the property.

CONSERVATION STEWARDSHIP PROGRAM

- Assess the need for pre-treatment of vegetation and fuels, and for application of complementary NRCS Conservation Practice Standards such as Fuel Break (Code 383), Firebreak (Code 394), and Woody Residue Treatment (Code 384).
- Apply to sites where prescribed burning has previously been implemented at longer intervals than recommended to maintain the desired plant community, and where burn frequency must be increased to achieve the objectives listed in the enhancement description.
- The prescribed burning frequency will be increased (i.e., the burn interval will be reduced) from the previous regimen to an interval appropriate for the target plant community.
- Assess the existing fuel load using appropriate tools and methods for the geographic area.
- If invasive plants are present, utilize methods and timing that will prevent or control their spread.
- A written burn plan must be developed, and all necessary approvals secured prior to conducting a prescribed burn. The plan will include the following components at a minimum:
  - The objectives of the burn and the expected post-burn conditions.
  - Maps, images and/or descriptions of the proposed burn area and any associated or adjacent smoke sensitive areas.
  - Inventory of available fuels.
  - Required weather and fuel conditions under which the burn will be conducted.
  - Firing sequence and methods.
  - List of equipment and personnel needed and job assignments.
  - Any pre-burn preparation needed to safely and effectively conduct the prescribed burn.
  - List of appropriate authorities, agencies, departments, individuals, and facilities to be contacted and necessary signatures of approval.
  - Checklist for a post-burn evaluation.

Burning criteria

  - Follow all components of the burn plan.
  - A current fire weather forecast is required prior to conducting a prescribed burn. Collect weather parameters and other data that affect fire behavior for the day of the burn and monitor the appropriate weather parameters during the burn. Weather conditions outside those prescribed in the written plan will result in postponement or cessation of the burn.

Grazing criteria

- If grazing is used in combination with prescribed burning to manage understory vegetation, a grazing plan must be in place and be used to guide the frequency and duration of grazing periods.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

- ☐ Prior to implementation, identify sites where at least one application of prescribed burning was implemented at longer burn intervals (i.e., insufficient frequency) than recommended for the target plant community by an existing prescribed burn plan or other habitat management plan. (NRCS will provide technical assistance, as needed)
- ☐ Prior to implementation, identify and document those sites in need of restoration of fire-adapted vegetative communities and forages where increased burn frequency will achieve the objectives listed in the enhancement description. (NRCS will provide technical assistance, as needed)
    - If grazing is used in combination with prescribed burning to manage understory vegetation, develop or update a grazing plan prior to implementation to guide the frequency and duration of grazing periods in accordance with the objectives of the enhancement description. Provide a copy to NRCS.
- ☐ Prior to implementation, assess the existing fuel load using appropriate tools and methods for the geographic area. Determine the need for pre-treatment of the vegetation and fuels to facilitate a desired fire intensity to achieve the enhancement objectives. Use complimentary practices as needed, such as NRCS Conservation Practice Standards Fuel Break (Code 383), Firebreak (Code 394) and Woody Residue Treatment (Code 384) to achieve appropriate conditions. (NRCS will provide technical assistance, as needed.)
- ☐ Prior to implementation, acquire a written burn plan for the enrolled land use acres that meets the enhancement criteria and any additional state NRCS requirements. Provide to NRCS for approval.
- ☐ Prior to implementation of a prescribed burn, acquire all necessary approvals and permits (local, state, federal as applicable).
- ☐ During implementation, and prior to ignition of each prescribed burn, acquire a current fire weather forecast and ensure all weather conditions are within those prescribed in the written burn plan. If conditions are not within prescription, postpone burn.
- ☐ During implementation, and prior to ignition of any prescribed burn, notify NRCS to confirm NRCS verification for any planned changes will meet NRCS or State required enhancement criteria.
- ☐ During implementation, install and maintain erosion control measures as needed for the site. (NRCS will provide technical assistance, as needed.)

- ☐ After implementation of each prescribed burn, conduct a post-burn evaluation as required within the burn plan and provide to NRCS.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ Prior to Implementation, as needed, provide technical assistance in determining sites for enhancement implementation that meet specified criteria.
- ☐ Prior to implementation, as needed, provide explanation and technical assistance in interpreting the following NRCS Conservation Practice Standards as they relate to implementing this enhancement:
  - Prescribed Burning (Code 338)
  - Fuel Break (Code 383)
  - Firebreak (Code 394)
  - Woody Residue Treatment (Code 384)
  - Additional Conservation Practice Standards for erosion control, as needed for the site.
- ☐ Prior to implementation, review and certify the prescribed burn plan meets the enhancement criteria and any additional state NRCS requirements.
- ☐ (If livestock are used) Prior to implementation, review the prescribed grazing plan to ensure objectives of the enhancement will be met when used in combination with prescribed burning.
- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ After implementation of each prescribed burn, review the post burn evaluation provided by the participant. Discuss any issues that may have occurred, and provide assistance as needed in adjusting plans and procedures to improve future prescribed burns.

NRCS Documentation Review:

CONSERVATION STEWARDSHIP PROGRAM

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E338B

Short-interval burns to promote a healthy herbaceous plant community

Conservation Practice 338: Prescribed Burning

APPLICABLE LAND USE: Forest, Pasture, Range

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 Year

State Criteria

For this enhancement to apply for forests: A portion of the forest area being planned must have had prescribed burning applied within the last 25 years with no area re-burned within three years to be eligible for this enhancement. Two prescribed burns must be implemented during the contract period on the same acres to meet the requirements of this enhancement.

A forest management plan is required if conducting this enhancement within a forest. The plan must include:

- Management objectives and specific management actions which pertain to short return interval prescribed burning to support this enhancement.
- A plan map which delineates the areas to be treated.
- Identify the type of forest and expected benefits to species composition, stand structure, etc. to result from the short return interval burn. Species tolerant of frequent fire and/or that occur in open woodlands to savannah are most likely to benefit including ponderosa pine and bur oak communities.

Pre-treatments (i.e. firebreaks and fuel breaks) and prescribed burning shall not occur if suitable nesting cover is being destroyed during the primary nesting period for migratory birds (May 1 to July 15) with consideration or early or late nesting species (i.e. raptors).

Some pre-treatments are recommended to occur one season prior to the burn with additional maintenance occurring closer to the burn date (i.e. till firebreaks in the fall for a spring burn).

Use 338 NE IR Prescribed Burn Management Plan (NE-CPA-72) 2019 or equivalent to document the prescribed burn plan including the implementation details.

The minimum area to be treated is one contiguous woodland or forest stand that is a minimum of one acre and 100 feet or wider.

Appropriate Wildlife Habitat Management Worksheets for this enhancement include the Woodland Habitat Evaluation Worksheet 2006.

United States Department of Agriculture

Conservation Enhancement Activity

E338C

CONSERVATION STEWARDSHIP PROGRAM

Sequential patch burning

Conservation Practice 338: Prescribed Burning

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Conduct prescribed burning beneath a forest canopy (ground fire), burning a portion of the area each year to create a mosaic of vegetation in several stages of development to provide a more diverse understory and contribute to wildlife habitat. The health of conifer and oak-conifer forests, particularly longleaf pine with a characteristic herbaceous understory, is dependent on fire or another means of controlling encroaching woody vegetation. A healthy longleaf or shortleaf pine, or pine-oak forest, can support a wide array of wildlife including pollinators and several endangered or threatened species.

Criteria

- States will apply the general criteria from the NRCS National Conservation Practice Standard Prescribed Burning (Code 338) as listed below, and additional criteria as required by the NRCS State Office.
- Apply to conifer forests of species that are adapted to frequent low-intensity ground fires, where undesirable understory vegetation has encroached.
- Selected areas of the enrolled land use acres will be underburned annually for a minimum of three consecutive years to create a mosaic of vegetation in different stages of development.
- Re-burning of already-burned areas during the cumulative year period is prohibited.

- Over the cumulative year period (three or more years) all acres will be underburned.
- Prior to the burn, assess the existing fuel load. Determine the need for pre-treatment of vegetation and fuels, and for application of complementary NRCS Conservation Practice Standards such as Fuel Break (Code 383), Firebreak (Code 394), and Woody Residue Treatment (Code 384).
- If invasive plants are present, utilize methods and timing that will prevent or control their spread.
- A written burn plan must be developed, and all necessary approvals secured prior to conducting a prescribed burn. The plan will include the following components at a minimum:
    - Objectives of the burn and expected post-burn conditions.
    - Maps, images and/or descriptions of the proposed burn area and any associated or adjacent smoke sensitive areas.
    - Inventory of available fuels.
    - Required weather and fuel conditions under which the burn will be conducted.
    - Firing sequence and methods.
    - List of equipment and personnel needed and job assignments.
    - Any pre-burn preparation needed to safely and effectively conduct the burn
    - List of appropriate authorities, agencies, departments, individuals, and facilities to be contacted and necessary signatures of approval.
    - Checklist for a post-burn evaluation.
- Burning criteria:
    - Follow all components of the burn plan.
    - A current fire weather forecast is required prior to conducting a prescribed burn. Collect weather parameters and other data that affect fire behavior for the day of the burn and monitor the appropriate weather parameters during the burn. Weather conditions outside those prescribed in the written plan will result in postponement or cessation of the burn.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

- ☐ Prior to implementation, identify and document sites dominated by conifer forests adapted to low-intensity ground fires that when properly applied will improve understory diversity for wildlife habitat and control undesirable encroaching vegetation. (NRCS will provide technical assistance, as needed)
- ☐ Prior to implementation, differentiate the enrolled acres into no fewer than 3 units, one to be burned each year, to create a mosaic of vegetation in different stages of development.
- ☐ Prior to implementation, assess the existing fuel load and determine the need for pre-treatment of the vegetation and fuels to facilitate a low-intensity ground fire. As needed, apply complimentary conservation practices such as NRCS Conservation Practice Standards Fuel Break (Code 383), Firebreak (Code 394) and Woody Residue Treatment (Code 384) to achieve appropriate conditions. (NRCS will provide technical assistance, as needed)
- ☐ Prior to implementation, acquire a written burn plan for the enrolled land use acres that meets the enhancement criteria and any additional state NRCS requirements. Provide to NRCS for review and written approval.
- ☐ Prior to implementation of a prescribed burn, acquire all necessary approvals and permits (i.e. local, state, federal as applicable).
- ☐ During implementation, and prior to ignition of each prescribed burn, acquire a current fire weather forecast and ensure all weather conditions are within those prescribed in the written burn plan. If conditions are not within the prescription, postpone burn.
- ☐ During implementation, and prior to ignition of any prescribed burn, notify NRCS to confirm NRCS verification for any planned changes will meet NRCS or State required enhancement criteria.
- ☐ During implementation, install and maintain erosion control measures as needed for the site. (NRCS will provide technical assistance, as needed.)
- ☐ After implementation of each prescribed burn, conduct a post-burn evaluation as required within the burn plan and provide evaluation documentation to NRCS.

NRCS will:

- ☐ Prior to implementation and as needed, provide technical assistance in determining sites for enhancement implementation that meet specified criteria.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ Prior to implementation and as needed, provide explanation and technical assistance to the following NRCS Conservation Practice Standards as they relate to implementing this enhancement:
  - o Prescribed Burning (Code 338)
  - o Fuel Break (Code 383)
  - o Firebreak (Code 394)
  - o Woody Residue Treatment (Code 384)
  - o Additional Conservation Practice Standards for erosion control, as needed for the site.
- ☐ Prior to implementation, review and certify the prescribed burn plan meets the enhancement criteria and any additional state NRCS requirements.
- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ After implementation of each prescribed burn, review the post burn evaluation provided by the participant. Discuss any encountered issues, and as needed, provide assistance for changes in planning and procedure for the remaining prescribed burns.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E338C

Sequential patch burning

Conservation Practice 338: Prescribed Burning

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Only pine-dominated forests (i.e. ponderosa pine) are eligible for this enhancement. At least three prescribed burns must be implemented in sequential years during the contract period to meet the requirements of this enhancement.

A forest management plan is required. The plan must include:

- Management objectives and specific management actions which pertain to sequential patch burning to support this enhancement.
- A plan map which delineates the areas to be treated each year.

Pre-treatments (i.e. firebreaks and fuel breaks) and prescribed burning shall not occur if suitable nesting cover is being destroyed during the primary nesting period for migratory birds (May 1 to July 15) with consideration or early or late nesting species (i.e. raptors).

Some pre-treatments are recommended to occur one season prior to the burn with additional maintenance occurring closer to the burn date (i.e. till firebreaks in the fall for a spring burn).

The minimum area to be treated by each prescribed burn is one contiguous woodland or forest stand that is a minimum of one acre and 100 feet or wider.

Use 338_NE_IR_Prescribed_Burning_2018 (formerly known as NE-ECS-72) or equivalent to document the prescribed burn plan including the implementation details.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E340A

CONSERVATION STEWARDSHIP PROGRAM

Cover crop to reduce soil erosion

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Cover crop added to current crop rotation to reduce soil erosion from water and wind to below soil tolerance (T) level. Cover crops grown during critical erosion period(s). Species are selected that will have physical characteristics to provide adequate erosion protection.

Criteria

- Plant species, seedbed preparation, seeding rates, seeding dates, seeding depths, fertility requirements, and planting methods will be consistent with applicable local criteria and soil/site conditions **(REFER TO STATE SPECIFIC LISTS)**. Determine method and timing of termination to meet grower's objective and current NRCS Cover Crop Termination Guidelines.
- Select species that are compatible with other components of the cropping system.
- Ensure herbicides used with crops are compatible with cover crop selections.
- Cover crops may be established between successive production crops, or companion-planted or relay-planted into production crops. Select species and planting dates that will not compete with production crop yield or harvest.
- Do not burn cover crop residue.
- Do not harvest or graze cover crop.

CONSERVATION STEWARDSHIP PROGRAM

- If specific rhizobium bacteria for selected legumes are not present in the soil, treat seed with appropriate inoculum at time of planting.
- Time cover crop establishment in conjunction with other practices to adequately protect soil during critical erosion period(s).
- Select cover crops that will have the physical characteristics necessary to provide adequate erosion protection.
- Use NRCS erosion prediction technology to determine amount of surface and/or canopy cover needed from cover crop to achieve the erosion objective (average annual soil loss below T).
- Crops planted following the cover crop must be no-tilled.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide NRCS with the current planned crop rotation, cover crop information, and field operation(s) used for each crop.

Current Management Rotation Including Cover Crop

Field	Planned Crops/Cover Crop (in sequence)	Planting Date	Harvest/Termination Date

Current Field Operations for each crop

Field	Crop	Field Operation	Timing of Field Operation (month/year)

Planned Management Rotation Including Cover Crop

Field	Planned Crops/Cover Crop (in sequence)	Planting Date	Harvest/Termination Date

Planned Field Operations for each crop

Field	Crop	Field Operation	Timing of Field Operation (month/year)

Cover Crop Mix and Seeding Rate

Species	Variety	Seed Size	Typical Seeding Depth	Seeding Rate (PLS lbs/acre)	Percent of Mix (%)

Establishment and Management Considerations:

Task	Provide information and details
Seedbed Preparation	
Seeding Date	
Seeding Depth	
Seeding Method	
Fertilizer, as needed	
Weed Management, as needed	
Termination Date (window)	
Termination Method	

☐ Prior to implementation, read and follow current NRCS Cover Crop Termination Guidelines.

☐ During implementation, cover crops must not be burned, grazed or harvested.

☐ During implementation, the crop following the cover crop must be no till seeded.

- ☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or unharvested areas to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if changes to the cover crop and crop rotation were made, complete the tables above to document the applied Cover Crop for the contract period and provide to NRCS.

NRCS will:

- ☐ As needed, provide technical assistance in selecting cover crop mixes for the crop rotations or substitute species that would meet the criteria of the enhancement.
- ☐ As needed, provide additional assistance to the participant as requested.
- ☐ Prior to implementation, provide and explain the current NRCS Cover Crop Termination Guidelines.
- ☐ Prior to implementation, use information provided from the participant to calculate the management sheet and rill erosion from water and wind erosion value for each field using current NRCS water erosion prediction technologies.

  Benchmark Management Soil Loss = _____ tons/acre/year

  Planned Management Soil Loss = _____ tons/acre/year
- ☐ During implementation, evaluate any planned changes to cover crop mix, timing in crop rotation, management, or field operations to verify the new system meets the enhancement criteria.
- ☐ After implementation, evaluate the applied cover crop in the crop rotation or management using information provided from the participant, if any variation to planned evaluation, then calculate erosion values to document that the applied rotation met the enhancement criteria.

  Applied Management Soil Loss = _____ tons/acre/year

NRCS Documentation Review:

CONSERVATION STEWARDSHIP PROGRAM

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E340A

Cover crop to reduce soil erosion

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Cover Crop Requirements

- **Cover crops cannot be harvested or grazed**
- Cover crops must follow planting dates, seeding rates, method of planting and other requirements in 340 NE CPS Cover Crop 2014. Specifications will be provided on the 340 NE IR Cover Crop 2019 (formerly known as NE-CPA-7).
- Cover crops which winter kill must be planted 6-8 weeks prior to the average date of the first killing frost.
- Cover crops which over winter must have 4-6 weeks of spring growth before termination.
- Spring planted cover crops must be planted 6-8 weeks prior to the planned termination date.
- Winter annual cover crops planted following a low residue crop must have a minimum of 6-8" of growth before they are terminated.
- Cover crops which follow fall harvested crops must include a winter annual small grain such as rye, wheat or triticale.

Acceptable cover crops for this enhancement include:

Barley; Canola; Corn; Pearl millet; Oats; Cereal Rye; Annual Ryegrass; Any Sorghum; Sudangrass or Sudan/Sorghum hybrids; Triticale; and Wheat.

Documentation Requirements

Participant will:

1. Complete the attached Cropping System Inventory Sheets instead of the tables in the National Job Sheet to provide more detailed information about the existing and planned cropping systems.
2. Complete, sign, and attach the 340 NE IR Cover Crop 2019 (formerly known as NE-CPA-7).

NRCS will:

1. Attach the printouts from the current NRCS approved erosion prediction technologies to document the average annual soil loss for the participant's current and planned cropping systems.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the current cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn		May 1	Disk
				15”	May 15	Planter with double disk openers
					October 20	Harvest

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans – Cover Crop	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn		May 1	Disk
				15”	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E340B

CONSERVATION STEWARDSHIP PROGRAM

Intensive cover cropping to increase soil health and soil organic matter content

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Implementation of cover crop mix to provide soil coverage during ALL non-crop production periods in an annual crop rotation. Cover crop shall not be harvested or burned. Planned crop rotation including cover crops and associated management activities must achieve a soil conditioning index (SCI) of zero or higher. The current NRCS wind and water erosion prediction technologies must be used to document SCI calculations.

Criteria

- Plant species, seedbed preparation, seeding rates, seeding dates, seeding depths, fertility requirements, and planting methods will be consistent with applicable local criteria and soil/site conditions **(REFER TO STATE SPECIFIC LISTS)**.
- Determine the method and timing of termination to meet the grower's objective and the current NRCS Cover Crop Termination Guidelines.
- Select species that are compatible with other components of the cropping system.
- Ensure herbicides used with crops are compatible with cover crop selections.

- Cover crops may be established between successive production crops, or companion-planted or relay-planted into production crops. Select species and planting dates that will not compete with the production crop yield or harvest.
- Do not burn cover crop residue.
- Do not harvest the cover crop.
- If the specific rhizobium bacteria for the selected legume are not present in the soil, treat the seed with the appropriate inoculum at the time of planting.
- Cover crop must provide soil coverage during all non-crop production periods to the maximum extent possible considering the cropping system, climate, and soils in the annual crop rotation. (**STATES SHALL PREPARE GUIDANCE FOR THEIR LOCAL CLIMATES AND CROPPING SYSTEMS**.)
- Minimum 3 species mix will be selected on the basis of producing higher volumes of organic material and root mass to maintain or increase soil organic matter.
- Planned crop rotation including cover crops, biomass produced, and associated management activities must achieve a management soil conditioning index (SCI) of zero or higher and result in a positive trend in the Organic Matter (OM) sub factor value over the life of the rotation.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide NRCS with the current and planned crop rotation and field operation(s) used for each crop.

Current Management Rotation

Field	Planned Crops/Cover Crop (in sequence)	Planting Date	Harvest/Termination Date

Current Field Operations for each crop

Field	Crop	Field Operation	Timing of Field Operation (month/year)

Planned Management Rotation Including Cover Crop

Field	Planned Crops/Cover Crop (in sequence)	Planting Date	Harvest/Termination Date

Planned Field Operations for each crop

Field	Crop	Field Operation	Timing of Field Operation (month/year)

Cover Crop Mix and Seeding Rate

Species	Variety	Seed Size	Typical Seeding Depth	Seeding Rate (PLS lbs/acre)	Percent of Mix (%)

Establishment and Management Considerations:

Task	Provide information and details
Seedbed Preparation	
Seeding Date	
Seeding Depth	
Seeding Method	
Fertilizer, as needed	
Weed Management, as needed	
Termination Date (window)	
Termination Method	

☐ Prior to implementation, read and follow current NRCS Cover Crop Termination Guidelines.

- ☐ During implementation, cover crops must not be burned or harvested.
- ☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or unharvested areas to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if changes to the cover crop and crop rotation were made, complete the tables above to document the applied Cover Crop for the contract period and provide to NRCS.

NRCS will:

- ☐ As needed, provide technical assistance in selecting cover crop mixes for the crop rotations or substitute species that would meet the criteria of the enhancement.
- ☐ As needed, provide additional assistance to the participant as requested.
- ☐ Prior to implementation, verify the cover crop mix has a minimum of 3 species.
- ☐ Prior to implementation, provide and explain the current NRCS Cover Crop Termination Guidelines.
- ☐ Prior to implementation, use the information provided from the participant to calculate the management Soil Conditioning Index (SCI) and Organic Matter (OM) sub factor value over the life of the rotation. Cover crop must increase SCI and OM sub factor from the current/benchmark condition and SCI value must be 0 or greater and have a positive trending OM subfactor over the life of the rotation.

  Benchmark Management SCI = _____, Benchmark Management OM sub factor = _____

  Planned Management SCI = _____, Planned Management OM sub factor = _____
- ☐ During implementation, evaluate planned adjustments in cover crop selected, timing in crop rotation, management, or field operations to verify the new system meets the enhancement criteria.
- ☐ After implementation, evaluate the applied crop rotation or management using information provided from the participant, if any variation to planned evaluation, then calculate SCI values to document that the applied rotation met the enhancement criteria.

  Applied Management SCI = _____, Applied Management OM sub factor = _____

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name: _____ Contract Number: _____

Total Acres Applied: _____ Fiscal Year Completed: _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E340B

Intensive cover cropping to increase soil health and soil organic matter content

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Cover Crop Requirements

- Cover crops must follow planting dates, seeding rates, method of planting and other requirements in 340 NE CPS Cover Crop 2014. Specifications will be provided on the 340 NE IR Cover Crop 2019 (formerly known as Cover Crop worksheet NE-CPA-7).
- Cover crops which winter kill must be planted 6-8 weeks prior to the average date of the first killing frost.
- Cover crops which over winter must have 4-6 weeks of spring growth before termination.
- Spring planted cover crops must be planted 6-8 weeks prior to the planned termination date.
- Winter annual cover crops planted following a low residue crop must have a minimum of 6-8" of growth before they are terminated.
- Cover crops which follow fall harvested crops must include a winter annual small grain such as rye, wheat or triticale.
- **Cover crops cannot be mechanically harvested.** If the cover crops will be grazed, complete, sign and attach Prescribed Grazing Job Sheet – NE-ECS-528 Cover Crops located in the 528 NE IR Prescribed Grazing Design Tool showing the cover crops grown, estimated production, animal type, number and weight, and planned and actual grazing dates.
- Cover crop mixes used for this enhancement must include at least one of the following: Barley; Rapeseed/Canola; Corn; Pearl millet; Oats; Cereal Rye; Annual Ryegrass; Any Sorghum; Sudangrass or Sudan/Sorghum hybrids; Triticale; and Wheat.

Documentation Requirements

Participant will:

1. Complete the attached Cropping System Inventory Sheets instead of the tables in the National Job Sheet to provide more detailed information about the existing and planned cropping systems.
2. Complete, sign, and attach the 340 NE IR Cover Crop 2019 (formerly known as Cover Crop worksheet NE-CPA-7).

NRCS will:

1. Attach the printouts from the current NRCS approved water or wind erosion prediction technologies to document the SCI and Organic Matter subfactor values for the participant's current and planned cropping systems.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the current cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn		May 1	Disk
				15”	May 15	Planter with double disk openers
					October 20	Harvest

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1	80	N	Corn – cover crop – Soybeans – Wheat – Cover Crop	C-140, B- 40, W - 45

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1	Soybeans	Cover crop	15”	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E340C

Use of multi-species cover crop to improve soil health and increase soil organic matter

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial) , Pasture

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Cover Crop Requirements

- Cover crops must follow planting dates, seeding rates, method of planting and other requirements in the 340 NE CPS Cover Crop 2014. Specifications will be provided on the 340 NE IR Cover Crop 2019.
- Cover crops which winter kill must be planted 6-8 weeks prior to the average date of the first killing frost.
- Cover crops which over winter must have 4-6 weeks of spring growth before termination.
- Spring planted cover crops must be planted 6-8 weeks prior to the planned termination date.
- Winter annual cover crops planted following a low residue crop must have a minimum of 6-8" of growth before they are terminated.
- Cover crops which follow fall harvested crops must include a winter annual small grain such as rye, wheat or triticale.
- **Cover crops cannot be mechanically harvested.** If the cover crops will be grazed, complete, sign and attach Prescribed Grazing Job Sheet – NE-ECS-528 Cover Crops located in the 528 NE IR Prescribed Grazing Design Tool showing the cover crops grown, estimated production, animal type, number and weight, and planned and actual grazing dates.
- Cover crop mixes used for this enhancement must include at least one of the following: Barley; Rapeseed/Canola; Corn; Pearl millet; Oats; Cereal Rye; Annual Ryegrass; Any Sorghum; Sudangrass or Sudan/Sorghum hybrids; Triticale; and Wheat.

Documentation Requirements

Participant will:

1. Complete the attached Cropping System Inventory Sheets instead of the tables in the National Job Sheet to provide more detailed information about the existing and planned cropping systems.
2. Complete, sign, and attach the 340 NE IR Cover Crop 2019 (formerly known as Cover Crop worksheet NE-CPA-7).

NRCS will:

1. Attach the printouts from the current NRCS approved water or wind erosion prediction technologies to document the SCI and Organic Matter subfactor values for the participant's current and planned cropping systems.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the current cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn		May 1	Disk
				15”	May 15	Planter with double disk openers
					October 20	Harvest

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1	80	N	Corn – cover crop – Soybeans – Wheat – Cover Crop	C-140, B- 40, W - 45

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1	Soybeans	Cover crop	15”	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E340C

CONSERVATION STEWARDSHIP PROGRAM

Use of multi-species cover crop to improve soil health and increase soil organic matter

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial), Pasture

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Implement a multi-species cover crop to add diversity and increase biomass production to improve soil health and increase soil organic matter. Cover crop mix must include a minimum of 4 different species. The cover crop mix will increase diversity of the crop rotation by including crop types currently missing, e.g. Cool Season Grass (CSG), Cool Season Broadleaves (CSB), Warm Season Grasses (WSG), Warm Season Broadleaves (WSB).

Criteria

- Plant species, seedbed preparation, seeding rates, seeding dates, seeding depths, fertility requirements, and planting methods will be consistent with applicable local criteria and soil/site conditions (**REFER TO STATE SPECIFIC LISTS**).
- Determine the method and timing of termination to meet the grower's objective and the current NRCS Cover Crop Termination Guidelines.
- Select species that are compatible with other components of the cropping system.
- Ensure herbicides used with crops are compatible with cover crop selections.

- Cover crops may be established between successive production crops, or companion-planted or relay-planted into production crops. Select species and planting dates that will not compete with the production crop yield or harvest.
- Do not burn cover crop residue.
- Do not harvest the cover crop.
- If the specific rhizobium bacteria for the selected legume are not present in the soil, treat the seed with the appropriate inoculum at the time of planting.
- Cover crop must provide soil coverage during all non-crop production periods to the maximum extent possible considering the cropping system, climate, and soils in the annual crop rotation. (**STATES SHALL PREPARE GUIDANCE FOR THEIR LOCAL CLIMATES AND CROPPING SYSTEMS**)
- The crop rotation, to include the cover crop species, shall consist of the four crop types: Cool Season Grass (CSG), Cool Season Broadleaves (CSB), Warm Season Grasses (WSG), and Warm Season Broadleaves (WSB). The multi-species cover crop mix must include at least 4 different species, of those 4 species at least two of them must be from one or more of the crop types needed to fill in the missing crop types in the crop rotation. The cover crop mix will increase diversity of the crop rotation.
- Planned crop rotation including cover crops, biomass produced, and associated management activities must achieve a management soil conditioning index (SCI) of zero or higher and results in a positive trend in the Organic Matter (OM) subfactor value over the life of the rotation.

Additional criteria when livestock are included in the system:

Cover Crops may only be grazed in a manner that retains or enhances the purpose of increasing soil organic matter.

- A grazing plan must be developed to document livestock management. Plan must include at a minimum a forage estimate and livestock inventory for all fields implementing this

enhancement that will be grazed. For soil health benefits, utilization by livestock must be less than 50% of available cover crop forage.

- Before cover crops are grazed, they must have produced enough biomass to allow for grazing while maintaining soil health benefits. Cover crops that are planted in late fall will not typically be well enough established, however if stands are adequate cover crops may be grazed in the spring prior to termination.

- Different cover crop species have varying tolerances to grazing; this should be taken into consideration when developing cover crop seeding specifications.

- Grazing shall not occur during wet soil conditions.

- Some pesticides have restrictions on grazing following application (up to 18 months). Refer to pesticide labels.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide NRCS with the current and planned crop rotation and field operation(s) used for each crop.

Current Management Rotation

Field	Planned Crops/Cover Crop (in sequence)	Planting Date	Harvest/Termination Date

Current Field Operations for each crop

Field	Crop	Field Operation	Timing of Field Operation (month/year)

Planned Management Rotation Including Cover Crop

Field	Planned Crops/Cover Crop (in sequence)	Planting Date	Harvest/Termination Date

Planned Field Operations for each crop

Field	Crop	Field Operation	Timing of Field Operation (month/year)

Cover Crop Mix (minimum of 4 species and 2 different crop types) and Seeding Rate

Species	Variety	Seed Size	Typical Seeding Depth	Seeding Rate (PLS lbs/acre)	Percent of Mix (%)	Crop Type (CSG, CSB, WSG, WSB)

Establishment and Management Considerations:

Task	Provide information and details
Seedbed Preparation	
Seeding Date	
Seeding Depth	
Seeding Method	
Fertilizer, as needed	
Weed Management, as needed	
Termination Date (window)	
Termination Method	
Grazing Management, as needed	

- ☐ Prior to implementation, read and follow current NRCS Cover Crop Termination Guidelines.
- ☐ Prior to implementation, if livestock are included in the system consider cover crop species tolerant to grazing.
- ☐ Prior to implementation, if livestock are included in the system develop a grazing plan which must document livestock management. Plan must include at a minimum a forage estimate and livestock inventory for all fields implementing this enhancement that will be grazed. For soil health benefits, utilization by livestock must be less than 50% of available cover crop forage.
- ☐ During implementation, cover crops must not be burned or harvested.
- ☐ During implementation, if livestock are included in the system maintain records of forage utilization.
- ☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or unharvested areas to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if changes to the cover crop and crop rotation were made, complete the tables above to document the applied Cover Crop for the contract period and provide to NRCS.
- ☐ After implementation, if livestock are included in the system provide grazing plan and forage utilization records to NRCS for review to verify additional criteria of the enhancement were met.

NRCS will:

- ☐ As needed, provide technical assistance in selecting cover crop mixes for the crop rotations or substitute species that would meet the criteria of the enhancement.
- ☐ As needed, provide additional assistance to the participant as requested.
- ☐ Prior to implementation, provide and explain the current NRCS Cover Crop Termination Guidelines.
- ☐ Prior to implementation, use information provided from the participant to calculate the management Soil Conditioning Index (SCI) and Organic Matter (OM) sub factor value over the life of the rotation using current NRCS Soil Conditioning Index (SCI) procedure. Cover crop must increase SCI and OM sub factor from the current/benchmark condition and SCI

value must be 0 or greater and have a positive trend in OM sub factor over the life of the rotation.

Benchmark Management SCI = _____, Benchmark Management OM sub factor = _____

Planned Management SCI = _____, Planned Management OM sub factor = _____

- ☐ Prior to implementation, <u>if livestock are included in the system</u> verify a grazing plan has been developed.
- ☐ During implementation, evaluate planned adjustments in cover crop selected, timing in crop rotation, management, or field operations to verify the new system meets the enhancement criteria.

☐ After implementation, evaluate the applied crop rotation or management using information provided from the participant, if any variation to planned evaluation, then calculate SCI values to document that the applied rotation met the enhancement criteria.

Applied Management SCI = _____, Applied Management OM sub factor = _____

☐ After implementation, <u>if livestock are included in the system</u> review grazing plan and forage utilization records to verify additional criteria of the enhancement were met.

<u>NRCS Documentation Review:</u>

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E340D

CONSERVATION STEWARDSHIP PROGRAM

Intensive orchard/vineyard floor cover cropping to increase soil health

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Implement orchard or vineyard floor cover crops. Cover crop shall not be harvested, grazed, or burned. Must achieve a soil conditioning index of zero or higher and produce a positive trend in the Organic Matter subfactor over the life of the rotation.

Criteria

- Plant species, seedbed preparation, seeding rates, seeding dates, seeding depths, fertility requirements, and planting methods will be consistent with applicable local criteria and soil/site conditions (**REFER TO STATE SPECIFIC LISTS**).
- Determine the method and timing of termination to meet the grower's objective and the current NRCS Cover Crop Termination Guidelines.
- Select species that are compatible with other components of the cropping system.
- Ensure herbicides used with crops are compatible with cover crop selections.
- Cover crops may be established between successive production crops, or companion-planted or relay-planted into production crops. Select species and planting dates that will

achieve the purpose of the cover crop without negatively impacting the production crop yield or harvest.

- Do not burn cover crop residue.
- Do not harvest the cover crop.
- If the specific rhizobium bacteria for the selected legume are not present in the soil, treat the seed with the appropriate inoculum at the time of planting.
- Cover crop must provide soil coverage during all non-crop production periods to the maximum extent possible considering the cropping system, climate, and soils in the annual crop rotation. (**STATES SHALL PREPARE GUIDANCE FOR THEIR LOCAL CLIMATES AND CROPPING SYSTEMS.**) *Minimum 2 species cover crop mix* will be selected based on producing higher volumes of organic material and root mass to maintain or increase soil organic matter.
- Planned crop rotation including cover crop biomass production and associated management activities must achieve a management soil conditioning index (SCI) of zero or higher and result in a positive trend in the Organic Matter (OM) sub factor value over the life of the rotation.
- Cover crops are replanted annually.
- Grow cover crops on a minimum of 60% of the field area year annually.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide NRCS with the current and planned crop rotation and field operation(s) used for each crop.

Current Management Rotation

Field	Planned Crops/Cover Crop (in sequence)	Planting Date	Harvest/Termination Date

Current Field Operations for each crop

Field	Crop	Field Operation	Timing of Field Operation (month/year)

Planned Management Rotation Including Cover Crop

Field	Planned Crops/Cover Crop (in sequence)	Planting Date	Harvest/Termination Date

CONSERVATION STEWARDSHIP PROGRAM

Cover Crop Mix and Seeding Rate – *minimum 2 species cover crop mix*

Species	Variety	Seed Size	Typical Seeding Depth	Seeding Rate (PLS lbs/acre)	Percent of Mix (%)

Establishment and Management Considerations:

Task	Provide information and details
Seedbed Preparation	
Seeding Date	
Seeding Depth	
Seeding Method	
Fertilizer, as needed	
Weed Management, as needed	
Termination Date (window)	
Termination Method	

- ☐ Prior to implementation, read and follow current NRCS Cover Crop Termination Guidelines.
- ☐ Prior to implementation, determine develop map showing the area(s) to be planted to cover crop. Cover crop must cover at least 60% of the field area each year.
- ☐ During implementation, cover crops must not be burned or harvested.
- ☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or unharvested areas to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if changes to the cover crop and crop rotation were made, complete the tables above to document the applied Cover Crop for the contract period and provide to NRCS.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ As needed, provide technical assistance in selecting cover crop mixes for the crop rotations or substitute species that would meet the criteria of the enhancement.
- ☐ As needed, provide additional assistance to the participant as requested.
- ☐ Prior to implementation, provide and explain the current NRCS Cover Crop Termination Guidelines.
- ☐ Prior to implementation, use information provided from the participant to calculate the management Soil Conditioning Index (SCI) value and Organic Matter (OM) subfactor value over the life of the rotation. Cover crop must increase SCI and OM sub factor from the current/benchmark condition and SCI value must be zero or greater and have a positive trending OM subfactor over the life of the rotation.

  Benchmark Management SCI = _____ Benchmark Management OM sub factor = _____

  Planned Management SCI = _____ Planned Management OM sub factor = _____
- ☐ Prior to implementation, verify the cover crop mix includes at least 2 species of cover crop.
- ☐ Prior to implementation, verify the development of a map showing the area(s) to be planted to cover crop.
- ☐ Prior to implementation, verify cover crop will cover at least 60% of the field area each year.
- ☐ During implementation, evaluate planned adjustments in cover crop selected, timing in crop rotation, management, or field operations to verify the new system meets the enhancement criteria.
- ☐ After implementation, evaluate the applied crop rotation or management using information provided from the participant, if any variation to planned evaluation, then calculate SCI values to document that the applied rotation met the enhancement criteria.

  Applied Management SCI = _____, Applied Management OM sub factor = _____

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E340D

Intensive orchard/vineyard floor cover cropping to increase soil health

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Cover Crop Requirements

- Cover crops must follow planting dates, seeding rates, method of planting and other requirements in the 340 NE CPS Cover Crop 2014. Specifications will be provided on the the 340 NE IR Cover Crop 2019 (formerly known as Cover Crop worksheet NE-CPA-7).
- Cover crops which winter kill must be planted 6-8 weeks prior to the average date of the first killing frost.
- Cover crops which over winter must have 4-6 weeks of spring growth before termination.
- Spring planted cover crops must be planted 6-8 weeks prior to the planned termination date.
- Winter annual cover crops planted following a low residue crop must have a minimum of 6-8" of growth before they are terminated.
- Cover crops which follow fall harvested crops must include a winter annual small grain such as rye, wheat or triticale.
- **Cover crops cannot be mechanically harvested.** If the cover crops will be grazed, complete, sign and attach Prescribed Grazing Job Sheet – NE-ECS-528 Cover Crops located in the 528 NE IR Prescribed Grazing Design Tool showing the cover crops grown, estimated production, animal type, number and weight, and planned and actual grazing dates.
- Cover crop mixes used for this enhancement must include at least one of the following: Barley; Rapeseed/Canola; Corn; Pearl millet; Oats; Cereal Rye; Annual Ryegrass; Any Sorghum; Sudangrass or Sudan/Sorghum hybrids; Triticale; and Wheat.

Documentation Requirements

Participant will:

1. Complete, sign, and attach the 340 NE IR Cover Crop 2019 (formerly known as Cover Crop worksheet NE-CPA-7).

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E340E

CONSERVATION STEWARDSHIP PROGRAM

Use of soil health assessment to assist with development of cover crop mix to improve soil health

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed), Crop (Perennial), Pasture

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Soil health assessment (year 1) to evaluate current crop rotation in addressing soil organic matter depletion. Results are utilized to select a multi-species cover crop mix to add to the current crop rotation. Follow up assessment completed (year 3).

Criteria

- Plant species, seedbed preparation, seeding rates, seeding dates, seeding depths, fertility requirements, and planting methods will be consistent with applicable local criteria and soil/site conditions (**REFER TO STATE SPECIFIC LISTS**).
- Determine the method and timing of termination to meet the grower's objective and the current NRCS Cover Crop Termination Guidelines.
- Select species that are compatible with other components of the cropping system.
- Ensure herbicides used with crops are compatible with cover crop selections.

- Cover crops may be established between successive production crops, or companion-planted or relay-planted into production crops. Select species and planting dates that will not compete with the production crop yield or harvest.

- Do not burn cover crop residue. Do not harvest the cover crop.

- If the specific rhizobium bacteria for the selected legume are not present in the soil, treat the seed with the appropriate inoculum at the time of planting.

- Cover crop must provide soil coverage during all non-crop production periods to the maximum extent possible considering the cropping system, climate, and soils in the annual crop rotation. (**STATES SHALL PREPARE GUIDANCE FOR THEIR LOCAL CLIMATES AND CROPPING SYSTEMS**)

- Soil health assessment will be used to evaluate impact of current conservation crop rotation in addressing soil organic matter depletion, as well as additional soil health objectives of the individual grower (primary assessment made in Year 1). During Year 3, a follow up assessment will be completed to allow time for the addition of a cover crop and other management activities to have an impact on soil health. No specific soil health assessment type is required or recommended by NRCS, but at a minimum the assessment must account for soil organic matter. The specific assessment selected should provide the grower information based on their soil health objectives.

- Minimum 4 species cover crop mix will be selected based on producing higher volumes of organic material and root mass to maintain or increase soil organic matter. The cover crop mix must be compatible with the local soil, climate, and cropping systems.

- Planned crop rotation including cover crops, biomass produced, and associated management activities must achieve a management soil conditioning index (SCI) of zero or higher and results in a positive trend in the Organic Matter (OM) sub factor value over the life of the rotation.

Additional criteria when livestock are included in the system:

Cover Crops may only be grazed in a manner that retains or enhances the purpose of increasing soil organic matter.

- Grazing plan must be developed to document livestock management. Plan must include at a minimum a forage estimate and livestock inventory for all fields implementing this enhancement that will be grazed. For soil health benefits, utilization by livestock must be less than 50% of available cover crop forage.

- Before cover crops are grazed, they must have produced enough biomass to allow for grazing while maintaining soil health benefits. Cover crops planted in late fall will not typically be well enough established, however if stands are adequate cover crops may be grazed in the spring prior to termination.

- Different cover crop species have varying tolerances to grazing; this should be taken into consideration when developing cover crop seeding specifications.

- Grazing shall not occur during wet soil conditions.

- Some pesticides have restrictions on grazing following application (up to 18 months). Refer to pesticide labels.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide NRCS with the current and planned crop rotation and field operation(s) used for each crop.

Current Management Rotation

Field	Planned Crops/Cover Crop (in sequence)	Planting Date	Harvest/Termination Date

Current Field Operations for each crop

Field	Crop	Field Operation	Timing of Field Operation (month/year)

Planned Management Rotation Including Cover Crop

Field	Planned Crops/Cover Crop (in sequence)	Planting Date	Harvest/Termination Date

Cover Crop Mix *(minimum of 4 species)* and Seeding Rate

Species	Variety	Seed Size	Typical Seeding Depth	Seeding Rate (PLS lbs/acre)	Percent of Mix (%)

Establishment and Management Considerations:

Task	Provide information and details
Seedbed Preparation	
Seeding Date	
Seeding Depth	
Seeding Method	
Fertilizer, as needed	
Weed Management, as needed	
Grazing Management, as needed	
Termination Date (window)	
Termination Method	

Soil Health Assessment:

Producer Objective	Year 1 Assessment Value	Year 3 Assessment Value
Soil Organic Matter (required)		

☐ Prior to implementation, read and follow current NRCS Cover Crop Termination Guidelines.

☐ Prior to implementation, if livestock are included in the system consider cover crop species tolerant to grazing.

- ☐ Prior to implementation, if livestock are included in the system develop a grazing plan which must document livestock management. Plan must include at a minimum a forage estimate and livestock inventory for all fields implementing this enhancement that will be grazed. For soil health benefits, utilization by livestock must be less than 50% of available cover crop forage.
- ☐ During implementation, cover crops must not be burned or harvested.
- ☐ During implementation, if livestock are included in the system maintain records of forage utilization.
- ☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or unharvested areas to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if changes to the cover crop and crop rotation were made, complete the tables above to document the applied Cover Crop for the contract period and provide to NRCS.
- ☐ After implementation, if livestock are included in the system provide grazing plan and forage utilization records to NRCS for review to verify additional criteria of the enhancement were met.
- ☐ After implementation, provide soil health assessment results and any documentation of changes made to NRCS for review to verify implementation of the enhancement.

NRCS will:

- ☐ As needed, provide technical assistance in selecting cover crop mixes for the crop rotations or substitute species that would meet the criteria of the enhancement.
- ☐ As needed, provide additional assistance to the participant as requested.
- ☐ Prior to implementation, provide and explain the current NRCS Cover Crop Termination Guidelines.
- ☐ Prior to implementation, use information provided from the participant to calculate the management Soil Conditioning Index (SCI) and Organic Matter (OM) sub factor value over the life of the rotation using current NRCS Soil Conditioning Index (SCI) procedure. Cover crop must increase SCI and OM sub factor from the current/benchmark condition and SCI value must be 0 or greater and have a positive trend in OM sub factor over the life of the rotation.

  Benchmark Management SCI = _____, Benchmark Management OM sub factor = _____

CONSERVATION STEWARDSHIP PROGRAM

Planned Management SCI = _____,

Planned Management OM sub factor = _____

- ☐ Prior to implementation, if livestock are included in the system verify a grazing plan has been developed.

- ☐ During implementation, evaluate planned adjustments in cover crop selected, timing in crop rotation, management, or field operations to verify the new system meets the enhancement criteria.
- ☐ After implementation, evaluate the applied crop rotation or management using information provided from the participant, if any variation to planned evaluation, then calculate SCI values to document that the applied rotation met the enhancement criteria.

  Applied Management SCI = _____, Applied Management OM sub factor = _____
- ☐ After implementation, if livestock are included in the system review grazing plan and forage utilization records to verify additional criteria of the enhancement were met.
- ☐ After implementation, review soil health assessment results and any documentation of changes made to verify implementation of the enhancement.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E340E

Use of soil health assessment to assist with development of cover crop mix to improve soil health

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed), Crop (Perennial), Pasture

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Cover Crop Requirements

- Cover crops must follow planting dates, seeding rates, method of planting and other requirements in Cover Crop Standard (340 NE CPS Cover Crop 2014). Specifications will be provided on the Cover Crop worksheet NE-CPA-7 (340 NE IR Cover Crop Design Worksheet 2021).
- Cover crops which winter kill must be planted 6-8 weeks prior to the average date of the first killing frost.
- Cover crops which over winter must have 4-6 weeks of spring growth before termination.
- Spring planted cover crops must be planted 6-8 weeks prior to the planned termination date.
- Winter annual cover crops planted following a low residue crop must have a minimum of 6-8" of growth before they are terminated.
- Cover crops which follow fall harvested crops must include a winter annual small grain such as rye, wheat or triticale.
- **Cover crops cannot be mechanically harvested.** If the cover crops will be grazed, complete, sign and attach Prescribed Grazing Job Sheet – NE-ECS-528 Cover Crops located in the 528_NE_IR_Prescribed_Grazing_Cover_Crops_2020 showing the cover crops grown, estimated production, animal type, number and weight, and planned and actual grazing dates.
- Cover crop mixes used for this enhancement must include at least one of the following: Barley; Rapeseed/Canola; Corn; Pearl millet; Oats; Cereal Rye; Annual Ryegrass; Any Sorghum; Sudangrass or Sudan/Sorghum hybrids; Triticale; and Wheat.

Documentation Requirements

Participant will:

In year one:

1. Complete the attached Cropping System Inventory Sheets instead of the table in the National Job Sheet to document the existing cropping system.
2. Complete a soil health assessment for each field and record results on Page 5 of the National Job Sheet. At a minimum the soil health assessment must include an assessment of soil organic matter and represent an area no larger than 40 acres. Ideally, samples should be taken prior to planting and, depending on the assessment used, prior to application of fertilizer and/or manure as well. Results of the assessment must be provided to NRCS at the end of year one.

In year two:

1. Complete the attached Cropping System Inventory Sheets instead of the table in the National Job Sheet to document the planned cropping system. The planned cropping system must include a multi-species cover crop mix during all non-crop production periods in the crop rotation.
2. Complete, sign, and attach Cover Crop worksheet NE-CPA-7.

In year three:

1. Complete the same soil health assessment used in year one for each field. Samples should be taken at the same time of year as the original samples. Record results of the assessment on Page 5 of the National Job Sheet.

NRCS will:

1. Attach the printouts from the current NRCS approved water or wind erosion prediction technologies to document the SCI and Organic Matter subfactor values for the participant's current and planned cropping systems.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the current cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn		May 1	Disk
				15”	May 15	Planter with double disk openers
					October 20	Harvest

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1	80	N	Corn – cover crop – Soybeans – Wheat – Cover Crop	C-140, B- 40, W - 45

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1	Soybeans	Cover crop	15”	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E340F

CONSERVATION STEWARDSHIP PROGRAM

Cover crop to minimize soil compaction

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Establish a cover crop mix that includes plants with both fibrous root and deep rooted systems. Fibrous to treat and prevent both near surface (0-4") and deep (>4") soil compaction and deep rooted to break up deep compacted soils. Cover crop shall not be harvested, grazed, or burned.

Criteria

- Plant species, seedbed preparation, seeding rates, seeding dates, seeding depths, fertility requirements, and planting methods will be consistent with applicable local criteria and soil/site conditions **(REFER TO STATE SPECIFIC LISTS)**.
- Determine method and timing of cover crop termination to meet grower's objective and current NRCS Cover Crop Termination Guidelines.
- Select species that are compatible with other components of the cropping system.
- Ensure herbicides used with crops are compatible with cover crop selections.
- Cover crops may be established between successive production crops, companion-planted or relay-planted into production crops. Select species and planting dates that will not compete with production crop yield or harvest.

CONSERVATION STEWARDSHIP PROGRAM

- Do not burn cover crop residue.
- Do not harvest or graze cover crop.
- If specific rhizobium bacteria for selected legumes are not present in the soil, treat seed with appropriate inoculum at time of planting.
- Select a mix of cover crop species that includes plants with both fibrous root and deep rooted systems. Fibrous rooted cover crop species are essential to treat and prevent both near surface (0-4”) and deep (>4”) soil compaction and deep rooted species to break up deep compacted soils.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, provide NRCS with the planned crop rotation and field operation(s) used for each crop.

Planned Management Rotation Including Cover Crop

Field	Planned Crops/Cover Crop (in sequence)	Planting Date	Harvest/Termination Date

Planned Field Operations for each crop

Field	Crop	Field Operation	Timing of Field Operation (month/year)

Cover Crop Mix (***minimum of 2 species, one each fibrous and deep rooted***) **and Seeding Rate**

☐ Deep rooted crop types must have documented ability to alleviate compaction.

Species	Variety	Seed Size	Typical Seeding Depth	Seeding Rate (PLS lbs/acre)	Percent of Mix (%)	Root Type (fibrous or deep)

Establishment and Management Considerations:

Task	Provide information and details
Seedbed Preparation	
Seeding Date	
Seeding Depth	
Seeding Method	
Fertilizer, as needed	
Weed Management, as needed	
Termination Date (window)	
Termination Method	

- ☐ Prior to implementation, read and follow current NRCS Cover Crop Termination Guidelines.
- ☐ During implementation, cover crops must not be burned, grazed, or harvested.
- ☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or unharvested areas to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if changes to the cover crop and crop rotation were made, complete the tables above to document the applied Cover Crop for the contract period and provide to NRCS.

NRCS will:

- ☐ As needed, provide technical assistance in selecting cover crop mixes for the crop rotations or substitute species that would meet the criteria of the enhancement.
- ☐ As needed, provide additional assistance to the participant as requested.
- ☐ Prior to implementation, provide and explain the current NRCS Cover Crop Termination Guidelines.
- ☐ Prior to implementation, verify the cover crop mix includes both fibrous root and deep rooted systems.
- ☐ During implementation, evaluate planned adjustments in cover crop selected, timing in crop rotation, management, or field operations to verify the new system meets the enhancement criteria.

☐ After implementation, evaluate the applied crop rotation or management using information provided from the participant, if any variation to planned evaluation, document that the applied rotation met the enhancement criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name: _____ Contract Number: _____

Total Acres Applied: _____ Fiscal Year Completed: _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E340F

Cover crop to minimalize soil compaction

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Cover Crop Requirements

- **Cover crops cannot be harvested or grazed.**
- Cover crops must follow planting dates, seeding rates, method of planting and other requirements in the 340 NE CPS Cover Crop 2014. Specifications will be provided on the 340 NE IR Cover Crop 2019 (formerly known as Cover Crop worksheet NE-CPA-7).
- Cover crops which winter kill must be planted 6-8 weeks prior to the average date of the first killing frost.
- Cover crops which over winter must have 4-6 weeks of spring growth before termination.
- Spring planted cover crops must be planted 6-8 weeks prior to the planned termination date.
- Cover crop mix must include both fibrous and deep-rooted crop types.
- Acceptable cover crops for this enhancement include: Alfalfa; Sweet Clover; Rapeseed/Canola; Radish; Turnip; Annual Ryegrass; and any Sorghum, Sudangrass or Sudan/Sorghum hybrids.

Additional Documentation Requirements

Participant will:

- Complete, sign, and attach 340 NE IR Cover Crop 2019 (formerly know as Cover Crop worksheet NE-CPA-7).

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E340G

CONSERVATION STEWARDSHIP PROGRAM

Cover crop to reduce water quality degradation by utilizing excess soil nutrients

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Establish a cover crop mix to take up excess soil nutrients. Select cover crop species for their ability to effectively utilize nutrients. Terminate the cover crop as late as practical to maximize plant biomass production and nutrient uptake. Cover crop shall not be harvested, grazed, or burned.

Criteria

- Plant species, seedbed preparation, seeding rates, seeding dates, seeding depths, fertility requirements, and planting methods will be consistent with applicable local criteria and soil/site conditions **(REFER TO STATE SPECIFIC LISTS)**.
- Determine method and timing of cover crop termination to meet grower's objective and current NRCS Cover Crop Termination Guidelines. *Terminate the cover crop as late as practical to maximize plant biomass production and nutrient uptake.*
- Select species that are compatible with other components of the cropping system.
- Ensure herbicides used with crops are compatible with cover crop selections.

- Cover crops may be established between successive production crops, or companion-planted or relay-planted into production crops. Select species and planting dates that will not compete with production crop yield or harvest.
- Do not remove cover crop biomass or burn cover crop residue.
- Do not harvest or graze cover crop.
- If specific rhizobium bacteria for selected legumes are not present in the soil, treat seed with appropriate inoculum at time of planting.
- Select cover crop species for their ability to efficiently scavenge excess soil nutrients. Nutrient uptake only occurs when the cover crop is actively growing. Once the cover crop is terminated and begins to degrade the plant available nutrients that had been up taken by the cover crop will be released back to the soil. Therefore, it is imperative that the following production crop be planted as soon as possible after cover crop termination to maximize nutrient cycling and minimize offsite transport of nutrients.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide NRCS with the current and planned crop rotation and field operation(s) used for each crop.

Document excess nutrients identified in soil tests: Soil tests should be taken as close to production crop harvest as possible.

Field	Soil Test Date	Nutrient	Soil Test Nutrient Result (ppm or lbs/ac)

Planned Management Rotation Including Cover Crop

Field	Planned Crops/Cover Crop (in sequence)	Planting Date	Harvest/Termination Date

Cover Crop Mix and Seeding Rate

Species	Variety	Seed Size	Typical Seeding Depth	Seeding Rate (PLS lbs/acre)	Percent of Mix (%)

Establishment and Management Considerations:

- ☐ Establish cover crops as soon as practical prior to or after harvest of the production crop.

Task	Provide information and details
Seedbed Preparation	
Seeding Date	
Seeding Depth	
Seeding Method	
Fertilizer, as needed	
Weed Management, as needed	
Termination Date (window)	
Termination Method	

- ☐ Prior to implementation, read and follow current NRCS Cover Crop Termination Guidelines.
- ☐ During implementation, cover crops must not be grazed, burned, harvested or biomass removed.
- ☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or unharvested areas to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if changes to the cover crop and crop rotation were made, complete the tables above to document the applied Cover Crop for the contract period and provide to NRCS.

NRCS will:

- ☐ As needed, provide technical assistance in selecting cover crop mixes for the crop rotations or substitute species that would meet the criteria of the enhancement.
- ☐ As needed, provide additional assistance to the participant as requested.
- ☐ Prior to implementation, provide and explain the current NRCS Cover Crop Termination Guidelines.
- ☐ During implementation, evaluate planned adjustments in cover crop selected, timing in crop rotation, management, or field operations to verify the new system meets the enhancement criteria.

☐ After implementation, evaluate the applied crop rotation or management using information provided from the participant, if any variation to planned evaluation, document that the applied rotation met the enhancement criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E340G

Cover crop to reduce water quality degradation by utilizing excess soil nutrients

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Cover Crop Requirements

- **Cover crops cannot be harvested or grazed.**
- Cover crops must follow planting dates, seeding rates, method of planting and other requirements in the 340 NE CPS Cover Crop 2014. Specifications will be provided on the 340 NE IR Cover Crop 2019 (formerly known as Cover Crop worksheet NE-CPA-7).
- Cover crops which winter kill must be planted 6-8 weeks prior to the average date of the first killing frost.
- Cover crops which over winter must have 4-6 weeks of spring growth before termination.
- Spring planted cover crops must be planted 6-8 weeks prior to the planned termination date.
- Winter annual cover crops planted following a low residue crop must have a minimum of 6-8" of growth before they are terminated.
- Cover crops which follow fall harvested crops must be a winter annual small grain such as rye, wheat or triticale, or a winter annual small grain with a legume.
- Acceptable cover crops are: Most cereal grains including barley, oats, wheat and rye; annual ryegrass, forage sorghum, sudangrass or sorghum-sudan; and brassicas such as rapeseed/canola, radish and turnip.

Additional Documentation Requirements

Participant will:

1. Complete, sign, and attach 340 NE IR Cover Crop 2019 (formerly known as Cover Crop worksheet NE-CPA-7).

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E340H

CONSERVATION STEWARDSHIP PROGRAM

Cover crops to suppress excessive weed pressures and break pest cycles

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Plants

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Establish a cover crop mix to suppress excessive weed pressures and break pest cycles. Select cover crop species for their life cycles, growth habits, and other biological, chemical and/or physical characteristics. Select cover crop species that do not harbor pests or diseases of subsequent crops in the rotation. Cover crop shall not be harvested, grazed, or burned.

Criteria

- Plant species, seedbed preparation, seeding rates, seeding dates, seeding depths, fertility requirements, and planting methods will be consistent with applicable local criteria and soil/site conditions **(REFER TO STATE SPECIFIC LISTS)**.
- Determine method and timing of cover crop termination to meet grower's objective and current NRCS Cover Crop Termination Guidelines.
- Select species that are compatible with other components of the cropping system.
- Ensure herbicides used with crops are compatible with cover crop selections.

- Cover crops may be established between successive production crops, or companion-planted or relay-planted into production crops. Select species and planting dates that will not compete with production crop yield or harvest.
- Do not burn cover crop residue.
- Do not harvest or graze cover crop.
- If specific rhizobium bacteria for selected legumes are not present in the soil, treat seed with appropriate inoculum at time of planting.
- Select cover crop species that do not harbor pests or diseases of subsequent crops in the rotation. Select cover crop species for their life cycles, growth habits, and other biological, chemical and or physical characteristics to provide one or more of the following:
    - To suppress weeds or compete with weeds.
    - Break pest life cycles or suppress of plant pests or pathogens.
    - Provide food or habitat for natural enemies of pests.
    - Release compounds such as glucosinolates that suppress soil borne pathogens or pests.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, provide NRCS with the current and planned crop rotation and field operation(s) used for each crop.

Planned Management Rotation Including Cover Crop

Field	Planned Crops/Cover Crop (in sequence)	Planting Date	Harvest/Termination Date

Cover Crop Mix and Seeding Rate

Species	Variety	Seed Size	Typical Seeding Depth	Seeding Rate (PLS lbs/acre)	Percent of Mix (%)

Establishment and Management Considerations:

Task	Provide information and details
Seedbed Preparation	
Seeding Date	
Seeding Depth	
Seeding Method	
Fertilizer, as needed	
Weed Management, as needed	
Termination Date (window)	
Termination Method	

☐ Prior to implementation, read and follow current NRCS Cover Crop Termination Guidelines.

- ☐ During implementation, cover crops must not be grazed, burned, harvested or biomass removed.
- ☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or unharvested areas to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if changes to the cover crop and crop rotation were made, complete the tables above to document the applied Cover Crop for the contract period and provide to NRCS.

NRCS will:

- ☐ As needed, provide technical assistance in selecting cover crop mixes for the crop rotations or substitute species that would meet the criteria of the enhancement.
- ☐ As needed, provide additional assistance to the participant as requested.
- ☐ Prior to implementation, provide and explain the current NRCS Cover Crop Termination Guidelines.
- ☐ During implementation, evaluate planned adjustments in cover crop selected, timing in crop rotation, management, or field operations to verify the new system meets the enhancement criteria.
- ☐ After implementation, evaluate the applied crop rotation or management using information provided from the participant, if any variation to planned evaluation, document that the applied rotation met the enhancement criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E340H

Cover crops to suppress excessive weed pressures and break pest cycles

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Plant

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Cover Crop Requirements

- **Cover crops cannot be harvested or grazed.**
- Cover crops must follow planting dates, seeding rates, method of planting and other requirements in the 340 NE CPS Cover Crop 2014. Specifications will be provided on the 340 NE IR Cover Crop 2019 (formerly known as Cover Crop worksheet NE-CPA-7).
- Cover crops which winter kill must be planted 6-8 weeks prior to the average date of the first killing frost.
- Cover crops which over winter must have 4-6 weeks of spring growth before termination.
- Spring planted cover crops must be planted 6-8 weeks prior to the planned termination date. Cover crop mixes must include a warm season or cool season grass and have a carbon nitrogen ration greater than 30 prior to termination (late vegetative, early reproductive stage).
- Cover crops which follow fall harvested crops must include a winter annual small grain such as rye, wheat or triticale.
- Acceptable cover crops for this enhancement include: Barley; Buckwheat; Cowpea; White clover; Pearl millet; Mustard; Radish; Red clover; Cereal rye; Annual ryegrass; any Sorghum, Sudangrass or Sudan/Sorghum hybrids; Triticale; Turnip; and Wheat.

Additional Documentation Requirements

Participant will:

1. Complete, sign, and attach 340 NE IR Cover Crop 2019 (formerly known as Cover Crop worksheet NE-CPA-7).

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E340I

CONSERVATION STEWARDSHIP PROGRAM

Using cover crops for biological strip till

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Establish alternating strips of cover crops in which one strip acts as a biological strip-tiller and the adjacent strip promotes soil health with high residue cover crops. This will facilitate planting of the subsequent cash crop into the biologically strip-tilled row without the need for mechanical disturbance.

Criteria

- Plant species, seedbed preparation, seeding rates, seeding dates, seeding depths, fertility requirements, and planting methods will be consistent with applicable local criteria and soil/site conditions **(REFER TO STATE SPECIFIC LISTS)**.
- Determine method and timing of cover crop termination to meet grower's objective and current NRCS Cover Crop Termination Guidelines. Terminate the cover crop as late as practical to maximize plant biomass production and nutrient uptake.
- Select species that are compatible with other components of the cropping system.
- Use a precision guidance system to ensure seeding is placed in the existing cover crop rows.
- Do not burn cover crop residue.
- Do not harvest or graze cover crop.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide NRCS with the current and planned crop rotation and field operation(s) used for each crop.

Planned Management Rotation Including Cover Crop

Field	Planned Crops/Cover Crop (in sequence)	Planting Date	Harvest/Termination Date

Cover Crop Mix and Seeding Rate

Species	Variety	Seed Size	Typical Seeding Depth	Seeding Rate (PLS lbs/acre)	Percent of Mix (%)

Establishment and Management Considerations:

Task	Provide information and details
Seedbed Preparation	
Seeding Date	
Seeding Depth	
Seeding Method	
Fertilizer, as needed	
Weed Management, as needed	
Termination Date (window)	
Termination Method	

CONSERVATION STEWARDSHIP PROGRAM

- ☐ Prior to implementation, read and follow current NRCS Cover Crop Termination Guidelines.
- ☐ During implementation, cover crops must not be grazed, burned, harvested or biomass removed.
- ☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or unharvested areas to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if changes to the cover crop and crop rotation were made, complete the tables above to document the applied Cover Crop for the contract period and provide to NRCS.

NRCS will:

- ☐ As needed, provide technical assistance in selecting cover crop mixes for the crop rotations or substitute species that would meet the criteria of the enhancement.
- ☐ As needed, provide additional assistance to the participant as requested.
- ☐ Prior to implementation, provide and explain the current NRCS Cover Crop Termination Guidelines.
- ☐ During implementation, evaluate planned adjustments in cover crop selected, timing in crop rotation, management, or field operations to verify the new system meets the enhancement criteria.
- ☐ After implementation, evaluate the applied crop rotation or management using information provided from the participant, if any variation to planned evaluation, document that the applied rotation met the enhancement criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

E340I
Using cover crops for biological strip till

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Cover Crop Requirements

- Cover crops cannot be harvested or grazed
- Cover crops must follow planting dates, seeding rates, method of planting and other requirements in 340 NE CPS Cover Crop 2014. Specifications will be provided on the 340_NE_IR_Cover_Crop_Design_Worksheet_2021 (formerly known as Cover Crop worksheet NE-CPA-7).
- Establish strips of a cover crop with a low C:N ratio where the rows of the subsequent crop will be planted. Recommended species include most brassicas or legumes such as radish, field peas, cowpeas, mung beans, etc. These must be planted 6-8 weeks prior to the average date of first killing frost to ensure adequate growth.
- Establish cover crop species with a high C:N ratio between the strips to provide lasting cover for the subsequent crop. Recommended species include most grass species such as pearl millet, sorghum, oats, rye, etc. At least one species in the mix should overwinter and should be allowed to grow as long as possible the following spring to maximize the amount of biomass between rows to reduce evaporation and control weeds.

Participant will:

1. **Complete the attached Cropping System Inventory Sheets to provide more detailed information about the existing and planned cropping systems.**
2. **Complete, sign, and attach 340_NE_IR_Cover_Crop_Design_Worksheet_2021 (formerly known as Cover Crop worksheet NE-CPA-7).**

☐ **Document the current cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Ex. T123	1, 2	Soybeans	Corn		May 1	Disk
				15”	May 15	Planter with double disk openers
					October 20	Harvest

Table continued:

Ex. T123	1, 2	Soybeans	Corn		May 1	Disk
				15"	May 15	Planter with double disk openers
					October 20	Harvest

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans – Cover Crop	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn		May 1	Disk
				15"	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E345A

CONSERVATION STEWARDSHIP PROGRAM

Reduced tillage to reduce soil erosion

Conservation Practice 345: Residue and Tillage Management, Reduced Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description:

Establish a reduced tillage system to reduce soil loss. Field(s) must have a soil loss at or below the soil tolerance (T) level for water and wind erosion for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 40 for each crop in the planned rotation. The current NRCS wind and water erosion prediction technologies must be used to calculate soil loss and STIR.

Criteria:

- Uniformly distribute residues over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.
- Do not burn crop residues.
- The Soil Tillage Intensity Rating (STIR) value shall include all field operations that are performed during the crop interval between harvest of the previous cash crop and harvest or termination of the current cash crop (includes fallow periods). The crop STIR value ratings shall be no greater than 40, and no primary inversion tillage implements (e.g. moldboard plow) shall be used.
- Use the current approved soil erosion prediction technology for water and wind erosion to determine the:

- Amount of randomly distributed surface residue needed.
- Time of year the residue needs to be present in the field.
- Amount of surface soil disturbance allowed to reduce erosion to the desired level of average annual soil loss.
- Calculations must account for the effects of other practices in the management system.

- In ridge-till systems, plan ridge height and ridge orientation to manage runoff and minimize erosion, with a maximum row grade of 4%.

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, provide NRCS with the planned crop rotation and tillage operation(s) used for each crop.

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

Field	Crop	Field Operation	Timing of Field Operation (month/year)

☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

☐ During implementation, no residue will be burned.

☐ During implementation, all residues will be uniformly distributed over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.

☐ During implementation, no primary inversion tillage implements (e.g. moldboard plow) will be used.

☐ After implementation, if changes to the rotation were made, complete the tables above to document the applied Conservation Crop Rotation for the contract period and provide to NRCS.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ Prior to implementation, use the information provided from the participant to calculate the soil loss and the Soil Tillage Intensity Rating values using current NRCS wind and water erosion prediction technologies. Verify the enrolled field(s) will have a soil loss at or below the soil tolerance (T) level for water and wind erosion for the crop rotation and a Soil Tillage Intensity Rating value of no greater than 40 for each crop in the planned rotation.

  "T" = _____t/ac/year Soil erosion = _____t/ac/year STIR values = _____
- ☐ During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if the applied crops, crop rotation, or field operations are different than the planned crops, crop rotation, or field operations, use information provided from the participant to calculate soil loss and the Soil Tillage Intensity Rating values to document that the applied rotation met the enhancement criteria.
  Soil erosion = _____t/ac/year and STIR values = _____

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E345A

Reduced tillage to reduce soil erosion

Conservation Practice 345: Residue and Tillage Management, Reduced Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Documentation Requirements

Participant will:

- Complete the attached Cropping System Inventory Sheets instead of the tables in the National Job Sheet to provide more detailed information about the planned reduced tillage cropping system.

NRCS will:

- Attach the printouts from the current NRCS approved erosion prediction technologies to document the estimated soil loss, STIR and surface residue cover values for the planned cropping system.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1	160	N	Corn – Soybeans	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1	Soybeans	Corn		May 1	Disk, tandem
				15”	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E345B

CONSERVATION STEWARDSHIP PROGRAM

Reduced tillage to reduce tillage induced particulate matter

Conservation Practice 345: Residue and Tillage Management, Reduced Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Air

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description:

Establish a reduced tillage system to reduce tillage induced particulate matter. Field(s) must have a soil loss at or below the soil tolerance (T) level for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 40 for each crop in the planned rotation. The current NRCS wind and water erosion prediction technologies must be used to document soil loss and STIR calculations.

Criteria:

- Uniformly distribute residues over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.
- Do not burn crop residues.
- The Soil Tillage Intensity Rating (STIR) value shall include all field operations that are performed during the crop interval between harvest of the previous cash crop and harvest or termination of the current cash crop (includes fallow periods). The crop STIR value rating shall be no greater than 40, and no primary inversion tillage implements (e.g. moldboard plow) shall be used.
- Reduce or modify tillage operations that create dust, especially during critical air quality periods.

- Adopt tillage practices that reduce particulate emissions.

CONSERVATION STEWARDSHIP PROGRAM

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, provide NRCS with the planned crop rotation and tillage operation(s) used for each crop.

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

Field	Crop	Field Operation	Timing of Field Operation (month/year)

☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

☐ During implementation, no residue will be burned.

☐ During implementation, all residues will be uniformly distributed over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.

☐ During implementation, no primary inversion tillage implements (e.g. moldboard plow) will be used.

☐ After implementation, if changes to the rotation were made, complete the tables above to document the applied Conservation Crop Rotation for the contract period and provide to NRCS.

NRCS will:

☐ As needed, provide technical assistance to meet the criteria of the enhancement.

CONSERVATION STEWARDSHIP PROGRAM

☐ Prior to implementation, verify that the field to be establish in no-till has a soil loss at or below the soil tolerance (T) level for water erosion for the crop rotation and a Soil Tillage Intensity Rating (STIR) of no greater than 40 for each crop in the planned rotation.

"T"= _____t/ac/year Soil erosion = _____t/ac/year STIR values = _____

☐ During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

☐ After implementation, if the applied crops, crop rotation, or field operations are different than the planned crops, crop rotation, or field operations, use information provided from the participant to calculate soil loss and the Soil Tillage Intensity Rating values to document that the applied rotation met the enhancement criteria.
Soil erosion = _____t/ac/year and STIR values = _____

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____
NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E345B

Reduced tillage to reduce tillage induced particulate matter

Conservation Practice 345: Residue & Tillage Management, Reduced Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Air

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Documentation Requirements

Participant will:

- Complete the attached Cropping System Inventory Sheets instead of the tables in the National Job Sheet to provide more detailed information about the planned reduced tillage cropping system.

NRCS will:

- Attach the printouts from the current NRCS approved erosion prediction technologies to document the estimated soil loss and STIR values for the planned cropping system.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1	40	N	Wheat – Corn - Fallow	C-80, W-40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1	wheat	fallow		September 1	Disk, tandem
				10”	September 10	Drill, single disk openers
					July 10	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E345C

CONSERVATION STEWARDSHIP PROGRAM

Reduced tillage to increase plant-available moisture

Conservation Practice 345: Residue and Tillage Management, Reduced Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description:

Establish a reduced till system to increase plant-available moisture. Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 80. The current NRCS wind and water erosion prediction technologies must be used to document STIR calculations. Maintain a minimum 60 percent surface residue cover throughout the year to reduce evaporation from the soil surface.

Criteria:

- Uniformly distribute residues over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.
- Do not burn crop residues.
- Field must have an annual soil loss at or below the soil tolerance (T) level for the crop rotation.
- The Soil Tillage Intensity Rating (STIR) value MUST include all field operations that are performed during the crop interval between harvest of the previous cash crop and harvest or termination of the current cash crop (includes fallow periods). The crop STIR value rating shall be no greater than 80, and no primary inversion tillage implements (e.g. moldboard plow) shall be used.

- Maintain a minimum 60 percent surface residue cover throughout the year.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

☐ Prior to implementation, provide NRCS with the planned crop rotation and tillage operation(s) used for each crop.

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

Field	Crop	Field Operation	Timing of Field Operation (month/year)

☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

☐ During implementation, no residue will be burned.

☐ During implementation, all residues will be uniformly distributed over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.

☐ During implementation, no primary inversion tillage implements (e.g. moldboard plow) will be used.

☐ During implementation, maintain a minimum 60 percent surface residue cover throughout the year to reduce evaporation from the soil surface.

☐ After implementation, if changes to the rotation were made, complete the tables above to document the applied Conservation Crop Rotation for the contract period and provide to NRCS.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.

- ☐ Prior to implementation, use information provided from the participant to calculate the soil loss, Soil Tillage Intensity Rating values, and estimated surface residue cover using current NRCS wind and water erosion prediction technologies. Verify the enrolled field(s) will have an annual soil loss at or below the soil tolerance (T) level, a Soil Tillage Intensity Rating value of no greater than 80 for each crop in the planned rotation, and the estimated surface residue cover.
  "T" = _____t/ac/year Soil erosion = _____t/ac/year
  STIR values for each crop in the rotation = _____
  Estimated surface residue cover for each crop in the rotation = _____

- ☐ During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.

- ☐ After implementation, if the applied crops, crop rotation, or field operations are different than the planned crops, crop rotation, or field operations, use information the provided from the participant to calculate soil loss, Soil Tillage Intensity Rating values, and estimated surface residue cover to document that the applied rotation met the enhancement criteria.
  Soil erosion = _____t/ac/year
  STIR values for each crop in the rotation = _____
  Estimated surface residue cover for each crop in the rotation = _____

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____
NRCS Technical Adequacy Signature Date

CLEAR

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E345C

Reduced tillage to increase plant-available moisture

Conservation Practice 345: Residue & Tillage Management, Reduced Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Documentation Requirements

Participant will:

- Complete the attached Cropping System Inventory Sheets instead of the tables in the National Job Sheet to provide more detailed information about the planned reduced tillage cropping system.

NRCS will:

- Attach the printouts from the current NRCS approved erosion prediction technologies to document the estimated soil loss, STIR, and surface residue cover values for the planned cropping system.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1	160	Y	Corn – Soybeans	C-200, B- 50

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1	Soybeans	Corn		May 1	Disk, tandem
					May 8	Field cultivate, sweeps
				15”	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E345D

CONSERVATION STEWARDSHIP PROGRAM

Reduced tillage to increase soil health and soil organic matter content

Conservation Practice 345: Residue and Tillage Management, Reduced Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description:

Establish a reduced till system to increase soil health and soil organic matter content. Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 80. The crop rotation must achieve a soil conditioning index (SCI) of zero or higher and produce a positive trend in the Organic Matter (OM) subfactor over the life of the crop rotation. The current NRCS wind and water erosion prediction technologies must be used to document STIR and SCI calculations. Residue shall not be burned, grazed, or harvested.

Criteria:

- Uniformly distribute residues over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.
- Do not burn residues.
- Field must have an annual soil loss at or below the soil tolerance (T) level for the crop rotation.
- The Soil Tillage Intensity Rating (STIR) value shall include all field operations that are performed during the crop interval between harvest of the previous cash crop and harvest or termination of the current cash crop (includes fallow periods). The crop

STIR value rating shall be no greater than 80, and no primary inversion tillage implements (e.g. moldboard plow) shall be used.

- Evaluation of the cropping system using the current approved soil conditioning index (SCI) procedure results in zero or higher and results in a positive trend in the Organic Matter (OM) subfactor value over the life of the rotation (management SCI value).

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide NRCS with the planned crop rotation and tillage operation(s) used for each crop.

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

Field	Crop	Field Operation	Timing of Field Operation (month/year)

- ☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- ☐ During implementation, no residue will be burned.
- ☐ During implementation, all residues will be uniformly distributed over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.
- ☐ During implementation, no primary inversion tillage implements (e.g. moldboard plow) will be used.
- ☐ After implementation, if changes to the rotation were made, complete the tables above to document the applied Conservation Crop Rotation for the contract period and provide to NRCS.

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ Prior to implementation, use information provided from the participant to calculate the soil loss and the Soil Tillage Intensity Rating values using current NRCS wind and water erosion prediction technologies. Verify the enrolled field(s) will have an annual soil loss at or below the soil tolerance (T) level for the crop rotation and a Soil Tillage Intensity Rating value of no greater than 80 for each crop in the planned rotation.
  "T" = _____t/ac/year Soil erosion = _____t/ac/year STIR values = _____
- ☐ Prior to implementation, use information provided from the participant and the approved soil conditioning index (SCI) procedure to verify the SCI is zero or higher and results in a positive trend in the Organic Matter (OM) subfactor value over the life of the rotation. **SCI value = _____ and OM subfactor value = _____**
- ☐ During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if the applied crops, crop rotation, or field operations are different than the planned crops, crop rotation, or field operations, use information provided from the participant to calculate soil loss and the Soil Tillage Intensity Rating values to document that the applied rotation met the enhancement criteria.
  Soil erosion = _____t/ac/year and STIR values = _____
- ☐ After implementation, if the applied crops, crop rotation, or field operations are different than the planned crops, crop rotation, or field operations, use information provided from the participant to calculate soil conditioning index (SCI) and Organic Matter (OM) subfactor values to document that the applied rotation met the enhancement criteria. **SCI value = _____ and OM subfactor value = _____**

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E345D

Reduced tillage to increase soil health and soil organic matter content

Conservation Practice 345: Residue & Tillage Management, Reduced Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil Quality

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Documentation Requirements

Participant will:

- Complete the attached Cropping System Inventory Sheets instead of the tables in the National Job Sheet to provide more detailed information about the planned reduced tillage cropping system.

NRCS will:

- Attach the printouts from the current NRCS approved erosion prediction technologies to document the estimated soil loss, STIR, SCI and Organic Matter subfactor values.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1	40	N	Corn – Soybeans – cover crop	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1	Soybeans	Corn		May 1	Disk, tandem
				15”	May 15	Planter with double disk openers
					October 20	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E345E

CONSERVATION STEWARDSHIP PROGRAM

Reduced tillage to reduce energy use

Conservation Practice 345: Residue and Tillage Management, Reduced Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Energy

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description:

Establish a reduced tillage system which reduces total energy consumption associated with field operations by at least 25% compared to conventional tillage systems (benchmark). Each crop in the crop rotation shall have a Soil Tillage Intensity Rating (STIR) of no greater than 80. The current NRCS wind and water erosion prediction technologies must be used to document STIR calculations and energy consumption.

Criteria:

- Uniformly distribute residues over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.
- Do not burn crop residues.
- The Soil Tillage Intensity Rating (STIR) value shall include all field operations that are performed during the crop interval between harvest of the previous cash crop and harvest or termination of the current cash crop (includes fallow periods). The crop STIR value rating shall be no greater than 80, and no primary inversion tillage implements (e.g. moldboard plow) shall be used.
- Reduce the total energy consumption associated with field operations by at least 25% compared to the benchmark condition. The current NRCS wind and water erosion

prediction technologies must be used for determining energy use to document energy use reductions.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide NRCS with the current (benchmark) and planned crop rotation and tillage operation(s) used for each crop.

Field	Acres	Current (Benchmark) Crops (in sequence)	Length of Crop Rotation (years)

Field	Crop	Current (Benchmark) Field Operation	Timing of Field Operation (month/year)

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

Field	Crop	Planned Field Operation	Timing of Field Operation (month/year)

- ☐ During implementation, notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- ☐ During implementation, no residue will be burned.
- ☐ During implementation, all residues will be uniformly distributed over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.
- ☐ During implementation, no primary inversion tillage implements (e.g. moldboard plow) will be used.
- ☐ During implementation, reduce the total energy consumption associated with field operations by at least 25% compared to the current benchmark tillage system.
- ☐ After implementation, if changes to the rotation were made, complete the tables above to document the applied Conservation Crop Rotation for the contract period and provide to NRCS.

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ Prior to implementation, use information provided from the participant to calculate the Soil Tillage Intensity Rating values and energy consumption for both the current system and the planned system using the approved NRCS wind and water erosion prediction technologies. Verify the Soil Tillage Intensity Rating value is no greater than 80 for each crop in the planned rotation and total energy consumption is reduced by at least 25%.
  Current STIR values = _____ and Energy Consumption = _____
  Planned STIR values = _____ and Energy Consumption = _____
- ☐ During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- ☐ After implementation, if changes were made to the planned crops, crop rotation, or field operations, use information provided from the participant to calculate the Soil Tillage Intensity Rating values and total energy consumption to document that the applied rotation met the enhancement criteria.
  Applied STIR values = _____ and Energy Consumption = _____

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

CLEAR

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E345E

Reduced tillage to reduce energy use

Conservation Practice 345: Residue & Tillage Management, Reduced Till

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Energy

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Documentation Requirements

Participant will:

- Complete the attached Cropping System Inventory Sheets instead of the tables in the National Job Sheet to provide more detailed information about the existing and planned cropping systems.

NRCS will:

- Attach the printouts from the current NRCS approved erosion prediction technologies for the existing and planned cropping systems to document the STIR and energy use.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the current cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1	40	N	Corn – Soybeans	C-120, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1	Soybeans	Corn		May 1	Disk, tandem
					May 8	Field Cultivate, sweeps
				15”	May 15	Planter with double disk openers
					October 15	Harvest
		Corn	Soybeans	30”	April 25	Planter with double disk openers
					October 20	Harvest

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1	40	N	Corn – Soybeans	C-120, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1	Soybeans	Corn		May 8	Seedbed finisher (disk, rotary harrow)
				15”	May 15	Planter with double disk openers
					October 15	Harvest
		Corn	Soybeans	30”	April 25	Planter with double disk openers
					October 20	Harvest

CONSERVATION ENHANCEMENT ACTIVITY

E372A

CONSERVATION STEWARDSHIP PROGRAM

Switch to Renewable Power Source

Conservation Practice 372: Combustion System Improvement

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Air

ENHANCEMENT LIFE SPAN: 10 Year

Enhancement Description

Replace an existing 5-30 horsepower internal combustion engine with a new appropriately-sized electric motor powered by a new on-farm renewable source (wind, solar, geothermal, etc.).

Criteria

- Replace the existing internal combustion engine with a new electric motor that is powered by an on-farm renewable source such as wind, solar, geothermal, etc. that can adequately maintain the existing operating conditions (e.g., flow rates, pressures, etc.).

- The new electric motor must serve the same function and perform similar type of work as the existing internal combustion engine.

- The new electric motor and on-farm renewable source and related components or devices meet or exceed currently applicable federal, state, and local standards and guidelines.

- Components of this enhancement will meet the NRCS Conservation Practice Standard, Combustion System Improvement (Code 372).

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

Prior to implementation

- ☐ Evaluate current operating conditions of the existing internal combustion engine including season of use and overall power needs.
- ☐ Evaluate site specific renewable energy alternatives.
- ☐ Evaluate power options during lack of production of renewable energy source.

During implementation

- ☐ Ensure installation meets federal National Electrical Code and any local or state codes.

After implementation

- ☐ Monitor and maintain system for the life span of the practice (10 years).

NRCS will:

- ☐ Provide and explain NRCS Conservation Practice Standard Combustion System Improvement (Code 372) as it relates to implementing this enhancement.
- ☐ As needed, provide additional technical assistance to the participant as requested.
- ☐ Review with the participant the costs and benefits of conversion to renewable energy source.
- ☐ Consider and document the air quality benefits in addition to the energy source savings.
- ☐ Develop written specifications describing site specific details of installation, including:
  - Description and amount of usage of the existing internal combustion system
  - Description and planned usage of the new electric motor and renewable energy source
  - Plan view showing the location of the practice installation in relation to other structures or natural features, where appropriate.
  - Method used to protect existing power provider from back feed from renewable source.
  - Electrical components that meet the requirements of the National Electrical Code.

- Operation and maintenance plan that is consistent with the purpose(s) of this practice, its intended life, and safety requirements.

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E372A
Switch to Renewable Power Source

Conservation Practice 372: Combustion System Improvement

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Air

ENHANCEMENT LIFE SPAN: 10 year

State Criteria

Same as National Criteria.

CONSERVATION ENHANCEMENT ACTIVITY

E372B

CONSERVATION STEWARDSHIP PROGRAM

Renewable Energy Source for Large Internal Combustion Engines

Conservation Practice 372: Combustion System Improvement

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Air

ENHANCEMENT LIFE SPAN: 10 Year

Enhancement Description

Replace an existing large (>30 horsepower) internal combustion engine with a new appropriately-sized electric motor powered by a new on-farm renewable source (wind, solar, geothermal, etc.).

Criteria

- Replace the existing internal combustion engine with a new electric motor that is powered by an on-farm renewable source such as wind, solar, geothermal, etc. that can adequately maintain the existing operating conditions (e.g., flow rates, pressures, etc.).

- The new electric motor must serve the same function and perform similar type of work as the existing internal combustion engine.

- The new electric motor and on-farm renewable source and related components or devices meet or exceed currently applicable federal, state, and local standards and guidelines.

- Components of this enhancement will meet the NRCS Conservation Practice Standard, Combustion System Improvement (Code 372).

Documentation and Implementation Requirements:

Participant will:

Prior to implementation

- □ Evaluate current operating conditions of the existing internal combustion engine including season of use and overall power needs.
- □ Evaluate site specific renewable energy alternatives.
- □ Evaluate power options during lack of production of renewable energy source.

During implementation

- □ Ensure installation meets federal National Electrical Code and any local or state codes.

After implementation

- □ Monitor and maintain system for the life span of the practice (10 years).

NRCS will:

- □ Provide and explain NRCS Conservation Practice Standard Combustion System Improvement (Code 372) as it relates to implementing this enhancement.
- □ As needed, provide additional technical assistance to the participant as requested.
- □ Review with the participant the costs and benefits of conversion to renewable energy source.
- □ Consider and document the air quality benefits in addition to the energy source savings.
- □ Develop written specifications describing site specific details of installation, including:
  - Description and amount of usage of the existing internal combustion system
  - Description and planned usage of the new electric motor and renewable energy source
  - Plan view showing the location of the practice installation in relation to other structures or natural features, where appropriate.
  - Method used to protect existing power provider from back feed from renewable source.
  - Electrical components that meet the requirements of the National Electrical Code.

- Operation and maintenance plan that is consistent with the purpose(s) of this practice, its intended life, and safety requirements.

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E372B

Renewable Energy Source for Large Internal Combustion Engines

Conservation Practice 372: Combustion System Improvement

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Air

ENHANCEMENT LIFE SPAN: 10 year

State Criteria

Same as National Criteria.

United States Department of Agriculture

Conservation Enhancement Activity

E373A

CONSERVATION STEWARDSHIP PROGRAM

Dust suppressant re-application for stabilization

Conservation Practice 373: Dust Control on Unpaved Roads and Surfaces

APPLICABLE LAND USE: Farmstead and Associated Ag Land

RESOURCE CONCERN ADDRESSED: Air Quality Impacts

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Limit dust emissions by maintaining the surfaces of unpaved roads and areas in a stabilized condition. The periodic re-application of dust suppressants to unpaved surface areas will limit dust generation from vehicle and machinery activities or wind action.

Criteria

- Must be one or more sensitive areas affected by dust producing activities.
- Select a dust suppressant product that is appropriate for the site. Product consideration is based on the surface condition, surface material composition, known problem areas, proximity to sensitive areas and receptors, vehicle daily trips, types of vehicles traveling on the treated surface area, average vehicle speed, climate conditions, and timing of on-farm activities.
- Prior to re-application of any dust suppressant, ensure the condition of the unpaved road and surface area are in good condition. The surface is shaped in a manner that supports water runoff and drainage by removing potholes, washboards, berms, tire ruts, and road surface erosion.

- Dust suppressants are always re-applied at the proper time to begin working effectively to stabilize an unpaved surface area. Re-apply as needed to maintain dust control effectiveness.

- The enhancement does not apply to solely relying on water application for controlling dust. Water alone generally has little residual effect and is therefore a short-term dust control solution. However, periodic wetting of surfaces treated with dust suppressant products as needed can help to effectively control dust under this enhancement. Do not convey reclaimed or non-potable water in tanks or plumbing used for storing and conveying potable water. Avoid over-application, which can saturate the surface and cause track-out and carryout of mud onto paved roads, tires to rut the unpaved surfaces, and the surface areas to erode and direct unwanted runoff into waterways.

- Identify any environmentally sensitive areas, such as stream crossings, drains and culverts, roadside wetlands or canals, and other unique surroundings. Avoid applying dust suppressants on bridges, over cattle guards, or other structures.

- Depending on the dust suppressant product selected, plan on closing roads or areas during pre-treatment activities, dust suppressant re-application, and post-application to allow time for the dust suppressant product to cure. Restricting traffic limits unsafe driving conditions and reduces any potential of dust suppressant product adhering to vehicles. Placing physical barriers, concrete blocks, closing gates, or taping off areas are examples for restricting traffic. If necessary, notify neighbors, employees, and other uses of planned closures ahead of time.

- All persons shall conduct their work and operations in accordance with proper safety codes and procedures for the type of equipment and operations being performed with due regard to safety of all persons and their property. Always take appropriate safety precautions.

- Follow the manufacturer's and supplier's recommendations for the dust suppressant product applied.

- All materials used for dust control must meet federal, state, and local regulations and be applied strictly in accordance with authorized registered uses, label directions, and all other regulations. Such materials will not cause negative impacts to ground and surface water quality and align with EPA and state water quality regulations.

- Never apply waste oils or any material not intended for use as a dust suppressant.
- Dust suppressant containers shall be properly stored and disposed of in a safe manner according to all ordinance and procedures. Do not burn or bury containers.
- The manufacturer or supplier of a dust suppressant product must provide product information.
- Avoid causing any track-out or carry-out from vehicles leaving the treated surface area and entering paved roadways.

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, identify each unpaved road and surface area covered under this enhancement:

Road/Area Segment	Width (ft)	Length (ft)	Square Feet	Square Yards (sq ft / 9 sq ft)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		Totals:		

☐ Prior to implementation, identify the dust suppressant products and provide product information, such as product contents, manufacturer suggested application and dilution rates, manufacturer performance claims, and recommended reapplication intervals.

- ☐ Prior to implementation and applicable to certified organic farms, verify that the selected dust suppressant product is approved for certified organic with the organic farm certifier.
- ☐ Prior to implementation, report the dust suppressant product target re-application rate (gallons per square yard), product dilution rate with water (if applicable), and the total gallons of dust suppressant solution to be re-applied.

Road/Area Segment	**Dust Suppressant Product Name**	**Target Application Rate** (gallons product/square yard)	**Dilution** (gallons of water/gallon of product)	**Total gallons of dust suppressant solution to be applied**
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
			Total:	

- ☐ During implementation, re-apply dust suppressants with a distribution tanker truck designed to produce a uniform application in controlled amounts. The truck may be equipped with a hose and nozzle for applying dust suppressants to inaccessible areas.
- ☐ After implementation, the application equipment must be cleaned responsibly. It is preferred that the supplier clean the application equipment at the supplier's yard.
- ☐ After implementation, survey the treated areas and note any runoff or excess product or overspray on adjacent vegetation. Examples include any negative effects such as leaf burn or discoloration, animals attracted to or licking the treated surface, or dust suppressant product residues in adjacent drains, culverts, streams, canal banks, etc. Early detection and clean-up minimize any potential for causing adverse impacts to the environment.

- ☐ After implementation, maintain the treated surfaces in a good condition by periodically inspecting the treated surfaces and making repairs when needed. A maintenance application of the dust suppressant product will prolong the treated surface conditions and product effectiveness.
- ☐ After implementation, maintain documents including records, plans, receipts, and post-application notes. Maintain notes to include dates and description of any repairs or additional dust suppressant applications as it relates to implementing this enhancement.
- ☐ After implementation, make documentation available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Dust Control on Unpaved Roads and Surfaces (CPS 373) as it relates to this enhancement.
- ☐ Prior to implementation, visit the site to measure the square footage of the unpaved roads or areas covered under this enhancement. Subsequent site visits will ensure the treated area is maintained in a stabilized condition.
- ☐ Provide technical assistance to the participant as requested.
- ☐ After implementation, verify completion by site visits and reviewing records kept during enhancement implementation.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E381A

Silvopasture to improve wildlife habitat

Conservation Practice 381: Silvopasture Establishment

APPLICABLE LAND USE: Pasture; Forest; Associated Agricultural Land

RESOURCE CONCERN: Plants; Animals

ENHANCEMENT LIFE SPAN: 15 years

Enhancement Description

Establishing a combination of trees or shrubs and compatible forages on the same acreage, providing forage, shade, and/or shelter for livestock that include a purpose of enhancing wildlife cover and shelter.

Criteria

- Tree species and forage species must be adapted to the site and compatible with the planned management of the site.
- No plants on the federal or state noxious weeds list shall be planted.
- Where trees will be added to existing pasture, site preparation should be based on existing vegetation and soil conditions. Trees will be planted at an appropriate density to allow acceptable forage production and wood products.
- If pesticides are used, label recommendations must be followed.
- Only viable, high quality and adapted planting stock or seed will be used.
- Plant nutrients and/or soil amendments for establishment purposes will be applied according to a current soil test. Legume seed will be pre-inoculated or inoculated with the proper viable strain of Rhizobia immediately before planting.

CONSERVATION STEWARDSHIP PROGRAM

- Establish forage species and understory shrubs that will provide forage, browse, seed, cover, or nesting habitat for the wildlife species of concern. For additional guidance refer to NRCS Conservation Practice Standards Upland Wildlife Habitat Management (Code 645).
- Favor herbaceous seed mixes that include a diverse mix of native forbs and/or legumes to benefit wildlife including pollinators. Select species that vary in attributes such as timing of flowering, and production of leaves and fruit.
- Plantings will be protected from grazing until an adequate stand is established and meets the species specific, local standard for beginning grazing.

CONSERVATION STEWARDSHIP PROGRAM

Documentation Implementation Requirements

Participant will:

☐ Prior to implementation, select a tree or shrub species for establishment.

Tree or Shrub species	
Trees per acre	
Percent canopy cover	

☐ Prior to implementation, develop a grazing plan to keep grazing periods sufficiently short to allow for plants to recover before re-grazing occurs.

☐ During implementation, keep the following documentation:

- Records and photographs of planting preparation and any materials purchased or materials on hand used for the implementation of the enhancement.
- Documentation of seed (Pure Live Seed) and any fertilizer or soil amendments used for the implementation of the enhancement.

☐ After implementation, make documentation and photographs of livestock turn in/turn out grazing records for each field available for review by NRCS to verify implementation of the enhancement.

☐ After implementation, make the forage planting/or tree planting and grazing records available for review by NRCS to verify implementation of the enhancement.

☐ The State approved NRCS Wildlife Habitat Evaluation Guide (WHEG) as completed and certified by an NRCS or partner wildlife biologist. Wildlife species of concern for the silvopastoral area will be specified on the WHEG. Total WHEG score after installation will equal 0.60 or greater.

NRCS will:

☐ Prior to implementation, complete the State approved NRCS Wildlife Habitat Evaluation Guide (WHEG) as completed and certified by an NRCS or partner wildlife biologist when applicable. Specific pollinator species targeted will be notated on the WHEG, and total

CONSERVATION STEWARDSHIP PROGRAM

score after implementation will equal 0.60 or greater.
WHEG score after implementation = _____

☐ Prior to implementation, verify a grazing plan was developed to keep grazing periods sufficiently short to allow for forages to recover before re-grazing occurs.

☐ Prior to implementation and as needed, NRCS will provide technical assistance:

- Planning site preparation and establishment specifications meeting NRCS Conservation Practice Standard Forage and Biomass Planting (Code 512) or Tree/Shrub Site Preparation (Code 490) and Tree/Shrub Establishment (Code 612).
- Prepare specifications for applying this enhancement for each site using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
- Develop a grazing plan to keep grazing periods sufficiently short to allow for forages to recover before re-grazing occurs.

☐ During implementation, evaluate any planned changes to verify they meets the enhancement criteria.

☐ After implementation, verify the planned perennial planting was established to specifications developed for the site.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____
NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E381A

Silvopasture to improve wildlife habitat

Conservation Practice 381: Silvopasture Establishment

APPLICABLE LAND USE: Pasture; Forest; Associated Agricultural Land

RESOURCE CONCERN: Plants; Animals

ENHANCEMENT LIFE SPAN: 15 years

State Criteria

Any vegetation established using this enhancement will include plant species not considered invasive. Native tree, shrub and grass species are preferred and will be used when possible. Ideally, attempt to re-establish natural "savannah" habitats with this enhancement (low density bur oak or ponderosa pine stands with an understory of native herbaceous vegetation).

This enhancement cannot be used in regions of the state where trees are not appropriate due to ecological impacts on nearby grassland or wetland habitats not suited to woody cover.

Grazing will be deferred from the site for one entire growing season to allow newly seeded herbaceous species to establish. New trees and shrubs must be protected from damage caused by livestock until mature enough to withstand the planned grazing management.

A minimum of one large tree and two shrubs per acre (on average) will be installed. These can be "clustered" to mimic natural stands of woody species. At least 20% of the total grazing acres will be improved by seeding desirable species of grasses and legumes or forbs.

At least 15 acres of pasture or associated ag land must be treated with this enhancement to meet the minimum requirements.

Target a wildlife species that is of national/regional interest (i.e. Northern bobwhite quail – using Nebraska Planning Sheet 23) or a species of concern found on the Tier I list of at-risk species of the Nebraska Natural Legacy Plan that would benefit from silvopasture management.

The WHEW (Wildlife Habitat Evaluation Worksheet) to be commonly used includes the Pastureland Habitat Evaluation Worksheet 2006 or possibly a species-oriented Habitat Evaluation Tool such as Plains Sharp-tailed Grouse Habitat Evaluation Tool 2009.

Other models may be used including a Habitat Suitability Index for an appropriate species.

Work with NRCS to develop maps which show the locations of planned grass and woody plantings and acres of each area. Identify how the woody plants will be protected from livestock/wildlife.

Use Herbaceous_Vegetation_Seeding_Design_Worksheet_2020, Jobsheet for Grass Seeding or equivalent to document seedings. When chemical treatment is needed to establish seedings, work with NRCS to complete a WinPST run and implement mitigation recommendations where needed. Use Tree and Shrub Planting Implementation Requirements 2014 or equivalent to document woody plantings.

Use 528 NE IR Prescribed Grazing Design Tool or equivalent to document the grazing plan.

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CONSERVATION ENHANCEMENT ACTIVITY

E382A

CONSERVATION STEWARDSHIP PROGRAM

Incorporating "wildlife friendly" fencing for connectivity of wildlife food resources

Conservation Practice 382: Fence

APPLICABLE LAND USE: Pasture; Range; Forest, Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 20 Years

Enhancement Description

Retrofitting or constructing fences that provide a means to control movement of animals, people, and vehicles, but minimizes wildlife movement impacts.

Criteria

- The type and design of fence retrofitting or construction will meet the management objectives and site challenges.
- The fence jobsheet will specify:
    - Animal species of concern, both wildlife and domestic,
    - Wildlife movement specific modifications to be made to existing fences to meet these management objectives, or
    - Wildlife movement specific specifications that will be incorporated into newly constructed fences, and

  - Location of the "wildlife friendly" fence(s) and location of the habitat types affected by the fence.

- Examples:
  - Pronghorn antelope need to be afforded a smooth wire at the bottom of the fence with a 14" height above ground.
  - Deer need a maximum height of 42" with a minimum of 12" between the top two wires.
  - Fawns and turkeys need a stranded fence to negotiate (not woven wire).
  - Fences should be retrofitted to let down and put back up for migrating herds.
  - All open top pipes should be capped for songbirds.
  - If bats or sage grouse/lesser prairie chicken are selected as species of concern, then fences should be marked for visibility.
  - For bats, height requirements above water sources will be honored.

- Height, size, spacing and type of materials used will provide the desired control, life expectancy, and management of people and animals of concern. New fences will be designed, located, and installed to meet appropriate local wildlife and land management needs and requirements.

- Avoid clearing of right-of-way vegetation during the nesting season for migratory birds.

- Plans and specifications are to be prepared for all fence types, installations and specific sites.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, obtain an NRCS jobsheet that clearly identifies the species of concern. This document should clearly identify construction techniques for wildlife friendly modifications on existing fences, or specifications for newly constructed fences.
- ☐ Prior to implementation, develop a map with assistance from NRCS as needed, which identifies the location of the wildlife friendly fences to be modified or constructed.
- ☐ During implementation, consult with NRCS if there are any changes to modification or construction techniques.
- ☐ After implementation, provide a map of the actual location of constructed or modified fences for review to verify the enhancement was implemented.
- ☐ After implementation, provide pictures of newly constructed or modified fences depicting the specified construction techniques to benefit wildlife for review to verify the enhancement was implemented.

NRCS will:

- ☐ Prior to implementation, as requested, assist the participant in the development of a map identifying the location of wildlife friendly fences to be constructed or modified.
- ☐ Prior to implementation, develop a jobsheet (or specification as required in the state) for the participant that details wildlife friendly construction techniques.
- ☐ During implementation, assist the participant with modification of construction techniques to allow fences to function for both wildlife and domestic species.
- ☐ After implementation, review actual fence location map and photo documentation of constructed or modified wildlife friendly fences.

NRCS Documentation Review:

CONSERVATION STEWARDSHIP PROGRAM

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E382A

Incorporating "wildlife friendly" fencing for connectivity of wildlife food resources

Conservation Practice 382: Fence

APPLICABLE LAND USE: Pasture; Range; Forest, Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 20 years

State Criteria

Fence segments that commonly create wildlife collision, entanglement or fatalities including big game crossing locations, fence crossing bodies of water (i.e. streams and wetlands), or near wildlife breading grounds, such as grouse leks should be modified or moved.

When big game species are the target species, passage will be improved using the following:

- Top wire height will be 42" or less
- The top 2 wires will be at least 12" apart
- For barbed wire fences, the bottom wire will be 16" or greater above the ground
- For smooth wire fences, the bottom wire will be 12" or greater above the ground
- No woven wire is permitted

Let-down segments or other seasonal modifications and solid top rails, etc. may also be used at targeted big game crossing locations or in areas with high population density. Removal of existing functional fence that is no longer needed is also eligible for payment under this enhancement.

Fence loacted within ¼ mile of known praire grouse (prairie chicken or sharp-tailed grouse) leks or breeding grounds should be marked to increase visibility. Similarly, it is recommended to mark fence segments located over streams, ponds, and wetlands to avoid bird/bat strikes.

For vinal siding strips, use 3” wide strips and place a minimum of 4 strips on the top wire and 3 strips on the middle wire per fence section (i.e. within a 16’ post spacing).

Additional information on visibility and passage techniques can be found in Nebraska Biology Technical Note 82: A Landowner’s Guide to Wildlife Friendly Fences: How to build Fence with Wildlife in Mind.

Enhancement payment is applicable to all linear feet of fence modified to meet the requirements or completely removed. Minimum area to be treated is 100 feet and/or all areas needing treated around entire perimeter of fence surrounding one management unit (field, pasture, etc.) – whichever is greater.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E382B

CONSERVATION STEWARDSHIP PROGRAM

Installing electrical fence offsets and wire for cross-fencing to improve grazing management

Conservation Practice 382: Fence

APPLICABLE LAND USE: Pasture, Range

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 20 Years

Enhancement Description

Retrofitting conventional fences such as barb wire, with new electrical offsets and electrical wire to facilitate cross-fencing for improved grazing management.

Criteria

- Electrical offsets will be attached to conventional fences to provide installation points for electrical tape, polywire, or other NRCS state approved electrical wire fence that will construct cross-fencing.
- The type and design of the fence retrofitting or construction will meet the management objectives and site challenges.
- The conventional or existing fence must meet state technical standards prior to the retrofit of the offsets.
- The offsets and electrical fence Implementation Requirement (IR) or jobsheet will specify:
    - Animal species of concern, both wildlife and domestic
    - Installation of cross-fence according to the conservation plan map
    - Installation of offsets and electric fence according to fence specifications

Adoption Requirements

This enhancement is considered adopted when the criteria is met, documentation records are provided, and results viewed on the planned location.

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, obtain NRCS Implementation Requirement (IR) or jobsheet that provides the construction specification for the offsets and electric cross-fence.
- ☐ Prior to implementation, develop a map with assistance from NRCS as needed, which identifies the location(s) of the conventional fence and the location(s) of the retrofitting with offsets and electrical cross-fencing.
- ☐ Prior to implementation, consult with NRCS on the quality of the existing conventional fence.
- ☐ During implementation, consult with NRCS if there are any changes or modifications to the material or construction techniques.
- ☐ After implementation, provide a map of the actual location(s) of construction of the offsets and electrical cross-fence(s) for review.
- ☐ After implementation, provide pictures of newly constructed offsets and cross-fence(s) showing the specified construction specifications were implemented.

NRCS will:

- ☐ Provide technical assistance as requested.
- ☐ Prior to implementation, as requested, assist the participant in the development of a map identifying the location(s) of the conventional fence and the location(s) of the retrofitting with offsets and electrical cross-fencing.
- ☐ Prior to Implementation, develop an Implementation Requirement or jobsheet with construction specifications.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ Prior to implementation, provide technical determination of the quality of the existing conventional fence to state technical standards.
- ☐ During implementation, assist the participant with any modifications to the construction specifications when needed.
- ☐ After implementation, review offsets and electric cross-fence(s) location map.
- ☐ After implementation, certify offset and cross-fence(s) construction meets the Implementation Requirements (IR) or jobsheet design.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E382B

Installing electrical fence offsets and wire to facilitate cross-fence for improved grazing management

Conservation Practice 382: Fence

APPLICABLE LAND USE: Pasture, Range

RESOURCE CONCERN: Plants

ENHANCEMENT LIFE SPAN: 1 year

State Criteria:

Offset brackets made of galvanized high tensile spring wire with insulator of high density polyethylene with ultraviolet stabilizer or porcelain will be used to attach to standard barbed wire fence or woven wire fence to provide transmission line and/or to protect a standard fence.

Place Offset Brackets no further than 60 feet apart and attach to wires of standard fence next to post. If control of animals is desired, place Offset Brackets at 2/3 the height of the animals to be controlled. Insure that no wires of the old fence come in contact with the electric fence wire, as a short will occur.

Documentation and Implementation Requirements

Participant will:

- Provide documentation of materials used for implementation.

NRCS will:

- Utilize 382 NE IR Fence 2019 (formerly known as Fence Jobsheet – NE-CPA-1) to develop requirements for fencing and document implementation of offsets and cross fence(s).

CONSERVATION ENHANCEMENT ACTIVITY

E383A

CONSERVATION STEWARDSHIP PROGRAM

Grazing-maintained fuel break to reduce the risk of fire

Conservation Practice 383: Fuel break

APPLICABLE LAND USE: Forest and Range

RESOURCE CONCERN: Plants

ENHANCEMENT LIFE SPAN: 10 Years

Enhancement Description:

The area has existing fuel break(s) of 30 to 60 feet in width, supporting a mixture of woody sprouts and some herbaceous vegetation. Warm-season perennial vegetation will be established on the fuel breaks and will be over-seeded with cool-season annual forages in the fall. Grazing will be managed on the fuel breaks to remove or modify the fine fuel vegetation, thus reducing the risk of fire spread from ground fires. Ground cover will be maintained to control soil erosion and facilitate prescribed burning.

Criteria:

States will apply general criteria from the NRCS National Conservation Practice Standard Fuel Break (Code 383) as listed below, and additional criteria as required by the NRCS State Office.

- A fuel break has been constructed around the property or around the targeted site to minimize the risk of damaging wildfires and to enhance the ability to conduct prescribed burning.
- Fuel breaks will be planted with desirable warm-season perennial vegetation as prescribed by local grazing land specialists. Over-seeding with desirable cool season annual forages will take place in the fall.
- The vegetation on the fuel break will be managed using a prescribed grazing plan. Animal stocking levels and rotation periods are designed to manage vegetation and avoid harm to sensitive plants.
- Manage grasses and forbs to minimize fine fuels.

- If trees or shrubs are not sufficiently controlled through grazing management, single-tree treatment with saws or chemicals will be applied.
- If herbicides are used, refer to criteria in NRCS Conservation Practice Standard Integrated Pest Management (Code 595).

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

- ☐ Prior to implementation, determine and document the existing fuel breaks on the enrolled acres. Provide as much detail as possible such as length, average width, existing vegetation and past management activities. (NRCS will provide technical assistance, as needed)
- ☐ Prior to implementation, determine and document those sites capable of integrating into a grazing management plan with the establishment of desirable warm-season perennial vegetation and cool season annual forages. (NRCS will provide technical assistance, as needed)
- ☐ Prior to implementation, develop or update a prescribed grazing plan to guide the establishment of forages, animal stocking levels and rotation periods. Provide to NRCS field office. (NRCS will provide technical assistance, as needed)
- ☐ (If prescribed burning is used) Prior to implementation, in combination with grazing to manage vegetation, develop or update a prescribed burn plan to guide the frequency and duration of burning. Provide to NRCS. (NRCS will provide technical assistance, as needed)
    - o Prior to implementation of a prescribed burn, assess the existing fuel load using appropriate tools and methods for the geographic area. Determine the need for pre-treatment of the vegetation and fuels to facilitate a desired fire intensity to achieve the vegetation objectives. Apply as needed, complimentary NRCS Conservation Practice Standards such as Firebreak (Code 394) and Woody Residue Treatment (Code 384) to achieve appropriate conditions. (NRCS will provide technical assistance, as needed)
    - o Prior to implementation, acquire a written burn plan for the enrolled land use acres that meets the NRCS Conservation Practice Standard Prescribed Burning (Code 338) and any additional state NRCS requirements. Provide to NRCS for review and approval.
    - o Prior to implementation of a prescribed burn, acquire all necessary approvals and permits (local, state, federal as applicable).
    - o During implementation, and prior to ignition of each prescribed burn, acquire a current fire weather forecast and ensure all weather conditions are within those prescribed in the written burn plan. If conditions are not within prescription, postpone burn.
    - o During implementation, and prior to ignition of any prescribed burn, notify NRCS to confirm NRCS verification for any planned changes will meet NRCS or State required enhancement criteria.
    - o After implementation of each prescribed burn, conduct a post-burn evaluation as required within the burn plan and provide to NRCS.

CONSERVATION STEWARDSHIP PROGRAM

- During implementation, install and maintain erosion control measures as needed for the site. (NRCS will provide technical assistance, as needed.)
- After implementation, provide NRCS documentation of the vegetation established and timing of grazing activities on the fuel break.

NRCS will:

- Prior to implementation, as needed, provide technical assistance in determining sites for enhancement implementation that meet specified criteria.
- Prior to implementation, NRCS will provide participant recommendations for suitable perennial and annual vegetation establishment and provide assistance in development or revision of a prescribed grazing plan.
- Prior to implementation, as needed, provide explanation and technical assistance to the following NRCS Conservation Practice Standards as they relate to implementing this enhancement.
  - Prescribed Burning (Code 338).
  - Fuelbreak (Code 383).
  - Firebreak (Code 394).
  - Woody Residue Treatment (Code 384).
  - Integrated Pest Management (Code 595).
  - Additional Conservation Practice Standards for erosion control, as needed for the site.
- (If prescribed burning is used) Prior to implementation, review and certify the prescribed burn plan meets the enhancement criteria and any additional state NRCS requirements.
- Prior to implementation, review the prescribed grazing plan to ensure objectives of the enhancement will be met when used in combination with all other practices.
- During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- (If prescribed burning is used) After implementation of each prescribed burn, review the post burn evaluation provided by the participant. Discuss any encountered issues, and as needed, provide assistance for changes in planning and procedure for the remaining prescribed burns.
- After implementation, review documentation of the vegetation established and timing of grazing activities on the fuel break to verify the enhancement was implemented to meet the enhancement criteria.

NRCS Documentation Review:

CONSERVATION STEWARDSHIP PROGRAM

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E383A

Grazing-maintained fuel break to reduce the risk of fire

Conservation Practice 383: Fuel Break

APPLICABLE LAND USE: Forest and Range

RESOURCE CONCERN: Plant

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

Fuel breaks must already be in existence for this enhancement to apply. Perennial vegetation present or seeded within the fuel break must be suitable and adapted to the site. It is acceptable for native cool-season grasses (i.e. western wheatgrass) to occur within fuel breaks. Only annual, cool-season forages will be inter-seeded into fuel breaks. Any tree removal required to maintain the fuel break will occur outside of the primary nesting period for migratory birds.

Prescribed burning, when utilized, shall not occur if suitable nesting cover is being destroyed during the primary nesting period for migratory birds (April 1 to July 15) with consideration or early or late nesting species (i.e. raptors).

Documentation Requirements

Participant will:

- Work with NRCS to develop maps which show the locations of existing fuel breaks and locations where seedings and over-seeding were implemented.
- When chemical treatment is needed to establish seedings, work with NRCS to complete a WinPST run and implement mitigation recommendations where needed.
- Use Herbaceous_Vegetation_Seeding_Design_Worksheet_2020, Job Sheet for Grass Seeding or equivalent to document the approved seeding mixture.

- Use 528 NE IR Prescribed Grazing Design Tool or equivalent to document grazing plan.
- Annually document the utilization levels in the fuel break area using Utilization Documentation-Landscape Appearance Worksheet which is found in the Nebraska Prescribed Grazing Inventory and Monitoring Workbook.
- When Prescribed Burning is implemented, use 338 NE IR Prescribed Burning 2018 (formerly known as NE-ECS-72) or equivalent to document the prescribed burn plan.

NRCS will:

- Work with participant to develop maps of area(s) to be seeded and with the acres and planned year of planting designated on the map.
- If chemical treatment will be utilized, complete a WinPST run prior to implementation and provide mitigation recommendations. NRCS will not make herbicide recommendations.
- At participant's request, assist with development of seeding plan, prescribed grazing plan and/or prescribed burn plan.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E384A

CONSERVATION STEWARDSHIP PROGRAM

Biochar production from woody residue

Conservation Practice 384: Woody Residue Treatment

APPLICABLE LAND USE: Forest, Associated Ag Land

RESOURCE CONCERN: Plants; Soil

ENHANCEMENT LIFE SPAN: 10 years

Enhancement Description

Uses woody debris remaining after fuel reduction harvests or wildfires to create biochar. Biochar stores carbon and is a useful soil amendment that improves Soil Organic Matter (SOM) and water-holding capacity.

Criteria

- States will apply general criteria from the NRCS National Conservation Practice Standard Woody Residue Treatment (Code 384) as listed below, and additional criteria as required by the NRCS State Office.
- The enhancement will be applied to sites where woody debris presents a fire risk or interferes with land management objectives or planned activities (e.g., impedes regeneration, limits access, interferes with livestock movement, etc.).
- Woody debris that does not have a commercial use is suitable for biochar creation.
- Where this enhancement can be coordinated with a fuel reduction treatment, woody debris should be separated by size classes if possible.
- Biochar will be created on site in kilns designed for the purpose.
- Kiln operators shall be properly trained in procedures for creating biochar and shall adhere to state safety precautions. A plan for quenching biochar will be in place prior

to lighting kilns, and the capability for quenching will be maintained during firing and while the char is cooling.

- Biochar may be spread in the forest to enrich soils or used elsewhere on the operation.
  - Biochar may be spread in forests using equipment such as a bucket loader on a tractor, or a manure spreader. It is best to spread biochar just before the start of a moist season. Incorporate biochar into the forest floor or mix with an organic material (e.g., manure, compost, etc.) before spreading, where possible.
  - If applying biochar to agricultural fields, apply in appropriate amounts based on soil analyses of the fields, and an analysis of typical biochar produced within the geographic area and forest type.
  - Biochar may be used in manure treatment (e.g., to reduce odors in barns, as an amendment in manure composting, etc.).
- Care shall be taken to minimize impacts on residual plant communities during biochar creation.
- Timing of biochar creation shall coincide with periods of low fire risk.
- Any residual woody material left on the site after treatment will not present an unacceptable fire, safety, environmental, or pest hazard. Such remaining material will not interfere with the intended purpose or other planned management activities.
- The use of woody material to create biochar shall not be detrimental to the site. Soil and water resources will be protected during the activity. Adequate woody material will be left to maintain wildlife habitat. Activities will be consistent with established regulations and guidelines for Woody Biomass Retention and Harvesting, if available.
- Activities will be consistent with established regulations and guidelines for PM10 and PM2.5 emissions, ozone precursors (NOx and VOCs), as well as smoke and fugitive dust, and state and local permit requirements.
- Secure all necessary approvals and permits prior to conducting biochar creation. Burning permits may be required.
- Access by vehicles or people will be controlled during biochar creation for safety.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

- ☐ Prior to implementation, identify a suitable location for producing biochar, away from flammable vegetation, livestock, structures, and any desirable vegetation.
- ☐ Prior to implementation, arrange to have equipment on-site that is specially designed for biochar production meeting state or NRCS requirements, if any.
- ☐ Prior to implementation, complete a biochar site safety plan. Arrange to have enough water on-site to quench the biochar. Ensure that persons managing the biochar operation are properly trained. Have biochar site safety plan documentation available for NRCS review.
- ☐ Prior to implementation, acquire all necessary approvals and permits (i.e. local, state, or federal, as applicable).
- ☐ Prior to implementation, develop a plan for using the biochar. If the biochar is intended to be used on agricultural fields, consult a technical specialist about chemical properties of the biochar. Amend the biochar with additives as needed to ensure proper soil chemistry.
- ☐ During implementation, restrict access to the biochar production site so that only trained operators are present.
- ☐ During implementation, and prior to ignition of biochar fuels, acquire a current fire weather forecast and ensure all weather conditions are appropriate. If conditions are not suitable, postpone burning. Only produce biochar when fire danger is low.
- ☐ During implementation, maintain all safety procedures during biochar production and until biochar is fully quenched and cooled.
- ☐ After implementation, use the biochar on the operation as planned.

NRCS will:

- ☐ Prior to implementation, verify the enhancement is planned for the appropriate land use, and woody residue is not suitable for other uses.
- ☐ Prior to implementation, verify the safety plan and training meets the enhancement criteria and state or NRCS requirements.
- ☐ As needed, prior to implementation, NRCS will provide technical assistance in:
  - o Selecting suitable locations for biochar production.

- Advising on tests for biochar chemistry, and on biochar amendments for field application.
- Preparing specifications for applying this enhancement for each site using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

☐ Prior to implementation, as needed, provide explanation and technical assistance to the following conservation practice standard as related to implementing this enhancement.

- NRCS Conservation Practice Standard Woody Residue Treatment (Code 384)

☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.

☐ After implementation, verify the biochar is being used as planned.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E384A

Biochar production from woody residue

Conservation Practice 384: Woody Residue Treatment

APPLICABLE LAND USE: Forest; Associated Ag Land

RESOURCE CONCERN: Plants; Soil

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

This enhancement and associated payment applies to the total acres where woody debris is removed and used to produce biochar. Minimum treatment area is one acre of forest that is at least 100 feet wide.

Coordination with Nebraska Forest Service is necessary to ensure that biochar contractor meets the requirements noted for this enhancement and a brief plan is needed to describe the following:

- Identify the primary purpose or resource concern needing addressed by woody residue treatment (i.e. excessive fuel/wildfire hazard, etc.).
- Note the cause of excessive woody debris – including recent timber harvest or forest stand management, storm damage or wildfire, etc.
- Determine appropriate location/purpose for use of the biochar material.
- Provide maps of area to receive residue treatment and area where biochar is applied.

United States Department of Agriculture

Conservation Enhancement Activity

CONSERVATION STEWARDSHIP PROGRAM

E386A

Enhanced field borders to reduce soil erosion along the edge(s) of a field

Conservation Practice 386: Field Border

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 10 years

Enhancement Description:

Enhance existing field borders to a width of at least 30 feet and establish a single species or mixture of species that provide a dense ground cover along the edge(s) of the field.

Criteria:

- Field borders shall be established at selected field edges at a width of at least 30 feet.
- Locate borders to eliminate sloping end rows, headlands, and other areas where concentrated water flows will enter or exit the field.
- Orient plant rows as closely as possible to perpendicular to sheet flow direction (water erosion) or most erosion wind directions (wind erosion).
- Field borders shall be established to adapted species of permanent grass, forbs and/or shrubs that accomplish the design objective.
- Plants selected for field borders will have the physical characteristics necessary to control wind and water erosion to tolerable levels on the field border area. No plant listed by the state as a noxious or invasive species shall be established in the field border.
- Seedbed preparation, seeding rates, dates, depths, fertility requirements, and planting methods will be consistent with approved local criteria and site conditions.

- Ephemeral gullies and rills present in the planned border area will be eliminated as part of seedbed preparation. If present, ephemeral gullies and rills located immediately upslope from the planned border area need to be treated to ensure more of a sheet flow into the planned border area.
- Field border establishment, in conjunction with other practices, will be timed so that the soil will be adequately protected during the critical erosion period(s).
- Establish stiff-stemmed, upright grasses, grass/legumes or forbs to trap water- borne soil particles.
- The amount of surface and/or canopy cover needed from the field border shall be determined using current approved water and wind erosion prediction technology. Soil erosion estimates shall account for the effects of other practices in the management system.
- Operation and maintenance requirements:
  - Repair storm damage.
  - Remove sediment from above, within and along the leading edge of the field border when accumulated sediment either alters the function of the field border or threatens the degradation of the planted species.
  - Shut off sprayers and raise tillage equipment to avoid damage to field borders.
  - Shape and reseed border areas damaged by animals, chemicals, tillage, or equipment traffic.
  - Do not use the field border as a hay yard or machinery parking lot for any extended period of time, especially if doing so will damage or impair the function of the field border.
  - Maintain desired vegetative communities and plant vigor by liming, fertilizing, mowing, disking, or burning and controlling noxious and invasive weeds to sustain effectiveness of the border.
  - Repair and reseed ephemeral gullies and rills that develop in the border.
  - Minimally invasive vertical tillage (e.g. paraplowing) may be performed in rare cases where compaction and vehicle traffic have degraded the field border function. The

purpose of the tillage is strictly to relieve soil compaction and increase infiltration rates to provide a better media for reestablishment of vegetation and field border function.

- When managing for wildlife, maintenance activities that result in disturbance of vegetation should not be conducted during the primary nesting, fawning and calving seasons. Activities should be timed to allow for regrowth before the growing season ends whenever possible.
- Periodic removal of some products such as medicinal herbs, nuts, and fruits is permitted provided the conservation purpose is not compromised by the loss of vegetation or harvesting disturbance.
- Avoid vehicle traffic when soil moisture conditions are saturated.
- Maintain records of the field border maintenance as needed by the land user.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

☐ Prior to implementation, prepare the planned area for vegetation establishment. Refer to NRCS Conservation Practice Standard Field Border (Code 386). (NRCS will provide technical assistance, as needed.) Total planned amount of field border extension = _____feet

☐ Prior to implementation, select adapted species of permanent grass, forbs and/or shrubs that accomplish the design objective and are best suited to site conditions. (NRCS will provide technical assistance, as needed.)

Species	Seeding Rate (lb/ac pure live seed)	Note specific species characteristic(s)

☐ Prior to implementation, determine liming and fertilizer requirements, planting technique and timing appropriate for the site and soil conditions. (NRCS will provide technical assistance, as needed.)

Planting Date	
Planting Technique	
Lime and Fertilizer Required	

☐ During implementation, install and maintain erosion control measures as needed for the site. (NRCS will provide technical assistance, as needed.)

☐ During implementation, notify NRCS of any planned changes to verify changes meet NRCS enhancement criteria.

☐ During implementation, protect the planting from plant and animal pests and fire.

☐ After implementation, maintain and protect the planting from plant and animal pests and fire.

☐ After implementation, verify the total amount of field border implemented. Total implemented amount of field border extension = _____feet

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ Prior to implementation, verify the enhancement is planned within the field(s) or farm boundary.
- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Field Border (Code 386) as it relates to implementing this enhancement.
- ☐ Prior to implementation, verify the enhancement is planned for acres that have been appropriately prepared for vegetation establishment. Total planned amount of field border extension = _____feet
- ☐ Prior to implementation, verify no plants on the Federal or state noxious weeds list are included.
- ☐ As needed, prior to implementation, NRCS will provide technical assistance:
    - o Planning site preparation meeting NRCS Conservation Practice Standard Field Border (Code 386).
    - o Selecting the adapted species of permanent grass, forbs and/or shrubs that accomplish the design objective and are best suited to site conditions.
    - o Selecting planting techniques and timing appropriate for the site and soil conditions.
    - o Planning the use of additional erosion control, as needed for the site.
    - o Preparing specifications for applying this enhancement for each site using approved state implementation requirements, national technical notes, appropriate state technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ After implementation, verify the vegetation was established to specifications developed for the site.
- ☐ After implementation, verify the planting is protected from pests and fire.

- ☐ After implementation, verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.
- ☐ After implementation, verify the total amount of field border implemented. Total implemented amount of field border extension = _____feet

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E386A

Enhanced field borders to reduce water soil erosion along the edge(s) of a field

Conservation Practice 386: Field Border

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

Existing field borders may be of any width and must be extended to a minimum of 30 feet wide at all portions of the field necessary to eliminate sloping end rows, headlands, and areas where concentrated water flows enter or exit the field. Existing borders which have been encroached by invasive cool season grasses should be managed to promote native vegetation.

The minimum area to be treated includes all areas within a field where erosion may occur.

Limited vehicle traffic to turn equipment (i.e. three times per year – planting, herbicide application, and harvesting) on established field borders is allowed provided that it doesn't impact the function of the conservation practice. Use of the field border as a field road or allowing herbicide drift onto the field border is not permitted.

Mixture planted to extend the field border must contain the following:
A minimum of 5 species of grasses and forbs or legumes used in combination to meet the 393 NE CPS Filter Strip 2019 since the purpose is to address water erosion. This requires a minimum seeding rate of 40 PLS/ft^2 for grasses and 60% of the grass mixture shall consist of sod-forming, stiff-stemmed species. Acceptable grass, legume and forb species are located on the "wildlife friendly" plant list.

CONSERVATION STEWARDSHIP PROGRAM

All seedings must contain forbs and/or legumes at a seeding rate of 10% to 25% of the grass mixture (4 PLS/ft^2 to 10 PLS/ft^2). Acceptable species are located on the "wildlife friendly" plant list.

Document recommended site preparation, planting method, seed mixture, seeding rates and other pertinent information on the Herbaceous_Vegetation_Seeding_Design_Worksheet_2020.

The following activities are allowed for operation/maintenance and management:
Haying (including harvest for biomass) is permitted up to once per three year period (following establishment) provided it is conducted after July 15 and prior to September 1.

Grazing is permitted once per three year period (following establishment) provided it is conducted after July 15 and does not exceed a 30 day period during the growing season OR a 60 day period during the dormant season.

Specific management practices approved by NRCS and intended to improve plant diversity and vigor are allowed but are not required during the CSP contract period. These activities include prescribed burning, tillage and interseeding, and/or site-specific herbicide treatments to accommodate interseeding desired grasses, forbs, or legumes.

United States Department of Agriculture

Conservation Enhancement Activity

CONSERVATION STEWARDSHIP PROGRAM

E386B

Enhanced field borders to increase carbon storage along the edge(s) of a field

Conservation Practice 386: Field Border

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 10 years

Enhancement Description:

Enhance existing field borders to a width of at least 30 feet and establish a single species or mixture of species that provide a dense ground cover and dense rooting system along the edge(s) of the field.

Criteria:

- Field borders shall be established along selected field edges at a width of at least 30 feet.
- Locate borders to eliminate sloping end rows, headlands, and other areas where concentrated water flows will enter or exit the field.
- Field borders shall be established to adapted species of permanent grass, forbs and/or shrubs that accomplish the design objective.
- Establish plant species that will produce adequate above- and below-ground biomass for the site.
- Maximize the width and length of the herbaceous border to fit the site and increase total biomass production.

- Do not burn the field border
- Do not disturb the roots of the established vegetation with tillage.
- Plants selected for field borders will have the physical characteristics necessary to produce adequate round cover and dense rooting system. No plant listed by the state as a noxious or invasive species shall be established in the field border.
- Seedbed preparation, seeding rates, dates, depths, fertility requirements, and planting methods will be consistent with approved local criteria and site conditions.
- Ephemeral gullies and rills present in the planned border area will be eliminated as part of seedbed preparation. If present, ephemeral gullies and rills located immediately upslope from the planned border area need to be treated to ensure more of a sheet flow into the planned border area.

- Operation and maintenance requirements:
  - Repair storm damage.
  - Remove sediment from above, within and along the leading edge of the field border when accumulated sediment either alters the function of the field border or threatens the degradation of the planted species.
  - Shut off sprayers and raise tillage equipment to avoid damage to field borders.
  - Shape and reseed border areas damaged by animals, chemicals, tillage, or equipment traffic.
  - Do not use the field border as a hay yard or machinery parking lot for any extended period of time, especially if doing so will damage or impair the function of the field border.
  - Maintain desired vegetative communities and plant vigor by liming, fertilizing, mowing, disking, or burning and controlling noxious and invasive weeds to sustain effectiveness of the border.
  - Repair and reseed ephemeral gullies and rills that develop in the border.
  - When managing for wildlife, maintenance activities that result in disturbance of vegetation should not be conducted during the primary nesting, fawning and calving seasons. Activities should be timed to allow for regrowth before the growing season ends whenever possible.

- Periodic removal of some products such as medicinal herbs, nuts, and fruits is permitted provided the conservation purpose is not compromised by the loss of vegetation or harvesting disturbance.
- Avoid vehicle traffic when soil moisture conditions are saturated.
- Maintain records of the field border maintenance as needed by the land user.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

☐ Prior to implementation, prepare the planned acres for vegetation establishment. Refer to NRCS Conservation Practice Standard Field Border (Code 386). (NRCS will provide technical assistance, as needed.) Total planned amount of field border extension = _____feet

☐ Prior to implementation, select adapted species of permanent grass, forbs and/or shrubs that accomplish the design objective and are best suited to site conditions. (NRCS will provide technical assistance, as needed.)

Species	Seeding Rate (lb/ac pure live seed)	Note specific species characteristic(s)

☐ Prior to implementation, determine liming and fertilizer requirements, select planting technique and timing appropriate for the site and soil conditions. (NRCS will provide technical assistance, as needed.)

Planting Date	
Planting Technique	
Lime and Fertilizer Requirements	

☐ During implementation, install and maintain erosion control measures as needed for the site. (NRCS will provide technical assistance, as needed.)

☐ During implementation, notify NRCS of any planned changes to verify changes meet NRCS enhancement criteria.

☐ During implementation, protect the planting from plant and animal pests and fire.

☐ After implementation, maintain and protect the planting from plant and animal pests and fire.

☐ After implementation, verify the total amount of field border implemented. Total implemented amount of field border extension = _____feet

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ Prior to implementation, verify the enhancement is planned within the field(s) or farm boundary.
- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Field Border (Code 386) as it relates to implementing this enhancement.
- ☐ Prior to implementation, verify the enhancement is planned for acres that have been appropriately prepared for vegetation establishment. Total planned amount of field border extension = _____feet
- ☐ Prior to implementation, verify no plants on the Federal or state noxious weeds list are included.
- ☐ As needed, prior to implementation, NRCS will provide technical assistance:
    - o Planning site preparation meeting NRCS Conservation Practice Standard Field Border (Code 386).
    - o Selecting the adapted species of permanent grass, forbs and/or shrubs that accomplish the design objective and are best suited to site conditions.
    - o Selecting planting techniques and timing appropriate for the site and soil conditions.
    - o Planning the use of additional erosion control, as needed for the site.
    - o Preparing specifications for applying this enhancement for each site using approved state implementation requirements, national technical notes, appropriate state technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ After implementation, verify the vegetation was established to specifications developed for the site.
- ☐ After implementation, verify the planting is protected from pests and fire.

- ☐ After implementation, verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.
- ☐ After implementation, verify the total amount of field border implemented. Total implemented amount of field border extension = _____feet

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E386B

Enhanced field borders to increase carbon storage along the edge(s) of a field

Conservation Practice 386: Field Border

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

Existing field borders may be of any width and must be extended to a minimum of 30 feet wide at all portions of the field necessary to eliminate sloping end rows, headlands, and areas where concentrated water flows enter or exit the field. Existing borders which have been encroached by invasive cool season grasses should be managed to promote native vegetation.

The minimum area to be treated includes all areas within a field where erosion may occur.

Limited vehicle traffic to turn equipment (i.e. three times per year – planting, herbicide application, and harvesting) on established field borders is allowed provided that it doesn't impact the function of the conservation practice. Use of the field border as a field road or allowing herbicide drift onto the field border is not permitted.

Mixture planted to extend the field border must contain the following:
A minimum of 5 species of grasses and forbs or legumes used in combination to meet the 393 NE CPS Filter Strip 2019. This requires a minimum seeding rate of 40 PLS/ft^2 for grasses and 60% of the grass mixture shall consist of sod-forming, stiff-stemmed species. Favor taller native, warm-season species with a large root mass. Acceptable grass, legume and forb species are located on the "wildlife friendly" plant list.

CONSERVATION STEWARDSHIP PROGRAM

All seedings must contain forbs and/or legumes at a seeding rate of 10% to 25% of the grass mixture (4 PLS/ft^2 to 10 PLS/ft^2). Acceptable species are located on the "wildlife friendly" plant list.

Due to the tall, dense grass requirement of this practice, considerations of selection of forb or legume species should include plants which will be able to persist in a dense grass stand.

Document recommended site preparation, planting method, seed mixture, seeding rates and other pertinent information on the Herbaceous_Vegetation_Seeding_Design_Worksheet_2020.

The following activities are allowed for operation/maintenance and management:
Haying (including harvest for biomass) is permitted up to once per three year period (following establishment) provided it is conducted after July 15 and prior to September 1.

Grazing is permitted once per three year period (following establishment) provided it is conducted after July 15 and does not exceed a 30 day period during the growing season OR a 60 day period during the dormant season.

Specific management practices approved by NRCS and intended to improve plant diversity and vigor are allowed but are not required during the CSP contract period. These activities include and site-specific herbicide treatments to accommodate interseeding desired grasses, forbs, or legumes. The use of prescribed burning and tillage as management is not allowed with this enhancement.

United States Department of Agriculture

Conservation Enhancement Activity

CONSERVATION STEWARDSHIP PROGRAM

E386C

Enhanced field borders to decrease particulate emissions along the edge(s) of a field

Conservation Practice 386: Field Border

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land

RESOURCE CONCERN: Air

ENHANCEMENT LIFE SPAN: 10 years

Enhancement Description:

Enhance existing field borders to a width of at least 40 feet and establish a mixture of species that decrease the particulate emissions along the edge(s) of the field.

Criteria:

- Field borders shall be established along selected field edges at a width of at least 40 feet.
- Locate borders to eliminate sloping end rows, headlands, and other areas where concentrated water flows will enter or exit the field.
- Plants selected for field borders will have the physical characteristics to optimize the interception and adhesion of airborne particles (species with a mature height of at least 2 feet). No plant listed by the state as a noxious or invasive species shall be established in the field border.
- Seedbed preparation, seeding rates, dates, depths, fertility requirements, and planting methods will be consistent with approved local criteria and site conditions.

- Ephemeral gullies and rills present in the planned border area will be eliminated as part of seedbed preparation. If present, ephemeral gullies and rills located immediately upslope from the planned border area need to be treated to ensure more of a sheet flow into the planned border area.

- Do not burn the field border.

- Operation and maintenance requirements.
  - Repair storm damage.
  - Remove sediment from above, within and along the leading edge of the field border when accumulated sediment either alters the function of the field border or threatens the degradation of the planted species.
  - Shut off sprayers and raise tillage equipment to avoid damage to field borders.
  - Shape and reseed border areas damaged by animals, chemicals, tillage, or equipment traffic.
  - Do not use the field border as a hay yard or machinery parking lot for any extended period of time, especially if doing so will damage or impair the function of the field border.
  - Schedule mowing, harvest, weed control, and other management activities within the field border to accommodate the plants ability to intercept particulate emissions. Vehicle traffic should be avoided in the field border area.
  - Maintain desired vegetative communities and plant vigor by liming, fertilizing, mowing, disking, or burning and controlling noxious and invasive weeds to sustain effectiveness of the border.
  - Repair and reseed ephemeral gullies and rills that develop in the border.
  - When managing for wildlife, maintenance activities that result in disturbance of vegetation should not be conducted during the primary nesting, fawning and calving seasons. Activities should be timed to allow for regrowth before the growing season ends whenever possible.
  - Periodic removal of some products such as medicinal herbs, nuts, and fruits is permitted provided the conservation purpose is not compromised by the loss of vegetation or harvesting disturbance.

- Avoid vehicle traffic when soil moisture conditions are saturated.
- Maintain records of the field border maintenance as needed by the land user.

CONSERVATION STEWARDSHIP PROGRAM

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

☐ Prior to implementation, prepare the planned acres for vegetation establishment. Refer to NRCS Conservation Practice Standard Field Border (Code 386). (NRCS will provide technical assistance, as needed.) Total planned amount of field border extension = _____feet

☐ Prior to implementation, select adapted species of permanent grass, forbs and/or shrubs that accomplish the design objective and are best suited to site conditions. (NRCS will provide technical assistance, as needed.)

Species	Seeding Rate (lb/ac pure live seed)	Note specific species characteristic(s)

☐ Prior to implementation, determine liming and fertilizer requirements, select planting technique and timing appropriate for the site and soil conditions. (NRCS will provide technical assistance, as needed.)

Planting Date	
Planting Technique	
Lime and Fertilizer Requirements	

☐ During implementation, install and maintain erosion control measures as needed for the site. (NRCS will provide technical assistance, as needed.)

☐ During implementation, notify NRCS of any planned changes to verify changes meet NRCS enhancement criteria.

☐ During implementation, protect the planting from plant and animal pests and fire.

☐ After implementation, maintain and protect the planting from plant and animal pests and fire.

☐ After implementation, verify the total amount of field border implemented. Total implemented amount of field border extension = _____feet

NRCS will:

☐ Prior to implementation, verify the enhancement is planned within the field(s) or farm boundary.

☐ Prior to implementation, provide and explain NRCS Conservation Practice Field Border (Code 386) as it relates to implementing this enhancement.

☐ Prior to implementation, verify the enhancement is planned for acres that have been appropriately prepared for vegetation establishment. Total planned amount of field border extension = _____feet

☐ Prior to implementation, verify no plants on the Federal or state noxious weeds list are included.

☐ As needed, prior to implementation, NRCS will provide technical assistance:

- Planning site preparation meeting NRCS Conservation Practice Standard Field Border (Code 386).
- Selecting the adapted species of permanent grass, forbs and/or shrubs that accomplish the design objective and are best suited to site conditions.
- Selecting planting techniques and timing appropriate for the site and soil conditions.
- Planning the use of additional erosion control, as needed for the site.
- Preparing specifications for applying this enhancement for each site using approved state implementation requirements, national technical notes, appropriate state technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.

- ☐ After implementation, verify the vegetation was established to specifications developed for the site.
- ☐ After implementation, verify the planting is protected from pests and fire.
- ☐ After implementation, verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.
- ☐ After implementation, verify the total amount of field border implemented. Total implemented amount of field border extension = _____feet

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E386C

Enhanced field borders to decrease particulate emissions along the edge(s) of a field

Conservation Practice 386: Field Border

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land

RESOURCE CONCERN: Air

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

Existing field borders may be of any width and must be extended to a minimum of 40 feet wide at all portions of the field necessary to reduce wind erosion and/or areas where water erosion may also be a concern within the field (sloping end rows and where concentrated flow enters or exits the field). Existing borders which have been encroached by invasive cool season grasses should be managed to promote native vegetation.

The minimum area to be treated includes all areas on the outer perimeter of a field.

Limited vehicle traffic to turn equipment on established field borders is allowed provided that it doesn't impact the function of the conservation practice during a critical time of the year to provide protection from possible wind erosion. Use of the field border as a field road or allowing herbicide drift onto the field border is not permitted.

Mixture planted to extend the field border must contain the following:
A minimum of 5 species of grasses and forbs or legumes used in combination to meet the C589 NE CPS Cross Wind Trap Strips 2019 since the purpose is to address particulate emissions. Use a minimum seeding rate of 20 PLS/ft^2 for grasses and a majority of the mixture must contain species that attain a height of 2 feet and be stiff-stemmed species to resist lodging. Acceptable grass, legume and forb species are located on the "wildlife friendly" plant list.

CONSERVATION STEWARDSHIP PROGRAM

All seedings must contain forbs and/or legumes at a seeding rate of 10% to 25% of the grass mixture (2 PLS/ft^2 to 5 PLS/ft^2). Acceptable species are located on the "wildlife friendly" plant list.

Document recommended site preparation, planting method, seed mixture, seeding rates and other pertinent information on the Herbaceous_Vegetation_Seeding_Design_Worksheet_2020.

The following activities are allowed for operation/maintenance and management:
Haying (including harvest for biomass) is permitted up to once per three year period (following establishment) provided it is conducted after July 15 and prior to September 1.

Grazing is permitted once per three year period (following establishment) provided it is conducted after July 15 and does not exceed a 30 day period during the growing season OR a 60 day period during the dormant season.

Specific management practices approved by NRCS and intended to improve plant diversity and vigor are allowed but are not required during the CSP contract period. These activities include tillage and interseeding, and/or site-specific herbicide treatments to accommodate interseeding desired grasses, forbs, or legumes. The use of prescribed burning as management is not allowed with this enhancement.

United States Department of Agriculture

Conservation Enhancement Activity

CONSERVATION STEWARDSHIP PROGRAM

E386D

Enhanced field borders to increase food for pollinators along the edge(s) of a field

Conservation Practice 386: Field Border

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 10 years

Enhancement Description:

Enhance existing field borders to a width of at least 40 feet and establish a mixture of species that provide food for pollinators along the edge(s) of the field.

Criteria:

- Field borders shall be established along selected field edges at a width of at least 40 feet.
- Locate borders to eliminate sloping end rows, headlands, and other areas where concentrated water flows will enter or exit the field.
- Field borders shall be established to a mixture adapted species of permanent grass, forbs and/or shrubs that accomplish the design objective.
- **The NRCS at the state level will develop lists of plants suitable for pollinator habitat. The lists must emphasize as many native species as practical.**
- Plants selected for field borders will have the physical characteristics necessary to produce pollen during multiple seasons.

- No plant listed by the state as a noxious or invasive species shall be established in the field border.
- Seedbed preparation, seeding rates, dates, depths, fertility requirements, and planting methods will be consistent with approved local criteria and site conditions.
- Ephemeral gullies and rills present in the planned border area will be eliminated as part of seedbed preparation. If present, ephemeral gullies and rills located immediately upslope from the planned border area need to be treated to ensure more of a sheet flow into the planned border area.
- Operation and maintenance requirements:
    - Repair storm damage.
    - Remove sediment from above, within and along the leading edge of the field border when accumulated sediment either alters the function of the field border or threatens the degradation of the planted species.
    - Shut off sprayers and raise tillage equipment to avoid damage to field borders.
    - Shape and reseed border areas damaged by animals, chemicals, tillage, or equipment traffic.
    - Do not use the field border as a hay yard or machinery parking lot for any extended period of time, especially if doing so will damage or impair the function of the field border.
    - Schedule mowing, harvest, weed control, and other management activities within the field border to accommodate reproduction and other life cycle requirements of target wildlife species. Vehicle traffic should be avoided in the field border area.
    - Maintain desired vegetative communities and plant vigor by liming, fertilizing, mowing, disking, or burning and controlling noxious and invasive weeds to sustain effectiveness of the border.
    - Repair and reseed ephemeral gullies and rills that develop in the border.
    - When managing for wildlife, maintenance activities that result in disturbance of vegetation should not be conducted during the primary nesting, fawning

and calving seasons. Activities should be timed to allow for regrowth before the growing season ends whenever possible.

- Periodic removal of some products such as medicinal herbs, nuts, and fruits is permitted provided the conservation purpose is not compromised by the loss of vegetation or harvesting disturbance.
- Avoid vehicle traffic when soil moisture conditions are saturated.
- Maintain records of the field border maintenance as needed by the land user.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

☐ Prior to implementation, prepare the planned acres for vegetation establishment. Refer to NRCS Conservation Practice Standard Field Border (Code 386). (NRCS will provide technical assistance, as needed.) Total planned amount of field border extension = _____feet

☐ Prior to implementation, select adapted species of permanent grass, forbs and/or shrubs that accomplish the design objective and are best suited to site conditions. (NRCS will provide technical assistance, as needed.)

Species	Seeding Rate (lb/ac pure live seed)	Note specific species characteristic(s)

☐ Prior to implementation, determine liming and fertilizer requirements, select planting technique and timing appropriate for the site and soil conditions. (NRCS will provide technical assistance, as needed.)

Planting Date	
Planting Technique	
Lime and Fertilizer Requirements	

☐ During implementation, install and maintain erosion control measures as needed for the site. (NRCS will provide technical assistance, as needed.)

☐ During implementation, notify NRCS of any planned changes to verify changes meet NRCS enhancement criteria.

☐ During implementation, protect the planting from plant and animal pests and fire.

☐ After implementation, maintain and protect the planting from plant and animal pests and fire.

☐ After implementation, verify the total amount of field border implemented. Total implemented amount of field border extension = _____feet

NRCS will:

☐ Prior to implementation, verify the enhancement is planned within the field(s) or farm boundary.

☐ Prior to implementation, provide and explain NRCS Conservation Practice Field Border (Code 386) as it relates to implementing this enhancement.

☐ Prior to implementation, verify the enhancement is planned for acres that have been appropriately prepared for vegetation establishment. Total planned amount of field border extension = _____feet

☐ Prior to implementation, verify no plants on the Federal or state noxious weeds list are included.

☐ As needed, prior to implementation, NRCS will provide technical assistance:

- Planning site preparation meeting NRCS Conservation Practice Standard Field Border (Code 386).
- Selecting the adapted species of permanent grass, forbs and/or shrubs that accomplish the design objective and are best suited to site conditions.
- Selecting planting techniques and timing appropriate for the site and soil conditions.
- Planning the use of additional erosion control, as needed for the site.
- Preparing specifications for applying this enhancement for each site using approved state implementation requirements, national technical notes, appropriate state technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.

- ☐ After implementation, verify the vegetation was established to specifications developed for the site.
- ☐ After implementation, verify the planting is protected from pests and fire.
- ☐ After implementation, verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.
- ☐ After implementation, verify the total amount of field border implemented. Total implemented amount of field border extension = _____feet

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E386D

Enhanced field borders to increase food forpollinators along the edge(s) of a field

Conservation Practice 386: Field Border

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 10 years

State criteria

Configuration: Habitat areas must be at least 0.5 acres. Existing field borders may be of any width and must be extended to a minimum of 40 ft wide at all portions of the field necessary to eliminate sloping end rows, headlands, and areas where concentrated flows enter or exit the field.

Limited vehicle traffic to turn equipment (3 times per year maximum - planting, herbicide application, and harvesting) on established field borders is allowed. Use of any part of the field border as a field road is not permitted.

Protection from direct application and drift of insecticides, fungicides, and herbicides should be addressed by site selection and ongoing management. Organic fields or fields that do not have any pesticide use are ideal locations for field borders. If field borders are next to a treated crop
(including treated seed and fungicide, insecticide, and herbicide applications) a 30 ft buffer is required, 100 ft buffers are recommended. Buffers should be maintained as flower free areas. Leaving 30-100 ft of crop rows untreated near field borders can serve as a buffer.

Species Composition and Selection: This enhancement requires the use of wildflowers and native grass species found in the region listed in Pollinator Plants of Nebraska. Contact the Xerces/NRCS biologist for approval of the use of any additional species for this enhancement. Seedings must incorporate nine flowering species, with three blooming species in each bloom period, at a minimum of 75% of the seeding rate (based on PLS seeds/ft^2). One species of acceptable non-native forbs in Pollinator Plants of Nebraska may be included in the mix. No single wildflower species (native or non- native) should comprise more than 10% of the mix (based on PLS seeds/ft^2). Total seeding
rates should be a minimum of 20 PLS/ft^2 but higher seeding rates are encouraged and may provide better cover and establishment, and reduce weed invasion. Use the Herbaceous_Vegetation_Seeding_Design_Worksheet_2020.

If existing habitat areas are comprised of mostly native grasses and forbs and no non-native aggressive grasses are present, pollinator plants may be interseeded after grass suppression and thatch management outlined in 647 NE GD Early Successional Habitat Development-Management 2020. The minimum seeding rate of 10 PLS/ft^2 should be used for interseeded forbs and seeding guidelines above must be followed.

Generally, it will be required to eliminate existing vegetation within the habitat areas using an herbicide application followed by seeding of the necessary grasses and flowering plant species. Multiple treatments (herbicide, tillage, etc.) will be needed to remove aggressive, sod-forming grasses such as smooth brome. A dormant season seeding is recommended for pollinator plantings. Broadcast seeding is recommended for pollinator plantings, especially if the planting is less than 5 acres. Cultipacking after broadcast seeding is recommended. Due to the high forb content, the typical increases in seed mix required when broadcast seeding are not applicable for this enhancement. Bare ground is essential for seed soil contact for broadcast seedings and is recommended for drilled seed as well, even a moderate amount of thatch can affect planting depth and seed germination. If drilled, a native grass seed drill should be used by an experienced operator with frequent calibration checks to ensure that seeds are planted at or less than 1/4" deep.

Establishment: During the first year and second year of growth, one or multiple cuttings at 8-10" high but no shorter when the stand reaches 18-24" are recommended to help prevent weed seed set and promote establishment of native forbs. Cut vegetation should be removed promptly. Mowing or haying as directed above is allowed throughout the growing season in the first and second year of growth, thereafter, follow guidelines below for disturbance timing. Establishment of '80% soil cover' can also be measured as 80% canopy cover of seeded species during the peak of the growing season.

Management: To maintain quality habitat for pollinators, an annual disturbance regime is highly recommended. Grazing, burning, haying, or mowing 1/3-1/5 of the planting will prevent tree encroachment and grass dominance. Disturb a different section (1/3-1/5) of the site every year, do not disturb more than 1/3 of the site in any given year. Use the 645 NE IR Upland Wildlife Habitat Management 2007 Plan (formerly known as NE-CPA-14) to document. If possible, avoid disturbance from May 1 until July 31 unless approved by NRCS as part of a management plan intended to maintain and enhance plant diversity and vigor.

United States Department of Agriculture

Conservation Enhancement Activity

CONSERVATION STEWARDSHIP PROGRAM

E386E

Enhanced field borders to increase wildlife food and habitat along the edge(s) of a field

Conservation Practice 386: Field Border

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 10 years

Enhancement Description:

Enhance existing field borders to a width of at least 40 feet and establish a mixture of species that provide wildlife food and habitat along the edge(s) of the field. The extended field border will also provide enhanced wildlife habitat continuity.

Criteria:

- Field borders shall be established along selected field edges at a width of at least 40 feet.
- The field border must connect an existing field border to another field border or to an existing or planned wildlife area (e.g. wood lot, CRP, pond, rangeland, etc.).
- Locate borders to eliminate sloping end rows, headlands, and other areas where concentrated water flows will enter or exit the field.
- Field borders shall be established to a mixture adapted species of permanent grass, forbs and/or shrubs that accomplish the design objective.

- Plants selected for field borders will have the physical characteristics necessary to produce wildlife food and cover for the targeted species.
- No plant listed by the state as a noxious or invasive species shall be established in the field border.
- Seedbed preparation, seeding rates, dates, depths, fertility requirements, and planting methods will be consistent with approved local criteria and site conditions.
- Ephemeral gullies and rills present in the planned border area will be eliminated as part of seedbed preparation. If present, ephemeral gullies and rills located immediately upslope from the planned border area need to be treated to ensure more of a sheet flow into the planned border area.
- Operation and maintenance requirements:
    - Repair storm damage.
    - Remove sediment from above, within and along the leading edge of the field border when accumulated sediment either alters the function of the field border or threatens the degradation of the planted species.
    - Shut off sprayers and raise tillage equipment to avoid damage to field borders.
    - Shape and reseed border areas damaged by animals, chemicals, tillage, or equipment traffic.
    - Do not use the field border as a hay yard or machinery parking lot for any extended period of time, especially if doing so will damage or impair the function of the field border.
    - Schedule mowing, harvest, weed control, and other management activities within the field border to accommodate reproduction and other life cycle requirements of target wildlife species. Vehicle traffic should be avoided in the field border area.

- Maintain desired vegetative communities and plant vigor by liming, fertilizing, mowing, disking, or burning and controlling noxious and invasive weeds to sustain effectiveness of the border.
- Repair and reseed ephemeral gullies and rills that develop in the border.
- When managing for wildlife, maintenance activities that result in disturbance of vegetation should not be conducted during the primary nesting, fawning and calving seasons. Activities should be timed to allow for regrowth before the growing season ends whenever possible.
- Periodic removal of some products such as medicinal herbs, nuts, and fruits is permitted provided the conservation purpose is not compromised by the loss of vegetation or harvesting disturbance.
- Avoid vehicle traffic when soil moisture conditions are saturated.
- Maintain records of the field border maintenance as needed by the land user.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

☐ Prior to implementation, prepare the planned acres for vegetation establishment. Refer to NRCS Conservation Practice Standard Field Border (Code 386). (NRCS will provide technical assistance, as needed.) Total planned amount of field border extension = _____feet

☐ Prior to implementation, plan the field border extension to an existing field border which connects to another field border or to an existing or planned wildlife area (e.g. wood lot, CRP, pond, rangeland, etc.). Total planned acres connected = _____

☐ Prior to implementation, select adapted species of permanent grass, forbs and/or shrubs that accomplish the design objective and are best suited to site conditions. (NRCS will provide technical assistance, as needed.)

Species	Seeding Rate (lb/ac pure live seed)	Note specific species characteristic(s)

☐ Prior to implementation, determine liming and fertilizer requirements, select planting technique and timing appropriate for the site and soil conditions. (NRCS will provide technical assistance, as needed.)

Planting Date	
Planting Technique	
Lime and Fertilizer Requirements	

☐ During implementation, install and maintain erosion control measures as needed for the site. (NRCS will provide technical assistance, as needed.)

☐ During implementation, notify NRCS of any planned changes to verify changes meet NRCS enhancement criteria.

☐ During implementation, protect the planting from plant and animal pests and fire.

- ☐ After implementation, maintain and protect the planting from plant and animal pests and fire.
- ☐ After implementation, verify the total amount of field border implemented and areas connected. Total implemented amount of field border extension = _____feet
  Total areas connected = _____ Total acres connected = _____

NRCS will:

- ☐ Prior to implementation, verify the enhancement is planned within the field(s) or farm boundary.
- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Field Border (Code 386) as it relates to implementing this enhancement.
- ☐ Prior to implementation, verify the enhancement is planned for acres that have been appropriately prepared for vegetation establishment. Total planned amount of field border extension = _____feet
- ☐ Prior to implementation, verify the field border extension connects to another field border or to an existing or planned wildlife area (e.g. wood lot, CRP, Pond, Rangeland, etc.). Total planned areas connected = _____
  Total planned acres connected = _____
- ☐ Prior to implementation, verify no plants on the Federal or state noxious weeds list are included.
- ☐ As needed, prior to implementation, NRCS will provide technical assistance:
  - Planning site preparation meeting NRCS Conservation Practice Standard Field Border (Code 386).
  - Selecting the adapted species of permanent grass, forbs and/or shrubs that accomplish the design objective and are best suited to site conditions.
  - Selecting planting techniques and timing appropriate for the site and soil conditions.

- Planning the use of additional erosion control, as needed for the site.
- Preparing specifications for applying this enhancement for each site using approved state implementation requirements, national technical notes, appropriate state technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.

☐ After implementation, verify the vegetation was established to specifications developed for the site.

☐ After implementation, verify the planting is protected from pests and fire.

☐ After implementation, verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.

☐ After implementation, verify the total amount of field border implemented and areas connected. Total implemented amount of field border extension = _____feet Total areas connected = _____ Total acres connected = _____

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E386E

Enhanced field borders to increase wildlife food habitat along the edge(s) of a field

Conservation Practice 386: Field Border

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

Existing field borders may be of any width and must be extended to a minimum of 40 feet wide at all portions of the field necessary to eliminate sloping end rows, headlands, and areas where concentrated water flows enter or exit the field. Existing borders which have been encroached by invasive cool season grasses must be managed to promote native vegetation.

The minimum area to be treated includes all areas on the outer perimeter of a field.

Limited vehicle traffic to turn equipment (i.e. three times per year – planting, herbicide application, and harvesting) on established field borders is allowed provided that it doesn't impact the function of the conservation practice. Use of the field border as a field road or allowing herbicide drift onto the field border is not permitted.

Mixture planted to extend the field border must contain the following:
A minimum of 5 species of grasses used in combination to meet the 386 NE CPS Field Border 2019 since the purpose is to address wildlife habitat. All seedings must contain a minimum of 10 forbs and/or legumes at a seeding rate equal to that of the grasses (>50% forbs/legumes). This requires a light seeding rate of 10 to 20 PLS/ft^2 for all species.

This enhancement requires that shrub thicket habitat or "hinge cut" trees forming a loose brush pile be located within 660 feet of all portions of the field border as noted in the (386) Field Border – Upland Bird Habitat Design Procedures. This cover can either be existing or newly created.

Document recommended site preparation, planting method, seed mixture, seeding rates and other pertinent information on the Herbaceous_Vegetation_Seeding_Design_Worksheet_2020.

The following activities are allowed for operation/maintenance and management:
Haying (including harvest for biomass) is permitted up to once per three year period (following establishment) provided it is conducted after July 15 and prior to September 1.

Grazing is permitted once per three year period (following establishment) provided it is conducted after July 15 and does not exceed a 30 day period during the growing season OR a 60 day period during the dormant season.

Specific management practices approved by NRCS and intended to improve plant diversity and vigor are allowed but are not required during the CSP contract period. These activities include prescribed burning, tillage and interseeding, and/or site-specific herbicide treatments to accommodate interseeding desired grasses, forbs, or legumes.

United States Department of Agriculture

Conservation Enhancement Activity

E390A

CONSERVATION STEWARDSHIP PROGRAM

Increase riparian herbaceous cover width for sediment and nutrient reduction

Conservation Practice 390: Riparian Herbaceous Cover

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 5 Years

Enhancement Description

Where an existing herbaceous riparian buffer is located along a river, stream, pond, lake, or other waterbody, increase the width of the buffer in order to allow a greater percentage of sediment and nutrient removal from surface and subsurface flows.

Criteria

- Existing buffer width shall be at least 35 feet or (if applicable) the minimum State buffer-width requirement, whichever is greater. Maximum enhancement buffer width may be increased up to the greater of 100 feet or the State-allowed maximum width.
- To the extent possible, the buffer area and extended buffer will be shaped and vegetated to increase overland flow interception.
- Concentrated flow erosion or mass soil movement shall be controlled in the up-gradient area prior to establishment of the riparian herbaceous cover.
- Existing underground functional drains that pass through these areas shall be replaced with rigid, non-perforated pipe through the buffer or equipped with a management regulating structure to allow control of overflow.

- Species selected shall have stiff stems and high stem density near the ground surface to reduce water velocities and facilitate infiltration into the floodplain. Only viable, high quality and site-adapted planting stock will be used. Selection of native plants is recommended.
- In areas where native seeds and propagules are present, natural regeneration can be used in lieu of planting. Planting is required if no native seed bank is present.
- Selected plant species must be adapted to the projected duration of saturation and inundation of the site.
- Where available, use Ecological Site Description to guide restoration to appropriate vegetative community phase and include appropriate vegetative functional groups.
- Necessary site preparation and planting shall be done at a time and manner to insure survival and growth of selected species.
- Management systems applied will be designed to maintain or improve the vigor and reproduction of the desired plant community.
- Harmful pests present on the site will be controlled or eliminated as necessary to achieve and maintain the intended purpose. Pest management will be conducted in a manner that mitigates impacts to pollinators.
- Protect riparian vegetation by reducing or excluding haying and grazing until the desired plant community is well established, with grazing deferred for a minimum of two years.
- Design the expanded buffer enhancement for an expected life of at least 5 years.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, prepare the planned buffer area for vegetation establishment. Refer to NRCS Conservation Practice Standard Riparian Herbaceous Cover (Code 390). (NRCS will provide technical assistance, as needed.)

☐ Prior to implementation, in areas that are highly disturbed and are unlikely to have existing native seed in the soil work closely with NRCS to select plant species that are adapted to your specific site. (NRCS will provide technical assistance, as needed.)

Species	Species type (grass, legume, forb)	Rate (Lbs/Ac) PLS

☐ Prior to implementation, select planting technique and timing appropriate for the site and soil conditions. (NRCS will provide technical assistance, as needed.)

Planting Date	
Planting Technique	
Seeding Depth	

☐ During implementation, grade the site, as needed, to eliminate concentrated flow through the buffer including that from uphill from the buffer.

☐ During implementation, replace any underground functional tile drains that pass through the buffer with rigid, non-perforated pipe or install a management regulating structure to allow overflow control.

☐ During implementation, conduct planting of selected species according to dates, techniques, depth, and other requirements listed in the plan.

☐ During implementation, install and maintain erosion control measures as needed, such as silt fencing and mulching.

☐ During implementation, notify NRCS of any planned changes to allow NRCS to verify that the changes meet NRCS enhancement criteria.

- ☐ After implementation, control harmful pests at the site, as necessary, and in a manner that mitigates impacts to pollinators.
- ☐ After implementation, protect the area by reducing haying and excluding grazing until the plant community is established, deferring grazing for a minimum of two years.

NRCS will:

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Riparian Herbaceous Cover (Code 390) to show how it relates to this enhancement.
- ☐ Prior to implementation, verify the enhancement is planned for cropland.
- ☐ Prior to implementation, verify the enhancement is planned for acres that have been appropriately prepared for riparian herbaceous cover.
- ☐ Prior to implementation, verify no plants on the Federal or state noxious weeds list are included.
- ☐ As needed, prior to implementation, NRCS will provide technical assistance:
    - o Preparing a site plan that meets NRCS Conservation Practice Standard Riparian Herbaceous Cover (CPS 390).
    - o Selecting the stiff-stemmed species of grasses and/or perennial forbs best suited to site saturation and inundation conditions.
    - o Selecting planting techniques and timing appropriate for the site and soil conditions.
    - o Planning the use of additional erosion control, as needed for the site.
    - o Preparing specifications for applying this enhancement for each site using approved state implementation requirements, national technical notes, appropriate state technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.

- ☐ During implementation, verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.
- ☐ After implementation, verify the vegetation was established to specifications developed for the site.
- ☐ After implementation, verify the planting is protected from pests, has had limited haying, and that grazing is being excluded, if established less than two years.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E390A

Increase riparian herbaceous cover width for sediment and nutrient reduction

Conservation Practice 390: Riparian Herbaceous Cover

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 5 years

State Criteria

Existing riparian herbaceous cover to be extended must be 20 feet wide measured outward and perpendicular to the stream from a point at the top of the bank adjacent to the stream. For lakes, ponds or other semi-permanent or permanent waterbodies, the minimum existing width is 35 feet from the shoreline, based on normal conditions. The existing riparian herbaceous cover may be extended beyond the minimum up to a maximum of 100 feet wide – not to exceed the extent of the geomorhic floodplain. The minimum level of implementation is to address the resource concern within the management unit (i.e. field).

Impaired Waters: Opportunities to use riparian herbaceous cover to provide benefits to impaired streams or lakes should be considered when they are located within the contracted acres and/or if runoff from riparian area, drainage ways or streams enters directly (within 2000') into impaired streams and/or lakes. See Nebraska DEE Surface Water Quality Integrated Report for listing of impaired waters.

Species composition present or planted to extend the riparian herbaceous cover must contain:
A minimum of 60% of the grass mixture shall consist of sod-forming, stiff-stemmed species. Refer to the (393) Filter Strip standard for specifications on new seedings or interseedings.
Native species are required unless site conditions warrant limited use of non-native grass species.

CONSERVATION STEWARDSHIP PROGRAM

It is recommended that any new seedings or interseedings contain forbs and/or legumes at a seeding rate of 10% to 25% of the grass mixture (4 PLS/ft^2 to 10 PLS/ft^2) to provide benefits to wildlife habitat.

Document recommended site preparation, planting method, seed mixture, seeding rates and other pertinent information on the Herbaceous_Vegetation_Seeding_Design_Worksheet_2020.

The following activities are allowed for operation/maintenance and management:
Haying (including harvest for biomass) is permitted up to once per three year period (following establishment) provided it is conducted after July 15 and prior to September 1.

Grazing is permitted once per three year period (following establishment) provided it is conducted after July 15 and does not exceed a 30 day period during the growing season OR a 60 day period during the dormant season.

Specific management practices approved by NRCS and intended to improve plant diversity and vigor are allowed but are not required during the CSP contract period. These activities include prescribed burning, tillage and interseeding (on areas outside of the 20 feet zone closest to the stream or waterbody), and/or site-specific herbicide treatments to accommodate interseeding desired grasses, forbs, or legumes.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E390B

CONSERVATION STEWARDSHIP PROGRAM

Increase riparian herbaceous cover width to enhance wildlife habitat

Conservation Practice 390: Riparian Herbaceous Cover

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Associated Ag Land; and Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 Years

Enhancement Description

Where an existing herbaceous riparian buffer is located along a river, stream, pond, lake, or other waterbody, increase the diversity of native species, control invasive species, install fencing and relocate equipment operations, trails, and livestock, and increase the width of the buffer.

Criteria

- Existing buffer width shall be at least 35 feet or (if applicable) the minimum State buffer-width requirement, whichever is greater. Maximum enhancement buffer width may be increased up to the greater of 100 feet or the State-allowed maximum width.
- The management plan shall consider habitat and wildlife objectives such as habitat diversity, habitat linkages, daily and seasonal habitat ranges, limiting factors, and native plant communities.
- Select native species adapted to the site. Selected species should have multiple values such as those suited for biomass, wintering and nesting cover, aesthetics, forage value for aquatic invertebrates, and tolerance to locally used herbicides.

- Density of the vegetative stand established shall be managed for targeted wildlife habitat requirements and shall encourage plant diversity. The location, layout and vegetative structure and composition of the buffer should complement natural features.

- Corridor configuration, establishment procedures and management should enhance habitats for threatened, endangered and other plant or animal species of concern, where applicable.

- Include forbs and legumes that provide pollen and nectar for native pollinators. Utilize a diverse mix of plant species that bloom at different times throughout the year.

- If mowing is necessary to maintain herbaceous cover it will occur outside the nesting and fawning season and allow for adequate re-growth for winter cover. To protect pollinators and maintain habitat with a diversity of plant structure, a third or less of the site should be disturbed (mowed, grazed, burned, etc.) each year, allowing for recolonization of pollinators from surrounding habitat.

- Harmful plant and animal pests present on the site will be controlled or eliminated as necessary to achieve and maintain the intended purpose. Pest management will be conducted in a manner that mitigates impacts to pollinators.

- Protect riparian vegetation by reducing or excluding haying and grazing until the desired plant community is well established, with grazing deferred for a minimum of two years.

- Control access of people, machinery, and livestock to the riparian zone with fencing.

- Design the expanded buffer enhancement for an expected life of at least 5 years.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, prepare the planned buffer area for vegetation establishment. Refer to NRCS Conservation Practice Standard Riparian Herbaceous Cover (Code 390). (NRCS will provide technical assistance, as needed.)

☐ Prior to implementation, in areas that are highly disturbed and unlikely to have existing native seed in the soil, work closely with NRCS to select plant species that are adapted to your specific site. (NRCS will provide technical assistance, as needed.)

Species	Species type (grass, legume, forb)	Rate (Lbs/Ac) PLS

☐ Prior to implementation, select planting technique and timing appropriate for the site and soil conditions. (NRCS will provide technical assistance, as needed.)

Planting Date	
Planting Technique	
Seeding Depth	

☐ During implementation, grade the site, as needed, to eliminate concentrated flow through the buffer including that from uphill from the buffer.

☐ During implementation, conduct planting of selected species according to dates, techniques, depth, and other requirements listed in the plan.

☐ During implementation, install and maintain erosion control measures as needed, such as silt fencing and mulching.

☐ During implementation, notify NRCS of any planned changes to allow NRCS to verify that the changes meet NRCS enhancement criteria.

☐ After implementation, control harmful pests at the site, as necessary, and in a manner that mitigates impacts to pollinators.

- ☐ After implementation, protect the area by reducing haying and excluding grazing until the plant community is established, deferring grazing for a minimum of two years.

NRCS will:

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Riparian Herbaceous Cover (Code 390) to show how it relates to this enhancement.
- ☐ Prior to implementation, verify this enhancement is planned for cropland.
- ☐ Prior to implementation, develop a Wildlife Habitat Management Plan for targeted suite of species and meet with participant to review the Management Plan.
- ☐ Prior to implementation, verify the enhancement is planned for acres that have been appropriately prepared for riparian herbaceous cover.
- ☐ Prior to implementation, verify no plants are on the Federal or state noxious weeds list are included.
- ☐ As needed, prior to implementation, NRCS will provide technical assistance:
    - o Planned site preparation meets NRCS Conservation Practice Standard Riparian Herbaceous Cover (Code 390).
    - o Selecting plant species that meet the habitat needs of targeted wildlife species, and that have multiple values such as those suited for biomass, wintering and nesting cover, aesthetics, forage value for aquatic invertebrates, tolerance to locally used herbicides, and best suited to site saturation and inundation conditions.
    - o Select planting techniques and timing that is appropriate for the site and soil conditions.
    - o Plan the use of additional erosion control, as needed for the site.
    - o Prepare specifications for applying this enhancement for each site using approved state implementation requirements, national technical notes, appropriate state technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ During implementation, verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.
- ☐ After implementation, verify the vegetation was established to specifications developed for the site.
- ☐ After implementation, verify the planting is protected from pests, has had limited haying, and that grazing is being excluded, if established less than two years.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E390B

Increase riparian herbaceous cover width to enhance wildlife habitat

Conservation Practice 390: Riparian Herbaceous Cover

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Associated Ag Land; and Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 years

State Criteria

Existing riparian herbaceous cover to be extended must be 20 feet wide measured outward and perpendicular to the stream from a point at the top of the bank adjacent to the stream. For lakes, ponds or other semi-permanent or permanent waterbodies, the minimum existing width is 35 feet from the shoreline, based on normal conditions. The existing riparian herbaceous cover may be extended beyond the minimum up to a maximum of 100 feet wide – not to exceed the extent of the geomorhic floodplain. The minimum level of implementation is to address the resource concern within the management unit (i.e. field).

Impaired Waters: Opportunities to use riparian herbaceous cover to provide benefits to impaired streams or lakes should be considered when they are located within the contracted acres and/or if runoff from riparian area, drainage ways or streams enters directly (within 2000') into impaired streams and/or lakes. See Nebraska DEE Surface Water Quality Integrated Report for listing of impaired waters.

Species composition present or planted to extend the riparian herbaceous cover must contain:
A minimum of 60% of the grass mixture shall consist of sod-forming, stiff-stemmed species. Refer to the 393 NE CPS Filter Strip 2019 standard for specifications on new seedings or interseedings. Native species are required unless site conditions warrant limited use of non-native grass species.

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A minimum of 5 species of grasses and 10 species of forbs or legumes used in combination provide benefits to wildlife habitat. Acceptable grass species are located on the "wildlife friendly" plant list.

All seedings must contain forbs and/or legumes at a minimum seeding rate 25% of the grass mixture (i.e. 10 PLS/ft^2). There must be flowering plants in all three pollinator bloom periods (see Planning Sheet 26). Acceptable species are located on the "wildlife friendly" plant list.

Document recommended site preparation, planting method, seed mixture, seeding rates and other pertinent information on the Herbaceous_Vegetation_Seeding_Design_Worksheet_2020.

The following activities are allowed for operation/maintenance and management:
Haying (including harvest for biomass) is permitted up to once per three year period (following establishment) provided it is conducted after July 15 and prior to September 1.

Grazing is permitted once per three year period (following establishment) provided it is conducted after July 15 and does not exceed a 30 day period during the growing season OR a 60 day period during the dormant season.

Specific management practices approved by NRCS and intended to improve plant diversity and vigor are allowed but are not required during the CSP contract period. These activities include prescribed burning, tillage and interseeding (on areas outside of the 20 feet zone closest to the stream or waterbody), and/or site-specific herbicide treatments to accommodate interseeding desired grasses, forbs, or legumes. No more than one-third of the total buffer area can be disturbed in any given year/growing season. Management activities will promote the growth of native species and prevent encroachment of invasive species.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E391A

CONSERVATION STEWARDSHIP PROGRAM

Increase riparian forest buffer width for sediment and nutrient reduction

Conservation Practice 391: Riparian Forest Buffer

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial) and Associated Ag Land

RESOURCE CONCERN: Water

PRACTICE LIFE SPAN: 15 Years

Enhancement Description

Where an existing forested riparian area is located along a river, stream, pond, lake, or other waterbody, increase the width of the buffer in order to allow a greater percentage of sediment and nutrient removal from surface and subsurface flows.

Criteria

- Existing buffer width shall be at least 35 feet or (if applicable) the minimum State buffer-width requirement, whichever is greater. Maximum enhancement buffer width may be increased up to the greater of 180 feet or the State-allowed maximum width.
- To the extent possible, the buffer area and extended buffer will be shaped and vegetated to increase overland flow interception.
- Excessive sheet-rill and concentrated-flow erosion will be controlled in the areas immediately adjacent and up-gradient of the buffer site. Overland flow through the riparian area will be maintained as sheet flow.

- Existing functional underground drains through the riparian area will be plugged, removed or replaced with perforated pipe/end plugs or water control structures.

- Dominant vegetation will consist of existing, naturally regenerated, or seeded/planted trees and shrubs suited to the soil and hydrology of the site and the intended purpose of nutrient reduction.

- Use tree and shrub species that are native and non-invasive. Substitution with improved and locally accepted cultivars or purpose-specific species is allowed. For plantings and seeding, only viable, high-quality and adapted plant materials will be used.

- Favor tree and shrub species that have multiple values such as those suited for timber, nuts, fruit, florals, browse, nesting, and aesthetics.

- Periodic removal of some forest products such as high value trees, medicinal herbs, nuts, and fruits is permitted provided the buffer area is not compromised by the loss of vegetation or harvesting disturbance.

- Necessary site preparation and planting shall be done at a time and manner to insure survival and growth of selected species.

- Harmful plant and animal pests present on the site will be controlled or eliminated as necessary to achieve and maintain the intended purpose. Pest management will be conducted in a manner that mitigates impacts to pollinators.

- Livestock shall be controlled or excluded as necessary to achieve the buffer's water quality improvement purpose. If livestock is present, follow a Prescribed Grazing Plan (CPS 528) and defer grazing for a minimum of two years.

- Design the expanded buffer enhancement for an expected life of at least 15 years.

- The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, prepare the planned buffer area according to the planting plan NRCS has developed with you. Refer to NRCS Conservation Practice Standard Riparian Forest Buffer (Code 391). (NRCS will provide technical assistance)

☐ Prior to implementation, select planting date, method, and density/spacing appropriate for the site and soil conditions. (NRCS will provide technical assistance.)

Planting Date	
Planting Method	
Density and spacing	

☐ Prior to implementation, work closely with NRCS to select plant species that are adapted to your specific site and meet the goals of this enhancement.

Species	Vegetative or Rootstock	Size	Protection (tubes, mats, nets)

☐ During implementation and before planting, grade the site, as needed, to eliminate concentrated flow through the buffer including water coming from uphill of the buffer.

☐ During implementation and before planting, replace underground tile drains that pass through the buffer with rigid, non-perforated pipe or install a water control device that allows for overflow management.

☐ During implementation, install and maintain erosion control measures as needed, such as silt fencing and mulching.

☐ During implementation, conduct planting of selected species according to dates, methods, spacing and other requirements listed in the planting plan.

☐ During implementation, notify NRCS of any planned changes to allow NRCS to verify that the changes meet NRCS enhancement criteria.

- ☐ After Implementation, control harmful pests and vegetation and in a manner that limits effects to pollinators. Inspect and maintain tubes and protection measures regularly.

- ☐ After implementation, livestock and wildlife may need be controlled or excluded to achieve the buffer's water quality improvement purpose. If livestock are present, follow a Prescribed Grazing Plan (Code 528) and defer grazing for a minimum of two years. Wildlife may need to be controlled during establishment of vegetative treatments. Temporary and local population control methods should be used with caution and within state and local regulations.

NRCS will:

- ☐ Prior to implementation, verify the enhancement is planned for cropland.

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Riparian Forest Buffer (Code 391) to show how it relates to this enhancement.

- ☐ Prior to implementation, verify no plants on the Federal or state noxious weeds list are included in the planting list.

- ☐ Prior to implementation, NRCS will provide technical assistance on:

    - Preparing a site preparation and planting plan that meets NRCS Conservation Practice Standard Riparian Forest Buffer (Code 391) and lists the species, vegetation type, density, protection measures, and planting dates.

    - Selecting planting techniques and timing appropriate for the site and soil conditions.

    - Assessing impacts of drainage removal/plugging on adjacent land units and uses.

    - Preparing specifications for applying this enhancement for each site using approved state implementation requirements, national technical notes, appropriate state technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

- ☐ During implementation, review any planned changes to ensure they meet the enhancement criteria.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ During implementation, verify all erosion control needed for the site is functioning and is maintained to specifications provided to the participant.
- ☐ After implementation, verify that any underground drains through the riparian area, if they exist, were plugged, removed or replaced with perforated pipe/end plugs or structures for flow control.
- ☐ After implementation, verify the vegetation was established and any protections required are being maintained according to the specifications provided to the participant.
- ☐ After implementation verify livestock are controlled or excluded as necessary to achieve the buffer's water quality improvement purpose. If livestock are present, verify a Prescribed Grazing Plan (Code 528) is being followed and that grazing is being deferred for a minimum of two years.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E391A

Increase riparian forest buffer width for sediment and nutrient reduction

Conservation Practice 391: Riparian Forest Buffer

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 15 years

State Criteria

Existing riparian forest buffer to be extended must be 35 feet wide measured outward and perpendicular to the stream from a point at the top of the bank adjacent to the stream or from the shoreline of the waterbody, based on normal conditions. It is not necessary that the entire stream segment or waterbody under the control of the cooperator be buffered by an existing 35 feet wide buffer. The existing riparian forest buffer may be extended beyond the minimum up to a maximum of 180 feet wide – not to exceed the extent of the geomorhic floodplain. The minimum level of implementation is to address the resource concern within the management unit (i.e. field). All areas will meet the minimum 35 feet of riparian forest buffer.

This enhancement cannot be used in regions of the state where trees are not appropriate due to ecological impacts on nearby grassland or wetland habitats not suited to woody cover.

Impaired Waters: Opportunities to use riparian forest buffers to provide benefits to impaired streams or lakes should be considered when they are located within the contracted acres and/or if runoff from riparian area, drainage ways or streams enters directly (within 2000') into impaired streams and/or lakes. See Nebraska DEE Surface Water Quality Integrated Report for listing of impaired waters.

CONSERVATION STEWARDSHIP PROGRAM

Species planted to extend the riparian forest buffer must contain the following:

- A minimum of 5 species of trees or shrubs must be used in combination to meet the 391 NE CPS Riparian Forest Buffer 2011 standard.
- One flowering shrub must be used on the outer edge of all riparian forest buffers.
- Prioritize the use of trees/shrubs that produce either a fruit or nut.
- All trees and shrubs used within the riparian forest buffer planting must be native (by Vegetative Zone) and adapted to site conditions. (See Table 11 in FOTG Section II Windbreak Interpretations)
- Coniferous species are not acceptable to be used.
- Any area planted to filter strip on the outer edge of the buffer must meet the 393 NE CPS Filter Strip 2019 standard. Acceptable grass species are located on the "wildlife friendly" plant list.
- All herbaceous seedings must contain forbs and/or legumes at a seeding rate of 10% to 25% of the grass mixture (4 PLS/ft^2 to 10 PLS/ft^2). Acceptable species are located on the "wildlife friendly" plant list.

Document recommended site preparation, planting method, tree/shrub species, seed mixture, seeding rates and other pertinent information on the Herbaceous_Vegetation_Seeding_Design_Worksheet_2020 and/or the Tree and Shrub Planting Implementation Requirements 2014 and associated attachments.

The following activities are allowed for operation/maintenance and management:

No haying or grazing is allowed within the zone planted to trees and shrubs.

Haying is permitted on filter strip areas (which may be planted on the outermost zone) up to one time per three year period (following establishment) provided it is conducted after July 15 and prior to September 1.

Grazing is permitted on filter strip areas (which may be planted on the outermost zone) up to one time per three year period (following establishment) provided it is conducted after July 15 and does not exceed a 30 day period during the growing season OR a 60 day period during the dormant season.

Specific management practices approved by NRCS and intended to improve plant diversity and vigor are allowed on filter strip areas which may be planted on the outermost zone but are not required during the CSP contract period. These activities include prescribed burning, tillage and interseeding, and/or site-specific herbicide treatments to accommodate interseeding desired grasses, forbs, or legumes.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E391B

CONSERVATION STEWARDSHIP PROGRAM

Increase stream shading for stream temperature reduction

Conservation Practice 391: Riparian Forest Buffer

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Water

PRACTICE LIFE SPAN: 15 Years

Enhancement Description

Riparian area tree canopy cover density is increased and the extent of the forested riparian area is increased to provide greater stream shading.

Criteria

- Existing buffer width shall be at least 35 feet or (if applicable) the minimum State buffer-width requirement, whichever is greater. Buffer width shall be increased to 60 feet and may be extended up to 180 feet or the State-allowed maximum width.
- Where necessary to improve stream shading, increase canopy cover density in the existing buffer area.
- In addition to providing shading, establish plant communities that address aquatic and terrestrial wildlife and pollinator needs and have multiple values such as habitat enhancement and nutrient uptake.
- Dominant vegetation will consist of existing, naturally regenerated, or seeded/planted trees and shrubs suited to the soil and hydrology of the site and the intended purpose of providing stream shading.

- Use tree and shrub species that are native and non-invasive. Substitution with improved and locally accepted cultivars or purpose-specific species is allowed. For plantings and seeding, only viable, high-quality, and adapted plant materials will be used.
- Favor tree and shrub species that have multiple values such as those suited for timber, nuts, fruit, florals, browse, nesting, and aesthetics.
- Periodic removal of some forest products such as high value trees, medicinal herbs, nuts, and fruits is permitted provided the buffer area is not compromised by the loss of vegetation or harvesting disturbance.
- Necessary site preparation and planting shall be done at a time and manner to insure survival and growth of selected species.
- Harmful plant and animal pests present on the site will be controlled or eliminated as necessary to achieve and maintain the intended purpose. Pest management will be conducted in a manner that mitigates impacts to pollinators.
- Protect riparian vegetation until the desired plant community is well established.
- Livestock shall be controlled or excluded as necessary to achieve the buffer's water quality improvement purpose. If livestock is present, follow a Prescribed Grazing Plan (CPS 528) and defer grazing for a minimum of two years.
- Design the expanded buffer enhancement for an expected life of at least 15 years.
- The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, prepare the planned buffer area according to the planting plan NRCS has developed with you. Refer to NRCS Conservation Practice Standard Riparian Forest Buffer (Code 391). (NRCS will provide technical assistance)

☐ Prior to implementation, select planting date, method, and density/spacing appropriate for the site and soil conditions. (NRCS will provide technical assistance.)

Planting Date	
Planting Method	
Density and spacing	

☐ Prior to implementation, work closely with NRCS to select plant species that are adapted to the specific site and that meet the goal of providing increased stream shading.

Species	Vegetative or Rootstock	Size	Protection (tubes, mats, nets)

☐ During implementation and before planting, grade the site, as needed, to eliminate concentrated flow through the buffer including water coming from uphill of the buffer.

☐ During implementation, conduct planting of selected species according to dates, methods, spacing and other requirements listed in the planting plan.

☐ During implementation, install and maintain erosion control measures as needed, such as silt fencing and mulching.

☐ During implementation, notify NRCS of any planned changes to allow NRCS to verify that the changes meet NRCS enhancement criteria.

☐ After implementation, control harmful pests and vegetation and in a manner that limits effects to pollinators. Inspect and maintain tubes and protection measures regularly.

- After implementation, livestock and wildlife may need be controlled or excluded to achieve the buffer's stream shading purpose. If livestock are present, follow a Prescribed Grazing Plan (Code 528) and defer grazing for a minimum of two years. Wildlife may need to be controlled during establishment of vegetative treatments. Temporary and local population control methods should be used with caution and within state and local regulations.

NRCS will:

- Prior to implementation, provide and explain NRCS Conservation Practice Standard Riparian Forest Buffer (Code 391) to show how it relates to this enhancement.

- Prior to implementation, verify no plants on the Federal or state noxious weeds list are included in the planting list.

- Prior to implementation, NRCS will provide technical assistance on:

    - Site preparation and planting plan that meets NRCS Conservation Practice Standard Riparian Forest Buffer (Code 391) and lists the species, vegetation type, density, protection measures, and planting dates.

    - Selecting planting techniques and timing appropriate for the site and soil conditions.

    - The potential for denser species plantings and focus in areas that will provide the most shade to the stream throughout the day.

    - Preparing specifications for applying this enhancement for each site using approved state implementation requirements, national technical notes, appropriate state technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

- During implementation, review any planned changes to ensure they meet the enhancement criteria.

- During implementation, verify all erosion control needed for the site is functioning and is maintained to specifications provided to the participant.

- ☐ After implementation, verify the vegetation was established and any protections required are being maintained according to specifications provided to the participant.

- ☐ After implementation verify livestock are controlled or excluded as necessary to achieve the buffer's goal of greater stream shading. If livestock are present, verify a Prescribed Grazing Plan (Code 528) is being followed and grazing is being deferred for a minimum of two years.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E391B

Increase stream shading for stream temperature reduction

Conservation Practice 391: Riparian Forest Buffer

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 15 years

State Criteria

Existing riparian forest buffer to be extended must be 35 feet wide measured outward and perpendicular to the stream from a point at the top of the bank adjacent to the stream or from the shoreline of the waterbody, based on normal conditions. It is not necessary that the entire stream segment or waterbody under the control of the cooperator be buffered by an existing 35 feet wide buffer. The existing riparian forest buffer must be extended to a minimum of 60 feet wide and may be extended up to a maximum of 180 feet wide – not to exceed the extent of the geomorhic floodplain. The minimum level of implementation is to address the resource concern within the management unit (i.e. field). All areas will meet the minimum 60 feet of riparian forest buffer.

This enhancement cannot be used in regions of the state where trees are not appropriate due to ecological impacts on nearby grassland or wetland habitats not suited to woody cover.

Impaired Waters: Opportunities to use riparian forest buffers to provide benefits to impaired streams or lakes should be considered when they are located within the contracted acres and/or if runoff from riparian area, drainage ways or streams enters directly (within 2000') into impaired streams and/or lakes. See Nebraska DEE Surface Water Quality Integrated Report for listing of impaired waters.

CONSERVATION STEWARDSHIP PROGRAM

Species planted to extend the riparian forest buffer must contain the following:

- A minimum of 5 species of trees or shrubs must be used in combination to meet the 391 NE CPS Riparian Forest Buffer 2011 standard.
- One flowering shrub must be used on the outer edge of all riparian forest buffers.
- Prioritize the use of trees/shrub species and design of riparian forest buffer that provides maximum shading of stream, especially during hottest part of the day or summer season.
- All trees and shrubs used within the riparian forest buffer planting must be native (by Vegetative Zone) and adapted to site conditions. (See Table 11 in FOTG Section II Windbreak Interpretations)
- Coniferous species are not acceptable to be used.
- Any area planted to filter strip on the outer edge of the buffer must meet the 393 NE CPS Filter Strip 2019 standard. Acceptable grass species are located on the "wildlife friendly" plant list.
- All herbaceous seedings must contain forbs and/or legumes at a seeding rate of 10% to 25% of the grass mixture (4 PLS/ft^2 to 10 PLS/ft^2). Acceptable species are located on the "wildlife friendly" plant list.

Document recommended site preparation, planting method, tree/shrub species, seed mixture, seeding rates and other pertinent information on the Herbaceous_Vegetation_Seeding_Design_Worksheet_2020 and/or the Tree and Shrub Planting Implementation Requirements 2014 and associated attachments.

The following activities are allowed for operation/maintenance and management:

No haying or grazing is allowed within the zone planted to trees and shrubs.

Haying is permitted on filter strip areas (which may be planted on the outermost zone) up to one time per three year period (following establishment) provided it is conducted after July 15 and prior to September 1.

Grazing is permitted on filter strip areas (which may be planted on the outermost zone) up to one time per three year period (following establishment) provided it is conducted after July 15 and does not exceed a 30 day period during the growing season OR a 60 day period during the dormant season.

Specific management practices approved by NRCS and intended to improve plant diversity and vigor are allowed on filter strip areas which may be planted on the outermost zone but are not required during the CSP contract period. These activities include prescribed burning, tillage and interseeding, and/or site-specific herbicide treatments to accommodate interseeding desired grasses, forbs, or legumes.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E391C

CONSERVATION STEWARDSHIP PROGRAM

Increase riparian forest buffer width to enhance wildlife habitat

Conservation Practice 391: Riparian Forest Buffer

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Associated Ag Land; Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 15 Years

Enhancement Description

Where an existing riparian forest buffer is located along a river, stream, pond, lake, or other waterbody, increase the diversity of native species, control invasive species, install fencing and relocate equipment operations, trails, and livestock to increase the functional width of the buffer.

Criteria

- Existing buffer width shall be at least 35 feet or (if applicable) the minimum State buffer-width requirement, whichever is greater. Buffer width shall be increased to 60 feet and may be extended up to 180 feet or the State-allowed maximum width.
- The management plan shall consider habitat and wildlife objectives such as habitat diversity, habitat linkages, daily and seasonal habitat ranges, limiting factors, and native plant communities.
- Establish plant communities that address aquatic, terrestrial wildlife and pollinator needs and have multiple values such as habitat enhancement and nutrient uptake.

- Dominant vegetation will consist of existing, naturally regenerated, or seeded/planted trees and shrubs suited to the soil and hydrology of the site.
- Use tree and shrub species that are native and non-invasive. Substitution with improved and locally accepted cultivars or purpose-specific species is allowed. For plantings and seeding, only viable, high-quality and adapted plant materials will be used.
- Favor tree and shrub species that have multiple values such as those suited for timber, nuts, fruit, florals, browse, nesting, and aesthetics.
- Periodic removal of some forest products such as high value trees, medicinal herbs, nuts, and fruits is permitted provided the buffer area is not compromised by the loss of vegetation or harvesting disturbance.
- Necessary site preparation and planting shall be done at a time and manner to insure survival and growth of selected species.
- Harmful plant and animal pests present on the site will be controlled or eliminated as necessary to achieve and maintain the intended purpose. Pest management will be conducted in a manner that mitigates impacts to pollinators.
- Protect riparian vegetation until the desired plant community is well established.
- Livestock shall be controlled or excluded as necessary to achieve the buffer's water quality improvement purpose. If livestock is present, follow a Prescribed Grazing Plan (CPS 528) and defer grazing for a minimum of two years.
- Design the expanded buffer enhancement for an expected life of at least 15 years.
- The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, prepare the planned buffer area according to the planting plan NRCS has developed with you. Refer to NRCS Conservation Practice Standard Riparian Forest Buffer (Code 391). (NRCS will provide technical assistance.)

☐ Prior to implementation, select planting dates, methods, and density/spacing appropriate for the site and soil conditions. (NRCS will provide technical assistance.)

Planting Date	
Planting Method	
Density and spacing	

☐ Prior to implementation, work closely with NRCS to select diverse native and naturally regenerated or seeded/planted trees and shrubs that are adapted to your specific site and meet the wildlife habitat objectives of this enhancement.

Species	Vegetative or Rootstock	Size	Protection (tubes, mats, nets)

☐ During implementation, conduct planting of selected species according to dates, methods, spacing and other requirements listed in the planting plan.

☐ During implementation, install and maintain erosion control measures as needed, such as, silt fencing and mulching.

☐ During implementation, notify NRCS of any planned changes to allow NRCS to verify that the changes meet NRCS enhancement criteria.

☐ After Implementation, control harmful pests and vegetation to reduce competition for water, nutrients, and space and in a manner that limits effects to pollinators. Inspect and maintain tubes and protection measures regularly.

- After implementation, livestock and wildlife may need be controlled or excluded to achieve the buffer's habitat enhancement purpose. If livestock are present, follow a Prescribed Grazing Plan (Code 528) and defer grazing for a minimum of two years. Wildlife may need to be controlled during establishment of vegetative treatments. Temporary and local population control methods should be used with caution and within state and local regulations.

NRCS will:

- Prior to implementation, provide and explain NRCS Conservation Practice Standard Riparian Forest Buffer (Code 391) to show how it relates to this enhancement.

- Prior to implementation, verify no plants on the Federal or state noxious weeds list are included in the planting list.

- Prior to implementation, NRCS will provide technical assistance on:

    - Site preparation and planting plan that meets NRCS Conservation Practice Standard Riparian Forest Buffer (Code 391) and lists the species, vegetation type, density, protection measures, and planting dates.

    - Selecting planting techniques and timing appropriate for the site and soil conditions.

    - Having the participant consider planting a more diverse number of species that help establish plant communities to address targeted aquatic and terrestrial wildlife and pollinator needs.

    - Preparing specifications for applying this enhancement for each site using approved state implementation requirements, national technical notes, appropriate state technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

- During implementation, review any planned changes to ensure they meet the enhancement criteria.

- During implementation, verify all erosion control needed for the site is functioning and is maintained to specifications provided to the participant.

- ☐ After implementation, verify the vegetation was established, and any protections required are being maintained according to specifications provided to the participant.

- ☐ After implementation verify livestock are controlled or excluded as necessary to achieve the buffer's water quality improvement purpose. If livestock are present, verify a Prescribed Grazing Plan (Code 528) is being followed and grazing is being deferred for a minimum of two years.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E391C

Increase riparian forest buffer width to enhance wildlife habitat

Conservation Practice 391: Riparian Forest Buffer

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Fish & Wildlife – Animals

ENHANCEMENT LIFE SPAN: 15 years

State Criteria

Existing riparian forest buffer to be extended must be 35 feet wide measured outward and perpendicular to the stream from a point at the top of the bank adjacent to the stream or from the shoreline of the waterbody, based on normal conditions. It is not necessary that the entire stream segment or waterbody under the control of the cooperator be buffered by an existing 35 feet wide buffer. The existing riparian forest buffer must be extended to a minimum of 60 feet wide and may be extended beyond the minimum up to a maximum of 180 feet wide – not to exceed the extent of the geomorhic floodplain. The minimum level of implementation is to address the resource concern within the management unit (i.e. field). All areas will meet the minimum 60 feet of riparian forest buffer.

This enhancement cannot be used in regions of the state where trees are not appropriate due to ecological impacts on nearby grassland or wetland habitats not suited to woody cover.

Impaired Waters: Opportunities to use riparian forest buffers to provide benefits to impaired streams or lakes should be considered when they are located within the contracted acres and/or if runoff from riparian area, drainage ways or streams enters directly (within 2000') into impaired streams and/or lakes. See Nebraska DEE Surface Water Quality Integrated Report for listing of impaired waters.

CONSERVATION STEWARDSHIP PROGRAM

Species planted to extend the riparian forest buffer must contain the following:

- A minimum of 5 species of trees or shrubs must be present/planted in combination to meet the 391 NE CPS Riparian Forest Buffer 2011 standard.
- One flowering shrub must be used on the outer edge of all riparian forest buffers.
- Prioritize the use of trees/shrub species and design of riparian forest buffer that provide optimal wildlife habitat features including mast production, browse, or cover types.
- All trees and shrubs used within the riparian forest buffer planting must be native (by Vegetative Zone) and adapted to site conditions. (See Table 11 in FOTG Section II Windbreak Interpretations)
- Coniferous species are not acceptable to be used.
- Any area planted to filter strip on the outer edge of the buffer must meet the 393 NE CPS Filter Strip 2019 standard. Acceptable grass species are located on the "wildlife friendly" plant list.
- All herbaceous seedings must contain forbs and/or legumes at a seeding rate of 10% to 25% of the grass mixture (4 PLS/ft^2 to 10 PLS/ft^2). Acceptable species are located on the "wildlife friendly" plant list.

Document recommended site preparation, planting method, tree/shrub species, seed mixture, seeding rates and other pertinent information on the Herbaceous_Vegetation_Seeding_Design_Worksheet_2020 and/or the Tree and Shrub Planting Implementation Requirements 2014 and associated attachments.

The following activities are allowed for operation/maintenance and management:

No haying or grazing is allowed within the zone planted to trees and shrubs.

Haying is permitted on filter strip areas (which may be planted on the outermost zone) up to one time per three year period (following establishment) provided it is conducted after July 15 and prior to September 1.

Grazing is permitted on filter strip areas (which may be planted on the outermost zone) up to one time per three year period (following establishment) provided it is conducted after July 15 and does not exceed a 30 day period during the growing season OR a 60 day period during the dormant season.

Specific management practices approved by NRCS and intended to improve plant diversity and vigor are allowed on filter strip areas which may be planted on the outermost zone but are not required during the CSP contract period. These activities include prescribed burning, tillage and interseeding, and/or site-specific herbicide treatments to accommodate interseeding desired grasses, forbs, or legumes.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E393A

CONSERVATION STEWARDSHIP PROGRAM

Extend existing filter strip to reduce water quality impacts

Conservation Practice 393: Filter Strip

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 10 Years

Enhancement Description

Extend existing filter strips for water quality protection. Extend the existing buffer for a total of 60 feet or more to enhance water quality functions. The extended buffers must be composed of at least 5 species of non-noxious, wildlife friendly grasses and/or perennial forbs best suited to site conditions. Include species that provide pollinator food and habitat where possible.

Criteria

- Extend existing filter strip for water quality protection.
- Extend the existing buffer for a total of 60 feet or more to enhance water quality functions.
- Overland flow entering the filter strip shall be uniform sheet flow. Concentrated flow shall be dispersed before it enters the filter strip.
- The maximum gradient along the leading edge of the filter strip shall not exceed one-half of the up-and-down hill slope percent, immediately upslope from the filter strip, up to a maximum of 5%.
- Filter strips shall not be used as a travel lane for equipment or livestock.

- The filter strip will be designed to have a 10-year life span, following the procedure in the Agronomy Technical Note No. 2 (Using RUSLE2 for the Design and Predicted Effectiveness of Vegetative Filter Strips (VFS) for Sediment), based on the sediment delivery in RUSLE2 to the upper edge of the filter strip and ratio of the filter strip flow length to the length of the flow path from the contributing area.

- The filter strip shall be located immediately downslope from the source area of contaminants.

- The drainage area above the filter strip shall have a slope of 1% or greater.

- The extended buffers must be composed of at least 5 species of non-noxious, wildlife friendly grasses and/or perennial forbs best suited to site conditions. Include species that provide pollinator food and habitat where possible. State-listed noxious or invasive plants will not be established in the filter strip.

- The filter strip shall be established to permanent herbaceous vegetation. Species selected shall be:
    - able to withstand partial burial from sediment deposition and
    - tolerant of herbicides used on the area that contributes runoff to the filter strip.

- Species selected shall have stiff stems and a high stem density near the ground surface.

- Species selected for seeding or planting shall be suited to current site conditions and intended uses.

- Selected species will have the capacity to achieve adequate density and vigor within an appropriate period to stabilize the site sufficiently to permit suited uses with ordinary management activities.

- Species, rates of seeding or planting, minimum quality of planting stock, such as pure live seed or stem caliper, and method of establishment shall be specified before application. Only viable, high quality seed or planting stock will be used.

- Site preparation and seeding or planting shall be done at a time and in a manner that best ensures survival and growth of the selected species. What constitutes successful

establishment, e.g. minimum percent ground/canopy cover, percent survival, stand density, etc. shall be specified before application.

- Planting dates shall be scheduled during periods when soil moisture is adequate for germination and/or establishment. Seeding shall be timed so that tillage for adjacent crop does not damage the seeded filter strip.

- The minimum seeding and stem density shall be equivalent to a high-quality grass hay seeding rate for the climate area or the density of vegetation selected in RUSLE2 to determine trapping efficiency, whichever is the higher seeding rate.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, prepare the planned acres for vegetation establishment. Refer to NRCS Conservation Practice Standard Filter Strip (Code 393). (NRCS will provide technical assistance, as needed.) Total planned amount of filter strip extension = _____feet

☐ Prior to implementation, select at least 5 species of non-noxious, wildlife friendly grasses and/or perennial forbs best suited to site conditions. (NRCS will provide technical assistance, as needed.)

Species	Seeding Rate (lb/ac pure live seed)	Note specific species characteristic(s)

☐ Prior to implementation, select planting technique and timing appropriate for the site and soil conditions. (NRCS will provide technical assistance, as needed.)

Planting Date	
Planting Technique	

☐ During implementation, install and maintain erosion control measures as needed for the site. (NRCS will provide technical assistance, as needed.)

☐ During implementation, notify NRCS of any planned changes to verify changes meet NRCS enhancement criteria.

☐ During implementation, protect the planting from plant and animal pests and fire.

☐ After implementation, maintain and protect the planting from plant and animal pests and fire.

☐ After implementation, verify the total amount of filter strip implemented. Total implemented amount of filter strip extension = _____feet

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ Prior to implementation, verify the enhancement is planned for cropland.
- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Filter Strip (Code 393) as it relates to implementing this enhancement.
- ☐ Prior to implementation, verify the enhancement is planned for acres that have been appropriately prepared for filter strip establishment. Total planned amount of filter strip extension = _____feet
- ☐ Prior to implementation, verify no plants on the Federal or state noxious weeds list are included.
- ☐ As needed, prior to implementation, NRCS will provide technical assistance:
    - o Planning site preparation meeting NRCS Conservation Practice Standard Filter Strip (Code 393).
    - o Selecting the wildlife friendly grasses and/or perennial forbs best suited to site conditions.
    - o Selecting planting techniques and timing appropriate for the site and soil conditions.
    - o Planning the use of additional erosion control, as needed for the site.
    - o Preparing specifications for applying this enhancement for each site using approved state implementation requirements, national technical notes, appropriate state technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ After implementation, verify the vegetation was established to specifications developed for the site.
- ☐ After implementation, verify the planting is protected from pests and fire.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ After implementation, verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.
- ☐ After implementation, verify the total amount of filter strip implemented. Total implemented amount of filter strip extension = _____feet

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

E393A
Using cover crops for biological strip till

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Cover Crop Requirements

- Cover crops cannot be harvested or grazed
- Cover crops must follow planting dates, seeding rates, method of planting and other requirements in 340 NE CPS Cover Crop 2014. Specifications will be provided on the 340_NE_IR_Cover_Crop_Design_Worksheet_2021 (formerly known as Cover Crop worksheet NE-CPA-7).
- Establish strips of a cover crop with a low C:N ratio where the rows of the subsequent crop will be planted. Recommended species include most brassicas or legumes such as radish, field peas, cowpeas, mung beans, etc. These must be planted 6-8 weeks prior to the average date of first killing frost to ensure adequate growth.
- Establish cover crop species with a high C:N ratio between the strips to provide lasting cover for the subsequent crop. Recommended species include most grass species such as pearl millet, sorghum, oats, rye, etc. At least one species in the mix should overwinter and should be allowed to grow as long as possible the following spring to maximize the amount of biomass between rows to reduce evaporation and control weeds.

Participant will:

1. **Complete the attached Cropping System Inventory Sheets to provide more detailed information about the existing and planned cropping systems.**
2. **Complete, sign, and attach 340_NE_IR_Cover_Crop_Design_Worksheet_2021 (formerly known as Cover Crop worksheet NE-CPA-7).**

☐ **Document the current cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Ex. T123	1, 2	Soybeans	Corn		May 1	Disk
				15”	May 15	Planter with double disk openers
					October 20	Harvest

Table continued:

Ex. T123	1, 2	Soybeans	Corn		May 1	Disk
				15"	May 15	Planter with double disk openers
					October 20	Harvest

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1, 2	14.2, 7.2	N	Corn – Soybeans – Cover Crop	C-140, B- 40

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1, 2	Soybeans	Corn		May 1	Disk
				15"	May 15	Planter with double disk openers
					October 20	Harvest

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E393A

Extend existing filter strip to reduce water quality impacts

Conservation Practice 393: Filter Strip

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

Existing filter strip to be extended must occur in the zone measured outward and perpendicular to the stream from a point at the top of the bank adjacent to the stream. The existing filter strip/riparian herbaceous cover must be extended so that the total buffer is 60 feet or more wide at all portions of the stream segment needing treatment. The minimum level of implementation is to address the resource concern within the management unit (i.e. field).

Impaired Waters: Opportunities to use filter strips to provide benefits to impaired streams or lakes should be considered when they are located within the contracted acres and/or if runoff from riparian area, drainage ways or streams enters directly (within 2000') into impaired streams and/or lakes. See Nebraska DEE Surface Water Quality Integrated Report for listing of impaired waters.

Mixture planted to extend the filter strip or riparian herbaceous cover must contain the following: A minimum of 5 species of grasses and forbs or legumes used in combination to meet the NRCS 393 NE CPS Filter Strip 2019. This requires a minimum seeding rate of 40 PLS/ft^2 for grasses and 60% of the grass mixture shall consist of sod-forming, stiff-stemmed species. Acceptable grass species are located on the "wildlife friendly" plant list.

CONSERVATION STEWARDSHIP PROGRAM

All seedings must contain forbs and/or legumes at a seeding rate of 10% to 25% of the grass mixture (4 PLS/ft^2 to 10 PLS/ft^2). Acceptable species are located on the "wildlife friendly" plant list.

Document recommended site preparation, planting method, seed mixture, seeding rates and other pertinent information on the Herbaceous_Vegetation_Seeding_Design_Worksheet_2020.

The following activities are allowed for operation/maintenance and management:
Haying (including harvest for biomass) is permitted up to once per three year period (following establishment) provided it is conducted after July 15 and prior to September 1.

Grazing is permitted once per three year period (following establishment) provided it is conducted after July 15 and does not exceed a 30 day period during the growing season OR a 60 day period during the dormant season.

Specific management practices approved by NRCS and intended to improve plant diversity and vigor are allowed but are not required during the CSP contract period. These activities include prescribed burning, tillage and interseeding (on areas outside of the 20 feet zone closest to the stream), and/or site-specific herbicide treatments to accommodate interseeding desired grasses, forbs, or legumes. Management activities will promote native species growth and prevent encroachment from undesirable species.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E395A

Stream habitat improvement through placement of woody biomass

Conservation Practice 395: Stream Habitat Improvement & Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 years

Enhancement Description

Flexible placement of wood (unanchored/unpinned) in small, 1st and 2nd order streams to improve stream habitat conditions for aquatic species and natural stream processes.

Criteria

- Provide a heterogeneous and complex physical habitat consistent with the physiographic setting that is important to fish and other aquatic species in the watershed.
- Apply to 1st- and 2nd-order streams, typically less than 15 feet wide, that are lacking in woody biomass. The stream should not be actively incising or down cutting.
- Develop a written plan detailing the actions, including a map indicating the action locations, for the stream segment(s) being impacted.
- Obtain all necessary Clean Water Act, Section 404 permits, and other federal, state or local permits, as required.
- If present, implement upstream of beaver flowages or wetlands which will collect wood moving downstream.

- Select stream segments where ample canopy cover exists and cut trees will not greatly reduce shading. Refrain from cutting trees on the stream bank, which are creating undercut banks or adding to the stability of the system.
- Leave felled logs on floodplains to increase roughness elements that will reduce the effects of flooding and create wildlife habitat.
- Develop areas called “strainers” where a few large trees can be felled across the stream on the downstream end of the treatment area to collect any wood which may dislodge during high flows.
- Cut trees a few feet from the ground leaving a higher than normal stump on the downstream side to help secure recently cut trees.
- Where possible, utilize trees with full intact root wads to create complex habitat.
- Design the expanded buffer enhancement for an expected life of at least 5 years.

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Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, develop a written plan detailing proposed actions, including a map indicating the action locations for the stream segment(s) being impacted, using Conservation Practice Standard Stream Habitat Improvement and Management (Code 395). (NRCS will provide technical assistance, as needed.)

- ☐ Prior to implementation, obtain all necessary Clean Water Act, Section 404 permits, and other federal, state or local permits, as required.

- ☐ Prior to implementation, document pre-treatment conditions of the area including the use of representative digital images/photos.

- ☐ During implementation, place wood using appropriate methods to provide complex and diverse stream habitat as per the plan and specifications.

- ☐ During implementation, notify NRCS of any planned changes to verify the planned system meets the enhancement criteria.

- ☐ After implementation, document post-treatment conditions of the area including the use of representative digital images/photos.

- ☐ After implementation, conduct periodic inspections and prompt repair or modification of any structures that are found to cause excessive streambank or streambed instability.

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement, including NRCS engineering oversight where required.

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Stream Habitat Improvement and Management (Code 395) as it relates to implementing this enhancement.

- ☐ Prior to implementation, ensure that the planned habitat enhancement is consistent with the physiographic setting for fish and other aquatic species in the watershed. Use the NRCS Stream Visual Assessment Protocol, Version 2 or comparable evaluation

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tool(s) to ensure that the planned activities will meet or exceed the minimum planning criteria for stream habitat in Section II of the FOTG.

- ☐ Prior to implementation, ensure that all necessary Clean Water Act, Section 404, and other federal, state, or local permits have been acquired and cover the planned work.
- ☐ Prior to implementation, prepare specifications for applying this enhancement using Code 395, approved state implementation requirements, national technical notes, state technical notes, and other appropriate guidance.
- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ During implementation, verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.
- ☐ After implementation, verify that the stream enhancement was established to specifications developed for the site. Use pre- and post-treatment images/photos of the area as part of this verification.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E395A

Stream habitat improvement through placement of woody biomass

Conservation Practice 395: Stream Habitat Improvement & Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 years

State Criteria

Streams segments eligible for this enhancement must be considered 1st or 2nd order streams and support a defined bed and bank. Streams actively incising or down cutting are not eligible for this enhancement since placement of coarse woody debris in the channel may have undesired impacts. All portions of the treated stream must be protected by a minimum buffer of 35 feet or more (at all points along both sides of the stream) and this buffer maintained throughout the contract period.

Habitat features required and suitable for the site will be determined with input from a wildlife biologist (including those with a fisheries specialization). Draft plans will be approved by the NRCS State Wildlife Biologist prior to implementation. Site specific plans will include a plan map with proposed habitat features noted as well as descriptions and drawings of these features as needed. As a general rule, consider each "reach" of the stream separately in the plan or join similar reaches. A "reach" is defined as a length that is roughly 12 times the average width of the active channel.

Prioritize the use of undesirable or invasive woody species that are suitable for the purpose of the habitat feature in order to improve the condition of the adjacent riparian woody buffer. Structures of coarse woody debris should be designed in a way to persist through some degree of high flows.

Calculate the total acreage treated for this enhancement and eligible for payment by multiplying the average top width of the stream channel with the total length of channel treated with placement of woody biomass.

Examples of required actions within a plan to meet these requirements include the following:

- Installation of a new or widened buffer and/or improvement of species composition of buffer
- Additional management actions can also be incorporated to a limited degree to address habitat features for target species. This may include rock or boulder placement to compliment the coarse woody debris or other applicable habitat developments

Requirements for woody biomass installation:

- Bank stability must be addressed with the plan to ensure eroding areas are adequately treated and that installed structures do not create undesired bank erosion.
- A portion of the woody biomass will be placed so it is in the water during low flows.
- One large (at least 8 inches in diameter) interlocking piece of debris should be oriented roughly parallel to the flow with the large heavy ends pointing upstream to extend the longevity of the structure.
- Other woody pieces may be interlocked oriented perpendicular to the stream to create desired effects. Debris will be naturally or artificially anchored to prevent washing down stream.
- Debris should not mimic a dam, and will allow flow of water through the structure.
- Create a complex with multiple structures varying in size. Structures should not be closer than 50 feet within the stream. A minimum of two structures will be installed.

Recommended management actions should be commensurate with payment rates and adequate to address the required need for the stream reach to be treated.

Participant is encouraged to document implementation of coarse woody debris features and other habitat developments using digital images/photos.

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

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E395A

Stream habitat improvement through placement of woody biomass

Conservation Practice 395: Stream Habitat Improvement & Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 years

State criteria

Streams segments eligible for this enhancement must be considered 1st or 2nd order streams and support a defined bed and bank. Streams actively incising or down cutting are not eligible for this enhancement since placement of coarse woody debris in the channel may have undesired impacts. All portions of the treated stream must be protected by a minimum buffer of 35 feet or more (at all points along both sides of the stream) and this buffer maintained throughout the contract period.

Habitat features required and suitable for the site will be determined with input from a wildlife biologist (including those with a fisheries specialization). Draft plans will be approved by the NRCS State Wildlife Biologist prior to implementation. Site specific plans will include a plan map with proposed habitat features noted as well as descriptions and drawings of these features as needed. As a general rule, consider each "reach" of the stream separately in the plan or join similar reaches. A "reach" is defined as a length that is roughly 12 times the average width of the active channel.

Prioritize the use of undesirable or invasive woody species that are suitable for the purpose of the habitat feature in order to improve the condition of the adjacent riparian woody buffer. Structures of coarse woody debris should be designed in a way to persist through some degree of high flows.

Calculate the total acreage treated for this enhancement and eligible for payment by multiplying the average top width of the stream channel with the total length of channel treated with placement of woody biomass.

Examples of required actions within a plan to meet these requirements include the following:

- Installation of a new or widened buffer and/or improvement of species composition of buffer
- Additional management actions can also be incorporated to a limited degree to address habitat features for target species. This may include rock or boulder placement to compliment the coarse woody debris or other applicable habitat developments

Requirements for woody biomass installation:

- Bank stability must be addressed with the plan to ensure eroding areas are adequately treated and that installed structures do not create undesired bank erosion.
- A portion of the woody biomass will be placed so it is in the water during low flows.
- One large (at least 8 inches in diameter) interlocking piece of debris should be oriented roughly parallel to the flow with the large heavy ends pointing upstream to extend the longevity of the structure.
- Other woody pieces may be interlocked oriented perpendicular to the stream to create desired effects. Debris will be naturally or artificially anchored to prevent washing down stream.
- Debris should not mimic a dam, and will allow flow of water through the structure.
- Create a complex with multiple structures varying in size. Structures should not be closer than 50 feet within the stream. A minimum of two structures will be installed are planted at or less than 1/4" deep.

Recommended management actions should be commensurate with payment rates and adequate to address the required need for the stream reach to be treated.

Participant is encouraged to document implementation of coarse woody debris features and other habitat developments using digital images/photos.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E399A

Fishpond management for native aquatic and terrestrial species

Conservation Practice 399: Fishpond Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Farmstead; Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Pond rehabilitation, buffer, and watershed management actions are taken to improve habitat for native species of fish, amphibians, and shorebirds.

Criteria

- The pond must meet the requirements of NRCS Conservation Practice Standard Pond (Code 378).
- Where feasible, retain features such as trees in the upper reaches of the pond and stumps in the pool area. If necessary, shape upper reaches of the pond to provide shallow areas and wetland habitat.
- Based on client objectives and local regulations develop a pond management plan that specifies species selection, stocking rates, and ratios. Develop species selection, stocking rates, and ratios with respect to the size, depth, water temperature, and water quality of the pond to be stocked.
- Use native species that are locally adapted for use in ponds, lakes, or reservoirs. Comply with state and local regulations when selecting species to be stocked. Control nuisance non-native species in compliance with state and local regulations.

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- If needed, use of supplemental aeration equipment to improve gas transfer, water quality, and minimize fish stress within the impoundment.
- Protect the site from flooding, sedimentation, and contamination. Use erosion control and nutrient and pest management conservation practices in the watershed to maintain water quality and reduce sediment production.
- Establish a minimum 35-foot vegetated buffer around the pond. Improve the diversity of native or natural shrub and/or herbaceous plant species suitable for the site and appropriate for the riparian and aquatic species. Exclude livestock from the pond and the buffer area.
- Grassy cover around the impoundment that may provide nesting habitat should not be mowed until after the primary nesting season.

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Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, have a written plan detailing proposed actions, including proposed fish stocking and pond, pond buffer area, and watershed actions. Refer to NRCS Conservation Practice Standards Riparian Herbaceous Cover (Code 391) and Fishpond Management (Code 399). (NRCS will provide technical assistance, as needed.)
- ☐ During implementation, if necessary as per the plan, shape upper reaches of the pond to provide shallow areas and wetland habitat.
- ☐ During implementation, if necessary as per the plan, install aeration equipment.
- ☐ During implementation, as per the plan, stock the pond using native species that are locally adapted and that comply with state and local regulations.
- ☐ During implementation, establish a minimum 35-foot vegetated buffer around the pond. In this buffer, improve the diversity of native or natural shrub and/or herbaceous plant species suitable for the site.
- ☐ During implementation, notify NRCS of any planned changes to verify the planned system meets the enhancement criteria.
- ☐ After implementation, use erosion control and nutrient and pest management conservation practices and activities in the pond's contributing watershed to maintain water quality, reduce sediment production, and control pests.
- ☐ After implementation, protect the pool and buffer area from livestock, and do not mow the buffer area around the impoundment until after the primary nesting season.

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ Prior to implementation, verify the pond meets the requirements of NRCS Conservation Practice Standards Pond (Code 378).
- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standards Fishpond Management (Code 399) and Riparian Herbaceous Cover (Code 390) as they relate to implementing this enhancement.

- ☐ Prior to implementation, based on client objectives and local regulations, help develop a pond management plan that specifies species selection, stocking rates, and ratios, and that complies with state and local regulations.

- ☐ Prior to implementation, as needed, prepare specifications for applying this enhancement using NRCS Conservation Practice Standards Riparian Herbaceous Cover (Code 391) and Fishpond Management (Code 399), approved state implementation requirements, national technical notes, state technical notes, and other appropriate guidance.

- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.

- ☐ After implementation, verify that fish stocking was done properly, that buffer vegetation was established to specifications developed for the site, and that appropriate erosion control, nutrient management, and pest management conservation practices are being used in the pond's contributing watershed.

- ☐ After implementation, verify the pond and buffer area is being protected from inappropriate mowing and livestock use

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E399A

Fishpond management for native aquatic and terrestrial species

Conservation Practice 399: Fishpond Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

State criteria

Ponds must meet the requirements of the conservation practice standard for 378 NE CPS Pond 2018 but can include those formed by excavation or embankment (or some combination of both). Identify the target species of wildlife with priority placed on the aquatic species. Target species must be native. (Note: many game fish species stocked into ponds are not native and may negatively impact other target species – for example, tiger salamander. If non-native game species are present in the pond, the management plan must still accommodate and provide benefits to the target native species.)

It is acceptable to eliminate nuisance non-native species from the pond (i.e. common carp using rotenone) provided that coordination occurs with Nebraska Game and Parks Commission and all regulations are addressed.

Habitat features required and suitable for the site will be determined with input from a wildlife biologist (including those with a fisheries specialization). Draft plans will be approved by the NRCS State Wildlife Biologist prior to implementation. Site specific plans will include a plan map with proposed habitat features noted as well as descriptions and drawings of these features as needed.

Calculate the total acreage treated for this enhancement and eligible for payment by determining the average surface area of the pond in an average or typical year.

Examples of suitable management actions to implement include the following:

- Installation of a new or widened buffer and/or improvement of species composition of

buffer

- Removal of invasive and non-native aquatic species such as common carp and stocking of suitable native species (fish, amphibians, mollusks, etc.) with all stocking in accordance with state regulations
- Creation of underwater habitat features to aquatic species such as brush piles, rock/gravel beds, etc. – only natural materials or clean concrete are allowed
- Manipulation of depth, creating varying topographic features and siltation traps
- Treatment of water chemistry factors by adding barley straw, alum, and other materials
- Use of a water control structure to manipulate water levels to benefit target species

Recommended management actions should be commensurate with payment rates and adequate to address the limiting factor for the target species.

Participant is encouraged to document implementation of management actions not readily visible (i.e. underwater habitat) using digital images/photos.

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Conservation Enhancement Activity

CONSERVATION STEWARDSHIP PROGRAM

E412A

Enhance a grassed waterway

Conservation Practice 412: Grassed Waterway

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN ADDRESSED: Water Quality Degradation

ENHANCEMENT LIFE SPAN: 10 year

Enhancement Description

Extending, enlarging or increasing protection for an existing grassed waterway for better water quality protection.

Criteria

This enhancement shall include all the following:

- Enhance the waterway by improving either size, length or outlet, using one or more of the following options:
  - Lengthen the waterway further up the slope
  - Extend the waterway further past its current outlet location
  - Reshape, widen, or reconstruct part of the waterway to achieve more flow capacity
- Protect the waterway to help it function properly and improve life expectancy by completing 3 out of 4 the following:
  - Create GPS shapefiles and must be used by applicators for auto-shut off of equipment (spraying and/or fertilizing) passing by or through waterway
  - For fields that the producer owns or operates in the watershed, The STIR value shall be no greater than 40 for each crop in the rotation (maintain high residue)
  - Uniformly distribute residues over the entire field (don't bale residue)
  - Install drain tile on one or both sides of the waterway to maintain vegetation

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Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, choose which fields contain waterways that will be addressed using this enhancement. Decide what will be done from the criteria list.

Field	Waterway ID	Criteria Chosen

- ☐ IF selecting to GPS the boundary of the waterway, provide NRCS with the shapefiles.

- ☐ Prior to implementation, if seeding will be done, prepare the planned acres for vegetation establishment. Total planned amount of waterway = _____feet. Prior to implementation, select grasses best suited to site conditions. Refer to NRCS Conservation Practice Standard Grassed Waterway (Code 412).

- ☐

Species	Seding Rate (lb/ac pure live seed)	Note specific species characteristic(s)

NRCS will:

- ☐ As needed, provide technical assistance in selecting the best option that would meet the criteria of the enhancement.
- ☐ As needed, design the grassed waterway for the participant as requested.
- ☐ As needed, provide additional assistance to the participant as requested.
- ☐ If selecting the option to improve water infiltration in the watershed above the waterway, NRCS will provide the STIR value.

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NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

Conservation Enhancement Activity

E420A

CONSERVATION STEWARDSHIP PROGRAM

Establish pollinator habitat

Conservation Practice 420: Wildlife Habitat Planting

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 Years

Enhancement Description

Seed or plug nectar and pollen producing plants to establish or improve pollinator habitat. These areas may include, but are not limited to, field borders, vegetative barriers, contour buffer strips, shelterbelts, hedgerows, windbreaks, conservation cover, and riparian forest and herbaceous buffers.

Criteria

- A Wildlife Habitat Evaluation Guide (WHEG), must be used to show that 0.5 planning criteria has been met for the inadequate wildlife habitat resource concern. The WHEG used to meet this criterion does not need to be specific to pollinator habitat. (If WHEG score is less than 0.5, consider E327A.)
- A WHEG specific to pollinator habitat must be used to show that, post implementation, the Enhancement is expected to result in the establishment of suitable pollinator habitat or will improve the habitat value of existing pollinator habitat. The following may be used to meet this criterion:
    - [For circumstances where planning criteria for pollinator habitat is currently below 0.5] Post implementation, planning criteria for pollinator habitat is equal to or greater than 0.6.

      OR

- [For circumstances where planning criteria for pollinator habitat is at 0.5 or greater] Post implementation, planning criteria for pollinator habitat increases at least 0.1

- Habitat areas must be at least 0.5 acres for each 40 acres of the selected land use. Where the selected land use is less than 40 acres, the required amount of habitat will be reduced according to the ratio of 0.5 acres to 40 acres. The NRCS State Biologist must agree to habitat areas less than 0.25 acres. Where the selected land use is greater than 40 acres, the 0.5 acre habitat areas(s) may be a single site or interspersed sites in the larger land use areas as agreed to by the NRCS State Biologist.

- Establish habitat for pollinators as described below:

A. Planting Criteria

1. NRCS at the state level will develop lists of plants suitable for pollinator habitat.

   The lists must emphasize as many native species as practical.

2. The habitat planting will include (as a minimum) three early, three mid, and three late flowering species from the NRCS state list including forbs, legumes, vines, shrubs, and/or trees. Plants that produce toxic nectar will not be planted.

3. Any other use of the pollinator habitat area must not compromise its intended purpose.

4. Site selection should consider existing weed pressures and available methods of control. Delay planting if high weed pressure requires aggressive treatment.

5. Suppression of weeds and plant establishment will be accomplished according to the appropriate NRCS conservation practice standards and specifications.

6. Successful establishment is when the planting is providing at least 80% canopy cover, visually estimated, and that the resultant cover consists primarily of the early, mid, and late blooming species planted for pollinators.

7. Insecticides should not be used in the habitat planting area.

8. Herbicides are allowed during site preparation (prior to planting) when it is necessary to eliminate competing weeds from a planting area in order for nectar and pollen producing plants to establish.

9. After a pollinator enhancement has been planted, herbicides may be spot-sprayed to remove broad-leaf weeds, or grass-selective herbicides may be applied to larger areas to eliminate persistent weedy grasses. Similarly, the entire site may be mowed in the first year post-planting to reduce annual or biennial weeds that persist (site should be mowed just before dominant annual weeds flower). Mowing height must not be too short so as to compromise the planting. A general guideline is 8 to 10 inches.

B. Operation and maintenance

1. Management and/or maintenance activities such as mowing, haying, burning, or grazing must be conducted outside of the growing season or bloom period. Maintenance should be done on less than 1/3 of the acreage during any given year, except during the first year post-planting as described in A 9 above.

2. Insecticides should not be used in the habitat planting area. Even non-synthetic botanical insecticides can harm beneficial insects. If adjacent crop areas are treated with insecticides use one or more of the following actions to limit insecticides in the pollinator habitat area:

   (a) Create insecticide free buffers in the first 25 feet of crop area,

   (b) Use application methods that minimize drift to the adjacent habitat,

   (c) Apply active ingredients in the evening when most insect pollinators are not active.

3. The planted habitat areas must be regularly inspected for invasive and/or noxious plants or other plants that may compromise the purpose of this enhancement. Undesirable species should be controlled using the method that is least likely to inadvertently impact pollinators. For example, spot-spraying with herbicide or physical removal of undesirable plants.

4. If habitat is part of an organic farming operation, only materials allowed according to the USDA National Organic Program's National List of Allowed and Prohibited

Substances may be used.

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Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, develop a map showing the location of proposed habitat areas with notes on land use adjacent to proposed habitat areas to discuss with NRCS staff.
- ☐ During implementation, purchase specified seed mix or plant materials that meets pollinator-specific seeding or planting requirements provided by NRCS.
- ☐ During implementation, follow habitat establishment guidance provided by NRCS in the state specifications for NRCS Conservation Practice Standard Wildlife Habitat Planting (Code 420).
- ☐ After implementation, provide for review by NRCS a list of management and/or maintenance activities carried out to manage the habitat areas and the dates on which those activities occurred.
- ☐ After implementation, take and provide for review photographs as documentation of pollinator habitat area condition during blooming periods.

NRCS will:

- ☐ Prior to implementation, discuss with participant the proposed habitat areas to verify they are in locations suitable for the enhancement.
- ☐ Prior to implementation, provide participant with suitable plant lists.
- ☐ Prior to implementation, provide and explain State specifications for NRCS Conservation Practice Standard Wildlife Habitat Planting (Code 420).
- ☐ Prior to implementation, use WHEG to document 0.5 five planning criteria for the terrestrial habitat resource concern. The WHEG does not need to be a pollinator WHEG.
- ☐ Prior to implementation, provide participant with a recommended seed mix and planting specifications per above criteria (grass/forb ratio; number of forb species per bloom period for pollinator habitat plantings)
- ☐ After implementation, verify successful establishment (per planting criteria above) by review of documentation and photographs.

NRCS Documentation Review:

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I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

CONSERVATION ENHANCEMENT ACTIVITY

E420A

CONSERVATION STEWARDSHIP PROGRAM

Establish pollinator habitat

Conservation Practice 420: Wildlife Habitat Planting

APPLICABLE LAND USE: Crop (Annual and Mixed), Crop (Perennial), Forest, Associated Ag Land, Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Seed or plug nectar and pollen producing plants to establish or improve pollinator habitat. These areas may include, but are not limited to, field borders, vegetative barriers, contour buffer strips, shelterbelts, hedgerows, windbreaks, conservation cover, and riparian forest and herbaceous buffers.

Criteria

- A Wildlife Habitat Evaluation Guide (WHEG), must be used to show that 0.5 planning criteria has been met for the inadequate wildlife habitat resource concern. The WHEG used to meet this criterion does not need to be specific to pollinator habitat. (If WHEG score is less than 0.5, consider E327A.)
- A WHEG specific to pollinator habitat must be used to show that, post implementation, the Enhancement is expected to result in the establishment of suitable pollinator habitat or will improve the habitat value of existing pollinator habitat. The following may be used to meet this criterion:
    - [For circumstances where planning criteria for pollinator habitat is currently below 0.5] Post implementation, planning criteria for pollinator habitat is equal to or greater than 0.6.

      OR
    - [For circumstances where planning criteria for pollinator habitat is at

0.5 or greater] Post implementation, planning criteria for pollinator habitat increases at least 0.1

- Habitat areas must be at least 0.5 acres for each 40 acres of the selected land use. Where the selected land use is less than 40 acres, the required amount of habitat will be reduced according to the ratio of 0.5 acres to 40 acres. The NRCS State Biologist must agree to habitat areas less than 0.25 acres. Where the selected land use is greater than 40 acres, the 0.5 acre habitat areas(s) may be a single site or interspersed sites in the larger land use areas as agreed to by the NRCS State Biologist.
- Establish habitat for pollinators as described below:

A. **Planting Criteria**

1. NRCS at the state level will develop lists of plants suitable for pollinator habitat.

   The lists must emphasize as many native species as practical.

2. The habitat planting will include (as a minimum) three early, three mid, and three late flowering species from the NRCS state list including forbs, legumes, vines, and / or shrubs. Plants that produce toxic nectar will not be planted.
3. Any other use of the pollinator habitat area must not compromise its intended purpose.
4. Site selection should consider existing weed pressures and available methods of control. Delay planting if high weed pressure requires aggressive treatment.
5. Suppression of weeds and plant establishment will be accomplished according to the appropriate NRCS conservation practice standards and specifications.
6. Successful establishment is when the planting is providing at least 80% canopy cover, visually estimated, and that the resultant cover consists primarily of the early, mid, and late blooming species planted for pollinators.
7. Insecticides should not be used in the habitat planting area.
8. Herbicides are allowed during site preparation (prior to planting) when it is necessary to eliminate competing weeds from a planting area in order for nectar and pollen producing plants to establish.
9. After a pollinator enhancement has been planted, herbicides may be spotsprayed to remove broad-leaf weeds, or grass-selective herbicides may be applied to larger areas to eliminate persistent weedy grasses. Similarly, the

entire site may be mowed in the first year post-planting to reduce annual or biennial weeds that persist (site should be mowed just before dominant annual weeds flower). Mowing height must not be too short so as to compromise the planting. A general guideline is 8 to 10 inches.

B. **Operation and maintenance**

1. Management and/or maintenance activities such as mowing, haying, burning, or grazing must be conducted outside of the growing season or bloom period. Maintenance should be done on less than 1/3 of the acreage during any given year, except during the first year post-planting as described in A 9 above.
2. Insecticides should not be used in the habitat planting area. Even non-synthetic botanical insecticides can harm beneficial insects. If adjacent crop areas are treated with insecticides use one or more of the following actions to limit insecticides in the pollinator habitat area:
    i. Create insecticide free buffers in the first 25 feet of crop area,
    ii. Use application methods that minimize drift to the adjacent habitat,
    iii. Apply active ingredients in the evening when most insect pollinators are not active.
3. The planted habitat areas must be regularly inspected for invasive and/or noxious plants or other plants that may compromise the purpose of this enhancement. Undesirable species should be controlled using the method that is least likely to inadvertently impact pollinators. For example, spot-spraying with herbicide or physical removal of undesirable plants.
4. If habitat is part of an organic farming operation, only materials allowed according to the USDA National Organic Program's National List of Allowed and Prohibited Substances may be used.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

- ☐ Prior to implementation, develop a map showing the location of proposed habitat areas with notes on land use adjacent to proposed habitat areas to discuss with NRCS staff.
- ☐ During implementation, purchase specified seed mix or plant materials that meets pollinator-specific seeding or planting requirements provided by NRCS.
- ☐ During implementation, follow habitat establishment guidance provided by NRCS in the state specifications for NRCS Conservation Practice Standard Wildlife Habitat Planting (Code 420).
- ☐ After implementation, provide for review by NRCS a list of management and/or maintenance activities carried out to manage the habitat areas and the dates on which those activities occurred.
- ☐ After implementation, take and provide for review photographs as documentation of pollinator habitat area condition during blooming periods.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ Prior to implementation, discuss with participant the proposed habitat areas to verify they are in locations suitable for the enhancement.
- ☐ Prior to implementation, provide participant with suitable plant lists.
- ☐ Prior to implementation, provide and explain State specifications for NRCS Conservation Practice Standard Wildlife Habitat Planting (Code 420).
- ☐ Prior to implementation, use WHEG to document 0.5 five planning criteria for the terrestrial habitat resource concern. The WHEG does not need to be a pollinator WHEG.
- ☐ Prior to implementation, provide participant with a recommended seed mix and planting specifications per above criteria (grass/forb ratio; number of forb species per bloom period for pollinator habitat plantings)
- ☐ After implementation, verify successful establishment (per planting criteria above) by review of documentation and photographs.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E420A

Establish pollinator habitat

Conservation Practice 420: Wildlife Habitat Planting

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Forest; Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 years

State criteria

Configuration: Habitat areas must be at least 0.5 acres, regardless of the size of the selected land use. Habitat areas must be located within each 40 acre block unless sites with unique configurations are approved by the NRCS/Xerces biologist. As a general rule, habitat areas established within the cropland land use must follow these criteria. Habitat areas for adjoining 40 acre blocks may be located side-by-side. It may be useful to install longer, narrower, habitat areas (minimum of 100 feet wide) along the border of crop fields to benefit spatial distribution.

For sites containing perennial cover as the land use (pasture, range, forest, etc.) and flowering plants are a component of that perennial cover, additional "grouping" of habitat areas may occur provided that no portion of the internal land use is greater than ½ mile (2,640 feet) from an established habitat area.

Protection from direct application and drift of insecticides, fungicides, and herbicides should be addressed by site selection and ongoing management. If pollinator plantings are next to a treated crop/area (including treated seed and insecticide, fungicide, or herbicide applications) a 30 ft buffer is required, 100 ft buffers are recommended. Buffers should be maintained as flower free areas. Leaving 30-100 ft of crop rows untreated near field borders can serve as a buffer.

Species Composition, Selection, and Planting: This enhancement requires the use of wildflowers and native grass species found in the region listed in Pollinator Plants of Nebraska. Contact the Xerces/NRCS biologist for approval of the use of any additional species for this enhancement.

Seedings must incorporate nine flowering species, with three blooming species in each bloom

period, at a minimum of 75% of the seeding rate (based on PLS seeds/ft2). One species of acceptable non-native forbs and one species of acceptable regionally native species in Pollinator Plants of Nebraska may be included. No single wildflower species (native or non-native) should comprise more than 10% of the mix (based on PLS seeds/ft2).

Total seeding rates should be a minimum of 25 PLS/ft2 but higher seeding rates are encouraged and may provide better cover and establishment and reduce weed invasion.

If pest control by beneficial insects is desired, select plant species identified as valuable for beneficial insects for the region on Pollinator Plants of Nebraska. For targeted pest control, see Habitat Planning for Beneficial Insects: Guidelines for Conservation Biological Control (available on The Xerces Society website) or contact the NRCS/Xerces biologist. Use the NE-CPA-8 Grass Seeding Job Sheet to document seed mixes for this enhancement. If existing habitat areas are comprised of mostly native grasses and forbs and no non-native aggressive grasses are present, pollinator plants may be interseeded after grass suppression and thatch management outlined in Early Successional Habitat Development/Management Procedures (647 DP). The minimum seeding rate of 15 PLS/ft2 should be used for interseeded forbs and seeding guidelines above must be followed.

Generally, it will be required to eliminate existing vegetation within the habitat areas using an herbicide application followed by seeding of the necessary grasses and flowering plant species. Multiple treatments (herbicide, tillage, etc.) will be needed to remove aggressive, sod-forming grasses such as smooth brome. A dormant season seeding is recommended for pollinator plantings. Broadcast seeding is recommended for pollinator plantings, especially if the planting is less than 5 acres. Cultipacking after broadcast seeding is recommended. Due to the high forb content, the typical increases in seed mix required when broadcast seeding are not applicable for this enhancement. Bare ground is essential for seed soil contact for broadcast seedings and is recommended for drilled seed as well, even a moderate amount of thatch can affect planting depth and seed germination. If drilled, a native grass seed drill should be used by an experienced operator with frequent calibration checks to ensure that seeds are planted at or less than 1/4" deep.

Establishment: During the first year and second year of growth, one or multiple cuttings at 8-10" high but no shorter when the stand reaches 18-24" are recommended to help prevent weed seed set and promote establishment of native forbs. Cut vegetation should be removed promptly. Mowing or haying as directed above is allowed throughout the growing season in the first and second year of growth, thereafter, follow guidelines below for disturbance timing. Establishment of '80% soil cover' can also be measured as 80% canopy cover of seeded species during the peak of the growing season.

Management: To maintain quality habitat for pollinators and beneficial insects, an annual

disturbance regime is strongly recommended. Grazing, burning, haying, or mowing 1/3-1/5 of the planting will prevent tree encroachment and grass dominance. Disturb a different section (1/3-1/5) of the site every year, do not disturb more than 1/3 of the site in any given year. Use the NE-CPA-14 Wildlife Development and Management Plan to document. If possible, avoid disturbance from May 1 until July 31 unless approved by NRCS as part of a management plan intended to maintain and enhance plant diversity and vigor.

Spot spray noxious weeds in the planting. If spot spraying weeds that also serve as pollinator plants (e.g. exotic thistles or other flowering noxious weeds), spray when the plants are not in bloom. If spot spraying must occur during the bloom period, spray during the evening, in order to avoid spraying herbicide directly on pollinators.

USDA United States Department of Agriculture

CONSERVATION STEWARDSHIP PROGRAM

E420A

Establish pollinator habitat

Conservation Practice 420: Wildlife Habitat Planting

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 Years

State Criteria

Configuration: Habitat areas must be at least 0.5 acres, regardless of the size of the selected land use. Habitat areas must be located within each 40 acre block unless sites with unique configurations are approved by the NRCS/Xerces biologist. As a general rule, habitat areas established within the cropland land use must follow these criteria. Habitat areas for adjoining 40 acre blocks may be located side-by-side. It may be useful to install longer, narrower, habitat areas (minimum of 100 feet wide) along the border of crop fields to benefit spatial distribution.

For sites containing perennial cover as the land use (pasture, range, forest, etc.) and flowering plants are a component of that perennial cover, additional "grouping" of habitat areas may occur provided that no portion of the internal land use is greater than ½ mile (2,640 feet) from an established habitat area.

Protection from direct application and drift of insecticides, fungicides, and herbicides should be addressed by site selection and ongoing management. If pollinator plantings are next to a treated crop/area (including treated seed and insecticide, fungicide, or herbicide applications) a 30 ft buffer is required, 100 ft buffers are recommended. Buffers should be maintained as flower free areas. Leaving 30-100 ft of crop rows untreated near field borders can serve as a buffer.

Species Composition, Selection, and Planting: This enhancement requires the use of wildflowers and native grass species found in the region listed in Pollinator Plants of Nebraska. Contact the Xerces/NRCS biologist for approval of the use of any additional species for this enhancement.

Seedings must incorporate nine flowering species, with three blooming species in each bloom period, at a minimum of 75% of the seeding rate (based on PLS seeds/ft^2). One species of acceptable non-native forbs and one species of acceptable regionally native species in Pollinator Plants of Nebraska may be included. No single wildflower species (native or non-native) should comprise more than 10% of the mix (based on PLS seeds/ft^2).

Total seeding rates should be a minimum of 25 PLS/ft^2 but higher seeding rates are encouraged and may provide better cover and establishment and reduce weed invasion.

If pest control by beneficial insects is desired, select plant species identified as valuable for beneficial insects for the region on Pollinator Plants of Nebraska. For targeted pest control, see Habitat Planning for Beneficial Insects: Guidelines for Conservation Biological Control (available on The Xerces Society website) or contact the NRCS/Xerces biologist. Use the NE-CPA-8 Grass Seeding Job Sheet to document seed mixes for this enhancement.

If existing habitat areas are comprised of mostly native grasses and forbs and no non-native aggressive grasses are present, pollinator plants may be interseeded after grass suppression and thatch management outlined in Early Successional Habitat Development/Management Procedures (647 DP). The minimum seeding rate of 15 PLS/ft^2 should be used for interseeded forbs and seeding guidelines above must be followed.

Generally, it will be required to eliminate existing vegetation within the habitat areas using an herbicide application followed by seeding of the necessary grasses and flowering plant species. Multiple treatments (herbicide, tillage, etc.) will be needed to remove aggressive, sod-forming grasses such as smooth brome. A dormant season seeding is recommended for pollinator plantings. Broadcast seeding is recommended for pollinator plantings, especially if the planting is less than 5 acres. Cultipacking after broadcast seeding is recommended. Due to the high forb content, the typical increases in seed mix required when broadcast seeding are not applicable for this enhancement. Bare ground is essential for seed soil contact for broadcast seedings and is recommended for drilled seed as well, even a moderate amount of thatch can affect planting depth and seed germination. If drilled, a native grass seed drill should be used by an experienced operator with frequent calibration checks to ensure that seeds are planted at or less than 1/4" deep.

Establishment: During the first year and second year of growth, one or multiple cuttings at 8-10" high but no shorter when the stand reaches 18-24" are recommended to help prevent

weed seed set and promote establishment of native forbs. Cut vegetation should be removed promptly. Mowing or haying as directed above is allowed throughout the growing season in the first and second year of growth, thereafter, follow guidelines below for disturbance timing. Establishment of '80% soil cover' can also be measured as 80% canopy cover of seeded species during the peak of the growing season.

Management: To maintain quality habitat for pollinators and beneficial insects, an annual disturbance regime is strongly recommended. Grazing, burning, haying, or mowing 1/3-1/5 of the planting will prevent tree encroachment and grass dominance. Disturb a different section (1/3-1/5) of the site every year, do not disturb more than 1/3 of the site in any given year. Use the NE-CPA-14 Wildlife Development and Management Plan to document. If possible, avoid disturbance from May 1 until July 31 unless approved by NRCS as part of a management plan intended to maintain and enhance plant diversity and vigor.

Spot spray noxious weeds in the planting. If spot spraying weeds that also serve as pollinator plants (e.g. exotic thistles or other flowering noxious weeds), spray when the plants are not in bloom. If spot spraying must occur during the bloom period, spray during the evening, in order to avoid spraying herbicide directly on pollinators.

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E420A
Establish pollinator habitat

Conservation Practice 420: Wildlife Habitat Planting

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Animal

ENHANCEMENT LIFE SPAN: 5 Year

State Criteria

Configuration: Habitat areas must be at least 0.5 acres, regardless of the size of the selected land use. Habitat areas must be located within each 40 acre block unless sites with unique configurations are approved by the NRCS/Xerces biologist. As a general rule, habitat areas established within the cropland land use must follow these criteria. Habitat areas for adjoining 40 acre blocks may be located side-by-side. It may be useful to install longer, narrower, habitat areas (minimum of 100 feet wide) along the border of crop fields to benefit spatial distribution.

For sites containing perennial cover as the land use (pasture, range, forest, etc.) and flowering plants are a component of that perennial cover, additional "grouping" of habitat areas may occur provided that no portion of the internal land use is greater than ½ mile (2,640 feet) from an established habitat area.

Protection from direct application and drift of insecticides, fungicides, and herbicides should be addressed by site selection and ongoing management. If pollinator plantings are next to a treated crop/area (including treated seed and insecticide, fungicide, or herbicide applications) a 30 ft buffer is required, 100 ft buffers are recommended. Buffers should be maintained as flower free areas. Leaving 30-100 ft of crop rows untreated near field borders can serve as a buffer.

Species Composition, Selection, and Planting: This enhancement requires the use of wildflowers and native grass species found in the region listed in Pollinator Plants of Nebraska. Contact the

Xerces/NRCS biologist for approval of the use of any additional species for this enhancement.

Seedings must incorporate nine flowering species, with three blooming species in each bloom period, at a minimum of 75% of the seeding rate (based on PLS seeds/ft2). One species of acceptable non-native forbs and one species of acceptable regionally native species in Pollinator Plants of Nebraska may be included. No single wildflower species (native or non-native) should comprise more than 10% of the mix (based on PLS seeds/ft2).

Total seeding rates should be a minimum of 25 PLS/ft2 but higher seeding rates are encouraged and may provide better cover and establishment and reduce weed invasion.

If pest control by beneficial insects is desired, select plant species identified as valuable for beneficial insects for the region on Pollinator Plants of Nebraska. For targeted pest control, see Habitat Planning for Beneficial Insects: Guidelines for Conservation Biological Control (available on The Xerces Society website) or contact the NRCS/Xerces biologist. Use the NE-CPA-8 Grass Seeding Job Sheet to document seed mixes for this enhancement. If existing habitat areas are comprised of mostly native grasses and forbs and no non-native aggressive grasses are present, pollinator plants may be interseeded after grass suppression and thatch management outlined in Early Successional Habitat Development/Management Procedures (647 DP). The minimum seeding rate of 15 PLS/ft2 should be used for interseeded forbs and seeding guidelines above must be followed.

Generally, it will be required to eliminate existing vegetation within the habitat areas using an herbicide application followed by seeding of the necessary grasses and flowering plant species. Multiple treatments (herbicide, tillage, etc.) will be needed to remove aggressive, sod-forming grasses such as smooth brome. A dormant season seeding is recommended for pollinator plantings. Broadcast seeding is recommended for pollinator plantings, especially if the planting is less than 5 acres. Cultipacking after broadcast seeding is recommended. Due to the high forb content, the typical increases in seed mix required when broadcast seeding are not applicable for this enhancement. Bare ground is essential for seed soil contact for broadcast seedings and is recommended for drilled seed as well, even a moderate amount of thatch can affect planting depth and seed germination. If drilled, a native grass seed drill should be used by an experienced operator with frequent calibration checks to ensure that seeds are planted at or less than 1/4" deep.

Establishment: During the first year and second year of growth, one or multiple cuttings at 8-10" high but no shorter when the stand reaches 18-24" are recommended to help prevent weed seed set and promote establishment of native forbs. Cut vegetation should be removed promptly. Mowing or haying as directed above is allowed throughout the growing season in the first and second year of growth, thereafter, follow guidelines below for disturbance timing. Establishment

of '80% soil cover' can also be measured as 80% canopy cover of seeded species during the peak of the growing season.

Management: To maintain quality habitat for pollinators and beneficial insects, an annual disturbance regime is strongly recommended. Grazing, burning, haying, or mowing 1/3-1/5 of the planting will prevent tree encroachment and grass dominance. Disturb a different section (1/3-1/5) of the site every year, do not disturb more than 1/3 of the site in any given year. Use the NE-CPA-14 Wildlife Development and Management Plan to document. If possible, avoid disturbance from May 1 until July 31 unless approved by NRCS as part of a management plan intended to maintain and enhance plant diversity and vigor.

Spot spray noxious weeds in the planting. If spot spraying weeds that also serve as pollinator plants (e.g. exotic thistles or other flowering noxious weeds), spray when the plants are not in bloom. If spot spraying must occur during the bloom period, spray during the evening, in order to avoid spraying herbicide directly on pollinators.

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E420B

CONSERVATION STEWARDSHIP PROGRAM

Establish monarch butterfly habitat

Conservation Practice 420: Wildlife Habitat Planting

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land; Farmstead

RESOURCE CONCERN: Animal

ENHANCEMENT LIFE SPAN: 5 years

Enhancement Description

Seed or plug milkweed (*Asclepias* spp.) and high-value monarch butterfly nectar plants to establish or improve monarch habitat. These areas may include, but are not limited to, field borders, vegetative barriers, contour buffer strips, shelterbelts, hedgerows, windbreaks, conservation cover, and riparian forest and herbaceous buffers.

Criteria

- Habitat areas must be at least 0.5 acres.
- A Wildlife Habitat Evaluation Guide (WHEG), must be used to show that 0.5 planning criteria has been met for the inadequate wildlife habitat resource concern. The WHEG used to meet this criterion does not need to be specific to monarch habitat. (If WHEG score is less than 0.5, consider E327B.)
- A WHEG specific to monarch habitat must be used to show that, post implementation, the Enhancement is expected to result in the establishment of suitable monarch habitat or will improve the habitat value of existing monarch habitat. The following may be used to meet this criterion:

- [For circumstances where planning criteria for monarch habitat is currently below 0.5] Post implementation, planning criteria for monarch habitat is equal to or greater than 0.6.

  OR

- [For circumstances where planning criteria for monarch habitat is at 0.5 or greater] Post implementation, planning criteria for monarch habitat increases at least 0.1

- Establish and maintain habitat for monarch butterflies as described below:

A. Monarch butterflies

- Habitat will be established and/or maintained using lists of larval host plants and nectar plants suitable for monarch butterfly habitat as the guide. Lists are provided in the NRCS Field Office Technical Guide (FOTG).

- A grass component is commonly needed for ecological stability, weed control, and fuel for prescribed burning. The FOTG provides information on the grass/forb ratio for monarch habitat plantings.

- At least 60% of the forb seeds (pure live seed) in the planting mix will be from the monarch butterfly planting list (FOTG). This will ensure that plantings will provide food (nectar and pollen) for adult monarch butterflies. Milkweed seeds are included in meeting the 60% minimum because milkweeds are excellent nectar plants. The FOTG provides information on the required number of forb species per bloom period (early, mid, or late season) for monarch habitat plantings. Bloom periods are to coincide with monarch presence in the area.

- To provide food for monarch butterfly larvae, plantings will include at least one species of milkweed (*Asclepias* spp.) from the FOTG monarch butterfly planting list. All milkweed species used in the mix must be from this list and shall represent at least 1.5% of the total seeds in the mix. The total seeds include pure live seed from both grass and forbs. Tropical milkweed (*Asclepias curassavica*) shall not be planted.

  Waiver: In some regions, a commercial source of native Asclepias species is limited or not available. In these situations, the NRCS State Conservationist may apply for a waiver, and only require that plantings

include monarch nectaring species. In this situation, milkweed seed or plugs are still encouraged to be planted, if possible. If such a waiver is granted, the mix will result in at least 80% of the seed being from the state's monarch nectaring plant list.

- Any other use of the monarch butterfly habitat area must not compromise its intended purpose.

B. Planting criteria for monarch butterfly habitat

- Site selection should consider existing weed pressures and available methods of control. Delay planting and conduct an additional growing season of weed control if high weed pressure requires aggressive treatment.

- Weed treatment and plant establishment will be accomplished according to the state's specifications for NRCS Conservation Practice Standard Wildlife Habitat Planting (Code 420) and other practice standards as appropriate.

- Successful establishment is when:

  a. The planting is providing at least 80 percent canopy cover, visually estimated;

  b. Resultant cover consists of at least 500 milkweed plants per acre (approx. 1 stem per each 100-sq. ft.). A milkweed plant is defined as a single stem emerging from the ground; AND

  c. two targeted nectar plants per bloom period are available when monarchs are present in the state.

- Insecticides should not be used in the habitat planting area.

- Herbicides are allowed prior to planting when it is necessary to eliminate competing weeds from a planting area in order for nectar and pollen producing plants to establish.

C. After a monarch habitat enhancement has been planted, herbicides may be spot-sprayed to remove broad-leaf weeds, or targeted application of grass-selective herbicides may be used in areas dominated by persistent weedy grasses. Similarly, the entire site may be mowed in the first year post-planting to reduce annual or biennial

weeds that persist (site should be mowed just before dominant annual weeds flower). Mowing height must not be too short so as to compromise the planting. A general guideline is 8 to 10 inches.

D. Operation and maintenance for monarch butterfly habitat

- Management and/or maintenance activities such as mowing, haying, burning, or grazing shall be conducted outside of the season when monarch larvae or adults are present.
- Insecticides should not be used in the habitat planting area.
- The planted habitat areas shall be regularly inspected for invasive and/or noxious plants or other plants that may compromise the purpose of this enhancement. Undesirable species shall be controlled using Individual Plant Treatment methods, for example, spot-spraying with herbicide or physical removal of individual plants.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide a map showing the location of proposed habitat areas with notes on land use adjacent to proposed habitat areas to discuss with NRCS staff.
- ☐ During implementation, purchase specified seed mix or plant materials that meets monarch-specific seeding or planting requirements provided by NRCS.
- ☐ During implementation, follow habitat establishment guidance provided by NRCS in the state specifications for NRCS Conservation Practice Standard Wildlife Habitat Planting (Code 420).
- ☐ After implementation, provide a list of management and/or maintenance activities carried out to manage the habitat areas and the dates on which those activities occurred.
- ☐ After implementation, provide photo documentation of monarch habitat areas during blooming periods.

NRCS will:

- ☐ Prior to implementation, use WHEG to document 0.5 five planning criteria for the terrestrial habitat resource concern. The WHEG does not need to be a monarch WHEG.
- ☐ Prior to implementation, assess habitat condition using a monarch WHEG to calculate current WHEG score and anticipated WHEG score after implementation of Enhancement. **Benchmark WHEG score = _____ Planned Post Implementation WHEG score = _____**
- ☐ Prior to implementation, provide participant with suitable larval host plants and nectar plants lists.
- ☐ Prior to implementation, provide and explain State specifications for NRCS Conservation Practice Standard Wildlife Habitat Planting (Code 420).
- ☐ Prior to implementation, provide participant with a recommended seed mix and planting specifications per above criteria (grass/forb ratio; number of forb species per bloom period for monarch habitat plantings).

☐ After implementation, verify successful establishment (per planting criteria above).

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E420B
Establish monarch butterfly habitat

Conservation Practice 402: Wildlife Habitat Planting

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land; Farmstead

RESOURCE CONCERN: Animal

ENHANCEMENT LIFE SPAN: 5 year

Enhancement Description

Seed or plug milkweed (*Asclepias* spp.) and high-value monarch butterfly nectar plants to establish or improve monarch habitat. These areas may include, but are not limited to, field borders, vegetative barriers, contour buffer strips, shelterbelts, hedgerows, windbreaks, conservation cover, and riparian forest and herbaceous buffers.

Criteria

- Habitat areas must be at least 0.5 acres.
- A Wildlife Habitat Evaluation Guide (WHEG), must be used to show that 0.5 planning criteria has been met for the inadequate wildlife habitat resource concern. The WHEG used to meet this criterion does not need to be specific to monarch habitat. (If WHEG score is less than 0.5, consider E327B.)
- A WHEG specific to monarch habitat must be used to show that, post implementation, the Enhancement is expected to result in the establishment of suitable monarch habitat or will improve the habitat value of existing monarch habitat. The following may be used to meet this criterion:

- [For circumstances where planning criteria for monarch habitat is currently below 0.5] Post implementation, planning criteria for monarch habitat is equal to or greater than 0.6

  OR

- [For circumstances where planning criteria for monarch habitat is at 0.5 or greater] Post implementation, planning criteria for monarch habitat increases at least 0.1

- Establish and maintain habitat for monarch butterflies as described below:

A. Monarch butterflies

i. Habitat will be established and/or maintained using lists of larval host plants and nectar plants suitable for monarch butterfly habitat as the guide. Lists are provided in the NRCS Field Office Technical Guide (FOTG).

ii. A grass component is commonly needed for ecological stability, weed control, and fuel for prescribed burning. The FOTG provides information on the grass/forb ratio for monarch habitat plantings.

iii. At least 60% of the forb seeds (pure live seed) in the planting mix will be from the monarch butterfly planting list (FOTG). This will ensure that plantings will provide food (nectar and pollen) for adult monarch butterflies. Milkweed seeds are included in meeting the 60% minimum because milkweeds are excellent nectar plants. The FOTG provides information on the required number of forb species per bloom period (early, mid, or late season) for monarch habitat plantings. Bloom periods are to coincide with monarch presence in the area.

iv. To provide food for monarch butterfly larvae, plantings will include at least one species of milkweed (Asclepias spp.) from the FOTG monarch butterfly planting list. All milkweed species used in the mix must be from this list and shall represent at least 1.5% of the total seeds in the mix. The total seeds include pure live seed from both grass and forbs. Tropical milkweed (Asclepias curassavica) shall not be planted.

Waiver: In some regions, a commercial source of native Asclepias species is limited or not available. In these situations, the NRCS State Conservationist may apply for a waiver, and only require that plantings include monarch nectaring species. In this situation, milkweed seed or plugs are still encouraged to be planted, if possible. If such a waiver is granted, the mix will result in at least 80% of the seed being from the state's monarch nectaring plant list.

v. Any other use of the monarch butterfly habitat area must not compromise its intended purpose.

B. Planting criteria for monarch butterfly habitat

i. Site selection should consider existing weed pressures and available methods of control. Delay planting and conduct an additional growing season of weed control if high weed pressure requires aggressive treatment.

ii. Weed treatment and plant establishment will be accomplished according to the state's specifications for NRCS Conservation Practice Standard Wildlife Habitat Planting (Code 420) and other practice standards as appropriate

iii. Successful establishment is when:

1. The planting is providing at least 80 percent canopy cover, visually estimated;

2. Resultant cover consists of at least 500 milkweed plants per acre (approx. 1 stem per each 100-sq. ft.). A milkweed plant is defined as a single stem emerging from the ground; AND

3. Two targeted nectar plants per bloom period are available when monarchs are present in the state.

iv. Successful establishment is when:

1. The planting is providing at least 80 percent canopy cover, visually estimated;

2. Resultant cover consists of at least 500 milkweed plants per acre (approx. 1 stem per each 100-sq. ft.). A milkweed plant is defined as a single stem emerging from the ground; AND

3. two targeted nectar plants per bloom period are available when monarchs are present in the state.

v. Insecticides should not be used in the habitat planting area.

vi. Herbicides are allowed prior to planting when it is necessary to eliminate competing weeds from a planting area in order for nectar and pollen producing plants to establish.

C. After a monarch habitat enhancement has been planted, herbicides may be spot- sprayed to remove broad-leaf weeds, or targeted application of grass-selective herbicides may be used in areas dominated by persistent weedy grasses. Similarly, the entire site may be mowed in the first year post-planting to reduce annual or biennial weeds that persist (site should be mowed just before dominant annual weeds flower). Mowing height must not be too short so as to compromise the planting. A general guideline it 8 to 10 inches.

D. **Operation and maintenance for monarch butterfly habitat**

i. Management and/or maintenance activities such as mowing, haying, burning, or grazing shall be conducted outside of the season when monarch larvae or adults are present.

ii. Insecticides should not be used in the habitat planting area.

iii. The planted habitat areas shall be regularly inspected for invasive and/or noxious plants or other plants that may compromise the purpose of this enhancement. Undesirable species shall be controlled using Individual Plant Treatment methods, for example, spot-spraying with herbicide or physical removal of individual plants.

Documentation and Implementation Requirements

Participant will:

□ Prior to implementation, provide a map showing the location of proposed habitat areas with notes on land use adjacent to proposed habitat areas to discuss with NRCS staff.

□ During implementation, purchase specified seed mix or plant materials that meets monarch-specific seeding or planting requirements provided by NRCS.

□ During implementation, follow habitat establishment guidance provided by NRCS in the state specifications for NRCS Conservation Practice Standard Wildlife Habitat Planting (Code 420).

□ After implementation, provide a list of management and/or maintenance activities carried out to manage the habitat areas and the dates on which those activities occurred.

□ After implementation, provide photo documentation of monarch habitat areas during blooming periods. Seed or plug milkweed (*Asclepias* spp.) and high-value monarch butterfly nectar plants to establish or improve monarch habitat. These areas may include, but are not limited to, field borders, vegetative barriers, contour buffer strips, shelterbelts, hedgerows, windbreaks, conservation cover, and riparian forest and herbaceous buffers.

NRCS will:

□ Prior to implementation, use WHEG to document 0.5 five planning criteria for the terrestrial habitat resource concern. The WHEG does not need to be a monarch WHEG.

□ Prior to implementation, assess habitat condition using a monarch WHEG to calculate current WHEG score and anticipated WHEG score after implementation of Enhancement. Benchmark WHEG score = Planned Post Implementation WHEG score =

□ Prior to implementation, provide participant with suitable larval host plants and nectar plants lists.

□ Prior to implementation, provide and explain State specifications for NRCS Conservation

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

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Practice Standard Wildlife Habitat Planting (Code 420).

□ Prior to implementation, provide participant with a recommended seed mix and planting specifications per above criteria (grass/forb ratio; number of forb species per bloom period for monarch habitat plantings).

□ After to implementation, verify successful establishment (per planting criteria above).

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E420B
Establish monarch butterfly habitat

Conservation Practice 402: Wildlife Habitat Planting

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land; Farmstead

RESOURCE CONCERN: Animal

ENHANCEMENT LIFE SPAN: 5 year

Enhancement Description

Seed or plug milkweed (*Asclepias* spp.) and high-value monarch butterfly nectar plants to establish or improve monarch habitat. These areas may include, but are not limited to, field borders, vegetative barriers, contour buffer strips, shelterbelts, hedgerows, windbreaks, conservation cover, and riparian forest and herbaceous buffers.

Criteria

- Habitat areas must be at least 0.5 acres.
- A Wildlife Habitat Evaluation Guide (WHEG), must be used to show that 0.5 planning criteria has been met for the inadequate wildlife habitat resource concern. The WHEG used to meet this criterion does not need to be specific to monarch habitat. (If WHEG score is less than 0.5, consider E327B.)
- A WHEG specific to monarch habitat must be used to show that, post implementation, the Enhancement is expected to result in the establishment of suitable monarch habitat or will improve the habitat value of existing monarch habitat. The following may be used to meet this criterion:

- [For circumstances where planning criteria for monarch habitat is currently below 0.5] Post implementation, planning criteria for monarch habitat is equal to or greater than 0.6

  OR

- [For circumstances where planning criteria for monarch habitat is at 0.5 or greater] Post implementation, planning criteria for monarch habitat increases at least 0.1

- Establish and maintain habitat for monarch butterflies as described below:

A. Monarch butterflies

i. Habitat will be established and/or maintained using lists of larval host plants and nectar plants suitable for monarch butterfly habitat as the guide. Lists are provided in the NRCS Field Office Technical Guide (FOTG).

ii. A grass component is commonly needed for ecological stability, weed control, and fuel for prescribed burning. The FOTG provides information on the grass/forb ratio for monarch habitat plantings.

iii. At least 60% of the forb seeds (pure live seed) in the planting mix will be from the monarch butterfly planting list (FOTG). This will ensure that plantings will provide food (nectar and pollen) for adult monarch butterflies. Milkweed seeds are included in meeting the 60% minimum because milkweeds are excellent nectar plants. The FOTG provides information on the required number of forb species per bloom period (early, mid, or late season) for monarch habitat plantings. Bloom periods are to coincide with monarch presence in the area.

iv. To provide food for monarch butterfly larvae, plantings will include at least one species of milkweed (Asclepias spp.) from the FOTG monarch butterfly planting list. All milkweed species used in the mix must be from this list and shall represent at least 1.5% of the total seeds in the mix. The total seeds include pure live seed from both grass and forbs. Tropical milkweed (Asclepias curassavica) shall not be planted.

Waiver: In some regions, a commercial source of native Asclepias species is limited or not available. In these situations, the NRCS State Conservationist may apply for a waiver, and only require that plantings include monarch nectaring species. In this situation, milkweed seed or plugs are still encouraged to be planted, if possible. If such a waiver is granted, the mix will result in at least 80% of the seed being from the state's monarch nectaring plant list.

v. Any other use of the monarch butterfly habitat area must not compromise its intended purpose.

B. Planting criteria for monarch butterfly habitat

i. Site selection should consider existing weed pressures and available methods of control. Delay planting and conduct an additional growing season of weed control if high weed pressure requires aggressive treatment.

ii. Weed treatment and plant establishment will be accomplished according to the state's specifications for NRCS Conservation Practice Standard Wildlife Habitat Planting (Code 420) and other practice standards as appropriate

iii. Successful establishment is when:

1. The planting is providing at least 80 percent canopy cover, visually estimated;

2. Resultant cover consists of at least 500 milkweed plants per acre (approx. 1 stem per each 100-sq. ft.). A milkweed plant is defined as a single stem emerging from the ground; AND

3. Two targeted nectar plants per bloom period are available when monarchs are present in the state.

iv. Successful establishment is when:

1. The planting is providing at least 80 percent canopy cover, visually estimated;

2. Resultant cover consists of at least 500 milkweed plants per acre (approx. 1 stem per each 100-sq. ft.). A milkweed plant is defined as a single stem emerging from the ground; AND

3. two targeted nectar plants per bloom period are available when monarchs are present in the state.

v. Insecticides should not be used in the habitat planting area.

vi. Herbicides are allowed prior to planting when it is necessary to eliminate competing weeds from a planting area in order for nectar and pollen producing plants to establish.

C. After a monarch habitat enhancement has been planted, herbicides may be spot- sprayed to remove broad-leaf weeds, or targeted application of grass-selective herbicides may be used in areas dominated by persistent weedy grasses. Similarly, the entire site may be mowed in the first year post-planting to reduce annual or biennial weeds that persist (site should be mowed just before dominant annual weeds flower). Mowing height must not be too short so as to compromise the planting. A general guideline it 8 to 10 inches.

D. **Operation and maintenance for monarch butterfly habitat**

i. Management and/or maintenance activities such as mowing, haying, burning, or grazing shall be conducted outside of the season when monarch larvae or adults are present.

ii. Insecticides should not be used in the habitat planting area.

iii. The planted habitat areas shall be regularly inspected for invasive and/or noxious plants or other plants that may compromise the purpose of this enhancement. Undesirable species shall be controlled using Individual Plant Treatment methods, for example, spot-spraying with herbicide or physical removal of individual plants.

Documentation and Implementation Requirements

Participant will:

□ Prior to implementation, provide a map showing the location of proposed habitat areas with notes on land use adjacent to proposed habitat areas to discuss with NRCS staff.

□ During implementation, purchase specified seed mix or plant materials that meets monarch-specific seeding or planting requirements provided by NRCS.

□ During implementation, follow habitat establishment guidance provided by NRCS in the state specifications for NRCS Conservation Practice Standard Wildlife Habitat Planting (Code 420).

□ After implementation, provide a list of management and/or maintenance activities carried out to manage the habitat areas and the dates on which those activities occurred.

□ After implementation, provide photo documentation of monarch habitat areas during blooming periods. Seed or plug milkweed (*Asclepias* spp.) and high-value monarch butterfly nectar plants to establish or improve monarch habitat. These areas may include, but are not limited to, field borders, vegetative barriers, contour buffer strips, shelterbelts, hedgerows, windbreaks, conservation cover, and riparian forest and herbaceous buffers.

NRCS will:

□ Prior to implementation, use WHEG to document 0.5 five planning criteria for the terrestrial habitat resource concern. The WHEG does not need to be a monarch WHEG.

□ Prior to implementation, assess habitat condition using a monarch WHEG to calculate current WHEG score and anticipated WHEG score after implementation of Enhancement. Benchmark WHEG score = Planned Post Implementation WHEG score =

□ Prior to implementation, provide participant with suitable larval host plants and nectar plants lists.

□ Prior to implementation, provide and explain State specifications for NRCS Conservation

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Practice Standard Wildlife Habitat Planting (Code 420).

□ Prior to implementation, provide participant with a recommended seed mix and planting specifications per above criteria (grass/forb ratio; number of forb species per bloom period for monarch habitat plantings).

□ After to implementation, verify successful establishment (per planting criteria above).

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

Conservation Enhancement Activity

E449C

CONSERVATION STEWARDSHIP PROGRAM

Advanced Automated IWM – Year 2-5, soil moisture monitoring

Conservation Practice 449: Irrigation Water Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture

RESOURCE CONCERN: Water

PRACTICE LIFE SPAN: 1 year

Enhancement Description

Advanced automated irrigation water management using soil moisture or water level monitoring (installed as per IWM plan) with data loggers.

Criteria

Irrigation water management plan is followed and includes, as per NRCS Conservation Standard Practice Irrigation Water Management (Code 449):

- An irrigation system layout map showing the main pipeline(s), irrigated area, soil moisture locations and depths (if used), and soils. If water level sensors are used, show locations and number of sensors used.
- Methods used to measure or determine the flow rate or volume of the irrigation applications.
- Measurement records showing the amount of water used to irrigate as it comes onto the farm and goes to each field.
- Documentation of the scientific method used for scheduling the timing and amount of irrigation applications.
- Irrigation water management plan explains:

- How irrigation system meets crop needs, while maximizing irrigation water efficiency.
- Seasonal or annual planned water application volumes by crop.
- Management allowable depletion (MAD) and depth of the managed crop root zone or water level for each crop and stage of growth.
- Evaluation of irrigation system distribution uniformity and necessary changes to insure uniform irrigation.
- Information on how to recognize irrigation induced erosion and how to mitigate it.
- How data from the sensor locations and depths will be considered to make field-wide irrigation decisions.
- Water application scheduling based on soil moisture or water level monitoring and or evapotranspiration monitoring from the weather station

- Recordkeeping documents for the irrigator to use during operation and management.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, acquire an irrigation water management plan meeting NRCS Conservation Practice Standard Irrigation Water Management (449) requirements.

- ☐ During implementation, record irrigation data such as location, date, duration, and flow rate of all irrigation operations, rainfall, evapotranspiration, and soil moisture or water level data.

- ☐ After implementation, make the follow items available for review by NRCS to verify implementation of the enhancement:
  - o Irrigation water management plan and records kept
  - o Changes made to address distribution uniformity deficiencies

NRCS will:

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Irrigation Water Management (CPS 449) as it relates to implementing this enhancement

- ☐ As needed, provide additional technical assistance to the participant as requested.

- ☐ After implementation, verify implementation of the irrigation water management plan, by reviewing participant records kept during enhancement implementation.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E449C

Advanced Automated IWM – Year 2-5, soil moisture monitoring

Conservation Practice 449: Irrigation Water Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN : 1 year

State Criteria

This enhancement takes an advanced automated Irrigation Water Management (IWM) practice where soil moisture is remotely monitored, recorded, and used in decision making and couples it with the use of on-site weather measurements to aid in irrigation scheduling for years two through five. A weather station that is to be used, installed within one mile of field(s) where the IWM practice is implemented, was either existing or purchased in year one with financial assistance received under E449D. Existing weather station(s) employed must comply with weather station capabilities set forth within the Criteria section of E449D.

The desire is to have enhancements E449C and E449D coupled and implemented on all acres that are contracted; E449D in year one on all acres and then E449C in years two through five on all acres. Coupling of E449C and E449D should be encouraged, but programmatically E449C and E449D do not have to be coupled; either can be scheduled / implemented independent of each other. Implementation of E449C requires the use of a weather station that has capabilities set forth in the Criteria section of E449D. Accordingly, the weather station used is either purchased with assistance from implementation of E449D, purchased without program assistance, or was in place previously. If a program participant intends to use a weather station that has the required capabilities already in place within a mile of contracted acres then those contracted acres are not eligible for E449D, only E449C. However, when E449C and E449D are coupled each should be scheduled and implemented on all acres contracted and not different acres scheduled different years throughout the five years of the contract.

If the IWM practice is implemented on multiple fields, yet the contracted acres are all within one mile of the location of the weather station, then E449C can be implemented on all acres while using the same weather station. However, if acres contracted are further than one mile apart, then all acres would be scheduled the same year and a separate weather station used for each individual field to ensure a weather station is within one mile all contracted acres. The weather station(s) cannot be located on acres that are not under the direct control of the program participant for the duration of the contract.

Soil moisture is to be determined by automated soil moisture measuring stations equipped with telemetry and monitored via remote devices. Weather data may be received in real time via telemetry or collected via data logger and downloaded periodically.

The participant receives real time soil moisture data via a computer and/or handheld device equipped with irrigation software. Irrigation amounts are recorded from a flow meter. Information such as total water applied and weather station data may be entered into the software manually.

The enhancement directs the program participant to follow an IWM Plan as per NRCS Conservation Practice Standard (CPS) 449. To satisfy the minimum requirements for an IWM Plan, refer to the **449_NE_GD_IWM_I&E_Plan** located on the FOTG under Section IV of CPS 449.

A minimum of one soil moisture monitoring location shall be installed for any field 80 acres or less, and then additional monitoring locations for fields larger than 80 acres shall be installed such that the soil moisture monitoring location density remains 0.0125 or higher (1 location / 80 acres = 0.0125). In applying the monitoring location density of 0.0125, any result that is not a whole number must be rounded up to the next whole number as one cannot install a fraction of a monitoring location.

Sensors shall be installed at each soil moisture monitoring location to represent a minimum of three separate depths throughout the root zone based on the crop grown.

For sprinkler systems, acres are calculated by including irrigated acres under the mainline of the sprinkler system, but not to include the area beyond the mainline that is irrigated by an end gun.

Uniform distribution of irrigation water is essential for center pivot and linear move application systems. The Enhancement requires that the irrigation application system's distribution uniformity be estimated. This estimate may be based one of three methods:

- ***Testing*** – the field test procedure for determining the application uniformity of a center pivot and lateral move system, commonly referred to as the "catch-can test", is defined in the ASABE Standard S436.

- ***Evaluation*** – application uniformity may be evaluated by using the Center Pivot Evaluation and Design (CPED) software, or other NRCS approved modeling software when manufacturer provided information is not available.
- ***Observation*** – application uniformity may simply be determined by in-field observation

If problems with the application system's distribution uniformity are detected, then appropriate action must be taken to correct the deficiencies.

Information / data gathered throughout the growing season will be used for decision making to schedule irrigation water applications. Use the 449_NE_IR_IWM_Checkout_&_Cert form, located under Section IV of Code 449 on the FOTG, to facilitate a cross-counter discussion with the program participant after conclusion of the growing season. Review each point with the program participant who is to demonstrate the irrigation software platform used to schedule irrigations. The goal is for the program participant to maintain soil moisture content between field capacity and the Management Allowed Depletion (MAD) while mitigating irrigation induced erosion.

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CONSERVATION ENHANCEMENT ACTIVITY

E449D

CONSERVATION STEWARDSHIP PROGRAM

Advanced Automated IWM – Year 1, Equipment and soil moisture or water level monitoring

Conservation Practice 449: Irrigation Water Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Installing and monitoring soil moisture or water leveling equipment for advanced automated irrigation water management

Criteria

- Equipment may include; weather station, sensors, flow meter, data loggers, cellular service, as needed to monitor soil moisture, determine and forecast crop water use and remotely control irrigation system.
- Subscription service provided by others may be used as an alternative.
- Data to be monitored includes crop water use, status of heat and/or frost conditions to permit the producer to make informed irrigation decisions.
- The installation includes the purchase and installation of equipment, and a data logger to log continuous weather data including rainfall, temperature, solar radiation, humidity, wind

speed and soil moisture/water level sensors data that can be downloaded to a personal computer and associated graphing software.

- Producer monitors the station during the growing season to determine timing and amounts of water to apply based on soil moisture/water level sensors, field checks and weather station data.

- Producer keeps records of collected data and resulting irrigation decisions. This enhancement only applies to year one of IWM. The appropriate labor-only IWM enhancements apply in subsequent contract years.

- If a weather station is installed, install within 1 mile of fields where practice is implemented. The weather station will record each of the following (at a minimum of four times per hour),
    - o High and low temperature
    - o Precipitation
    - o Humidity
    - o Wind speed and duration
    - o Solar radiation

- Sensors, datalogger and required telemetry are installed on fields where practice is implemented as indicated in the Irrigation water management plan.

- Irrigation water management plan is followed and includes, as per NRCS Conservation Standard Practice Irrigation Water Management (Code 449):
    - o An irrigation system layout map showing the main pipeline(s), irrigated area, soil moisture locations and depths (if used), and soils. If water level sensors are used, show locations and number of sensors used.
    - o Methods used to measure or determine the flow rate or volume of the irrigation applications.
    - o Measurement records showing the amount of water used to irrigate, as it comes onto the farm and goes to each field.
    - o Documentation of the scientific method used for scheduling the timing and amount of irrigation applications.
    - o The Irrigation water management plan explains;

CONSERVATION STEWARDSHIP PROGRAM

- How irrigation system meets crop needs, while maximizing irrigation water efficiency.
- Seasonal or annual planned water application volumes by crop.
- Management allowable depletion (MAD) and depth of the managed crop root zone or water level for each crop and stage of growth.
- Evaluation of irrigation system distribution uniformity and necessary changes to insure uniform irrigation.
- Information on how to recognize irrigation induced erosion and how to mitigate it.
- Indicate how data from the sensor locations and depths will be considered to make field-wide irrigation decisions.
- Water application scheduling based on soil moisture or water level monitoring and or evapotranspiration monitoring from the weather station.

o Recordkeeping documents for the irrigator to use during operation and management

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, acquire an irrigation water management plan meeting NRCS Conservation Practice Standard Irrigation Water Management (Code 449) requirements.
- ☐ Prior to implementation, acquire NRCS approval of selected weather station, sensors, data logger, etc. or subscription service.
- ☐ During implementation, ensure installation meets manufacturer recommendations.
- ☐ During implementation, record irrigation data such as location, date, duration, and flow rate of all irrigation operations, rainfall, evapotranspiration, and soil moisture or water level data.
- ☐ After implementation, make the follow items available for review by NRCS to verify implementation of the enhancement:
    - o Irrigation water management plan and records kept (i.e. , date, duration, and flow rate of all irrigation operations, rainfall, evapotranspiration, and soil moisture or water level data)
    - o Changes made to address distribution uniformity deficiencies
    - o Documentation of equipment installed (i.e. weather station, sensors, data logger, etc.) to NRCS
    - o If a suscription service is used, provide location of equipment, date, duration, and flow rate of all irrigation operations, rainfall, evapotranspiration, and soil moisture or water level data.

NRCS will:

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Irrigation Water Management (Code 449) as it relates to implementing this enhancement
- ☐ As needed, provide additional assistance to the participant as requested.
- ☐ Prior to implementation, review and approve producer's selected weather station, sensors, data logger, etc. or subscription service.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ As needed, provide additional technical assistance to the participant as requested.
- ☐ After implementation, verify installation of weather station, sensors, etc.
- ☐ After implementation, verify implementation of the irrigation water management plan, by reviewing records kept during enhancement implementation.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E449D

Advanced Automated IWM-Year 1, Equipment and soil moisture or water level monitoring

Conservation Practice 449: Irrigation Water Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN : 1 year

State Criteria

This enhancement takes an advanced automated Irrigation Water Management (IWM) practice where soil moisture is remotely monitored, recorded, and used in decision making and introduces the use of on-site weather measurements to aid in irrigation scheduling. A weather station is to be installed under this Enhancement within one mile of field(s) where the IWM practice is implemented for year one.

The desire is to have enhancements E449C and E449D coupled and implemented on all acres that are contracted; E449D in year one on all acres and then E449C in years two through five on all acres. Coupling of E449C and E449D should be encouraged, but programmatically E449C and E449D do not have to be coupled; either can be scheduled / implemented independent of each other. If a program participant intends to use a weather station that is already in place within a mile of the contracted acres, then those contracted acres are not eligible for E449D, only E449C. However, when E449C and E449D are coupled each should be scheduled and implemented on all acres contracted and not different acres scheduled different years throughout the five years of the contract. Under this Enhancement a weather station is to be put in place within one mile of field(s) where the IWM practice is implemented. If the IWM practice is implemented on multiple fields, yet the contracted acres are all within one mile of the location of the weather station, then E449D can be implemented on all acres while using the same weather station. However, if acres contracted are further than one mile apart, then all acres would be scheduled the same year and a separate weather station purchased / used for each individual field to ensure a weather station is within one mile all contracted acres. The weather station(s) cannot be located on acres that are not under the direct control of the program participant for the duration of the contract.

Soil moisture is to be determined by automated soil moisture measuring stations equipped with telemetry and monitored via remote devices. Weather data may be received in real time via telemetry or collected via data logger and downloaded periodically.

The participant receives real time soil moisture data via a computer and/or handheld device equipped with irrigation software. Irrigation amounts are recorded from a flow meter. Information such as total water applied and weather station data may be entered into the software manually.

The enhancement directs the program participant to follow an IWM Plan as per NRCS Conservation Practice Standard (CPS) 449. To satisfy the minimum requirements for an IWM Plan, refer to **449_NE_GD_IWM_I&E_Plan** located on the FOTG under Section IV of CPS 449.

A minimum of one soil moisture monitoring location shall be installed for any field 80 acres or less, and then additional monitoring locations for fields larger than 80 acres shall be installed such that the soil moisture monitoring location density remains 0.0125 or higher (1 location / 80 acres = 0.0125). In applying the monitoring location density of 0.0125, any result that is not a whole number must be rounded up to the next whole number as one cannot install a fraction of a monitoring location.

Sensors shall be installed at each soil moisture monitoring location to represent a minimum of three separate depths throughout the root zone based on the crop grown.

For sprinkler systems, acres are calculated by including irrigated acres under the mainline of the sprinkler system, but not to include the area beyond the mainline that is irrigated by an end gun.

Uniform distribution of irrigation water is essential for center pivot and linear move application systems. The Enhancement requires that the irrigation application system's distribution uniformity be estimated. This estimate may be based one of three methods:

- ***Testing*** – the field test procedure for determining the application uniformity of a center pivot and lateral move system, commonly referred to as the "catch-can test", is defined in the ASABE Standard S436.
- ***Evaluation*** – application uniformity may be evaluated by using the Center Pivot Evaluation and Design (CPED) software, or other NRCS approved modeling software when manufacturer provided information is not available.
- ***Observation*** – application uniformity may simply be determined by in-field observation.

If problems with the application system's distribution uniformity are detected, then appropriate action must be taken to correct the deficiencies.

Information / data gathered throughout the growing season will be used for decision making to schedule irrigation water applications. Use the 449_NE_IR_IWM_Checkout_&_Cert form, located under Section IV of Code 449 on the FOTG, to facilitate a cross-counter discussion with the program participant after conclusion of the growing season. Review each point with the program participant who is to demonstrate the irrigation software platform used to schedule irrigations. The goal is for the program participant to maintain soil moisture content between field capacity and the Management Allowed Depletion (MAD) while mitigating irrigation induced erosion.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E472A

Manage livestock access to waterbodies to reduce nutrients or pathogens to surface water

Conservation Practice 472: Access Control

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 10 years

Enhancement Description

Installation of structures and implementation of grazing management actions that restrict livestock access to waterbodies in order to reduce nutrient loading or reduce the introduction of pathogens from manure, bio-solids, or compost to surface waters.

Criteria

- Manage livestock access to provide positive benefits to surface water quality, resulting in better manure distribution and reduction of nutrient input into surface waters like streams, ditches and other waterbodies.
- Use-regulating activities (e.g., gates, fences, and other barriers) shall be implemented to eliminate livestock access to streams to reduce nutrients in surface water.
- Limit stream access to hardened stream crossings or water access points. Preferably, install alternative water sources away from water courses and waterbodies.
- Implement riparian area grazing management strategies, including herding and seasonal exclusion with a rotational grazing system.

- Activities will complement the application schedule and life span of other practices specified in the conservation plan.
- Livestock activity will be monitored and regulated, and management plans will specify the intent, intensity, amounts, and timing of livestock exclusion access or exclusion from the target water course or waterbody. Activities may involve temporary or permanent livestock exclusion.
- Placement, location, dimensions, materials (e.g., gates), frequency of use (e.g., continuous), and frequency of monitoring shall be described for each activity,.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, obtain a written grazing plan with guidelines and recommendations for matching the forage quantity and quality produced with the grazing and/or browsing demand from a qualified professional.
- ☐ For riparian grazing management strategies, prior to implementation, provide a grazing plan that includes a written narrative describing planned season of livestock grazing use.
- ☐ During implementation, keep pasture/herd in/out records.
- ☐ After implementation, make the following items available for review by NRCS to verify implementation of the enhancement:
  - Written grazing plan
  - Pasture/herd in/out records
  - Map showing locations of installed structures

NRCS will:

- ☐ As needed, provide additional technical assistance to the participant as requested.
- ☐ After implementation, complete forage utilization job sheet for NRCS Conservation Practice Standard Prescribed Grazing (Code 528).
- ☐ After implementation, verify implementation of the written grazing plan by reviewing plan and pasture/herd in/out records kept during enhancement implementation.

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E472A

Manage livestock access to waterbodies to reduce nutrients or pathogens to surface water

Conservation Practice 472: Access Control

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Forest; Associated Ag Land

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 10 years

State criteria

Any intermittent or perennial stream with a bed and bank or semi-permanent or permanent waterbody (pond/lake) is eligible for this enhancement on that landscape feature.

Requirements may be more restrictive where impaired streams or lakes are located within the pasture or if runoff from riparian area, drainage ways or streams enters directly (within 2000') into impaired streams and/or lakes. See Nebraska DEQ 34TUSurface Water Quality Integrated ReportU34T for listing of impaired waters.

A plan must be developed to restrict access to the stream or the waterbody using fence, gates, and other barriers. This must include an appropriate set-back distance from the streambank or shoreline of the waterbody to adequately reduce nutrient inputs.

Use an appropriate conservation practice standard (i.e. 390 NE CPS Riparian Herbaceous Cover 2011, 393 NE CPS Filter Strip 2019, or 391 NE CPS Riparian Forest Buffer 2011) to determine the minimum width of buffer needed.

Any access to the streambank or shoreline of the waterbody will be confined to the size necessary to accommodate the herd. These areas must be 'hardened' to minimize disturbance and erosion.

In areas where the stream is impaired due to E. coli contamination, livestock access to the stream or waterbody will not be allowed.

As appropriate, periodic livestock grazing for brief periods within the excluded area may be permitted as part of an approved grazing plan. For example, one grazing event every three years for a period not to exceed two weeks and at time where minimal damage may occur to vegetation or the integrity of the streambank or shoreline.)

Documentation and Implementation Requirements

Participant will:

- Implement practices to restrict access to streambank or shoreline with appropriate set-back buffer distance and restrict access by livestock to this zone.
- If a grazing implemented, use 528 NE IR Prescribed Grazing Design Tool or equivalent to document the prescribed grazing plan.
- Document utilization levels in identified key areas within the riparian areas using the Utilization Documentation-Landscape Appearance Worksheet, which is found in the Nebraska Prescribed Grazing Inventory and Monitoring Workbook 2019, or equivalent.

NRCS will:

- Identify the streams or waterbodies present in the pastures and develop a mapdelineating these areas and the appropriate buffer width needed.
- Identify any areas within proximity to impaired waters as identified by NDEQ andprovide the additional restrictions that may be applicable. Consult with the StateWater Quality Specialist as needed for additional guidance. Xerces/NRCS biologist for approval of the use of any additional species for this enhancement.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E484A

Mulching to improve soil health

Conservation Practice 484: Mulching

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Implement a crop rotation which utilizes mulch and addresses all four principle components of soil health – increases diversity of the cropping system; maintains residue throughout the year; keeps a living root; and minimizes soil chemical, physical, and biological disturbance. Plant-based mulching materials will be applied at least once during the rotation. The rotation will include at least four different crops and/or cover crops grown in a sequence that will produce a positive trend in the Organic Matter (OM) subfactor value over the life of the rotation, as determined by the Soil Conditioning Index (SCI). The current NRCS wind and water erosion prediction technologies must be used to document the rotation and SCI calculations.

Criteria

- Use plant-based mulching materials of suitable quantity and quality to add organic matter, provide food and shelter for soil biota, and protect the soil surface from raindrop impact and crusting while allowing for adequate soil aeration.
- Apply plant-based mulching materials with a carbon to nitrogen ratio (C:N) less than 30 to 1 to reduce soil nitrogen immobilization by soil biota (typical ratio examples – hairy vetch cover crop 11:1, fresh grass clippings 17:1, mature alfalfa hay 25:1, corn stalks 60:1, wheat straw 80:1, and pine needles 80-110:1).
- Do not apply mulch with C:N less than 20:1 to an area of designed flow in watercourses.

CONSERVATION STEWARDSHIP PROGRAM

- The crop rotation includes at least four crops and/or cover crops grown in a sequence.
- An evaluation of the system using the current approved SCI procedure results in zero or higher.
- Use mulch of sufficient ground cover and suitable thickness and texture to provide habitat for ground beetles, spiders, and other predators of weed seeds and crop pests.
- Select crops to be mulched, mulching materials, and rates of application that do not contribute to pest problems.
- For all organic or transitioning-to-organic operations, follow all National Organic Program (NOP) rules.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, provide NRCS with the planned crop rotation and tillage operation(s) used for each crop. The crop rotation must include at least four crops and/or cover crops grown in a sequence.

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

Field	Crop	Field Operation	Timing of Field Operation (month/year)

☐ Prior to implementation, provide NRCS with the planned mulching information. Select crops to be mulched, mulching materials, and rates of application that do not contribute to pest problems.

Field	Crop	Mulching Material	Planned Rate of application (pounds/acre)	Planned Application Date

☐ During implementation, notify NRCS of any planned changes in the cropping system, crop management, or mulching to verify the planned system meets the enhancement criteria.

☐ During implementation, use mulch of sufficient ground cover and suitable thickness and texture to provide habitat for ground beetles, spiders, and other predators of weed seeds and crop pests.

CONSERVATION STEWARDSHIP PROGRAM

☐ After implementation, provide NRCS with the applied mulching information.

Field	Crop	Mulching Material	Actual Rate of application (pounds/acre)	Actual Application Date

☐ If changes were made to crop rotation or tillage operation(s) after implementation, complete the tables above to document the changes.

NRCS will:

☐ As needed, provide technical assistance to meet the criteria of the enhancement.

☐ Prior to implementation, verify that the crop rotation includes at least four crops and/or cover crops grown in a sequence.

☐ Prior to implementation, use information provided from the participant to calculate the Management SCI value using current NRCS wind and water erosion prediction technologies. **Management SCI Value = _____**

☐ During implementation, evaluate any planned changes in the cropping system, crop management, or mulching to verify the planned system meets the enhancement criteria.

☐ If changes were made from the planned system after implementation, use information provided from the participant to calculate Management SCI value to document that the applied system met the enhancement criteria. **Management SCI Value = _____**

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E484A

Mulching to improve soil health

Conservation Practice 484: Mulching

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State criteria

Same as National Criteria.

Documentation Requirements

Participant will:

1. Complete the attached Cropping System Inventory Sheet instead of the table in the National Job Sheet to provide more detailed information about the planned cropping system.
2. If cover crops are added to the crop rotation complete, sign, and attach the 340 NE IR Cover Crop 2019 (formerly known as the Cover Crop Design Worksheet NE-CPA-7).

NRCS will:

1. Attach the printouts from the current NRCS approved erosion prediction technologies to document the SCI and Organic Matter subfactor values for the planned cropping system.

CROPPING SYSTEM INVENTORY SHEET

☐ **Document the planned cropping system below (include all crops in the rotation including cover crops):**

Group all tracts/fields with the same crop rotation and field operations.

As needed complete a separate set of sheets for tracts/fields with different crop rotations and/or field operations.

Tract	Field(s)	Acres	Irrigated Y/N	Crop Rotation	Expected Yields
Ex. T123	1	80	N	Corn – Soybeans – Wheat – Cover Crop - mulch	C-140, B- 40, W - 45

☐ **List ALL field operations and approximate dates for each crop listed above:**

Group all tracts/fields with the same crop rotation and field operations.

Include planting, tillage, fertilizer/pesticide applications, harvest, baling residue, grazing stalks, etc.

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1	corn	mulch	15”	April 25	Planter with double disk openers
					October 15	Harvest

Tract	Field(s)	Crop	Previous Crop	Planting Width	Date	Operation
Ex. T123	1	corn	mulch	15″	April 25	Planter with double disk openers
					October 15	Harvest

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E484C

CONSERVATION STEWARDSHIP PROGRAM

Mulching with natural materials in specialty crops for weed control

Conservation Practice 484: Mulching

APPLICABLE LAND USE: Crop (annual & mixed), Crop (perennial)

RESOURCE CONCERN ADDRESSED: Plants

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Application of straw mulch or other state-approved natural material (such as wood chips, compost, green chop, dry hay, or sawdust) for weed control in specialty crops.

Criteria

Use mulch of sufficient ground cover, thickness, and texture to provide habitat for ground beetles, spiders, and other predators of weed seeds and crop pests. Mulch thickness will be determined by the size of the plant being mulched. Thickness of the mulch shall be adequate to prevent emergence of targeted weeds, but no less than four inches deep for dry mulches.

Grass-based green chop should be applied no greater than three inches deep as it will compact and rot. Add additional layers of green chop as decomposition occurs to maintain weed control. Do not use green chop from areas recently treated with herbicides.

Mulches shall be kept a minimum of three inches away from the stems of plants where disease is likely to occur. Depending on the crop, mulch distance may need to be up to six inches away from the stems.

Mulches applied around growing plants or prior to weed seedling development shall have 100%ground cover.

Avoid finely divided residues (e.g. sawdust) and those rich in soluble carbohydrates (e.g. fresh chopped corn or other grasses) with a carbon to nitrogen ratio (C:N) greater than 30 that tie up soil nitrogen (N) and necessitate supplemental N applications.

Avoid excessively thick or tightly packed mulches that can interfere with the movement of ground beetles and other beneficial organisms and may result in soggy, anaerobic conditions at the soil surface and increase the incidence of crop pests and diseases.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide a map showing location of mulch application.
- ☐ Prior to implementation, provide NRCS with the planned mulching information. Select crops to be mulched, mulching materials, and rates of application that will provide weed suppression and do not contribute to pest problems.

Field	Crop	Mulching Material	Planned Rate of application (pounds/acre)	Planned Depth of Mulch (inches)	Planned Application Date

- ☐ During implementation, notify NRCS of any planned changes in the cropping system, crop management, or mulching to ensure enhancement criteria are met.
- ☐ During implementation, take photos of mulch after application, during the growing season, and at harvest.
- ☐ During implementation, use mulch of sufficient ground cover and suitable thickness and texture to provide habitat for ground beetles, spiders, and other predators of weed seeds and crop pests.
- ☐ During implementation, maintain all receipts or other records showing the quantity of mulch used.
- ☐ After implementation, provide NRCS with the applied mulching information and any additional information related to the mulching impacts on weed control or crop production.

Field	Crop	Mulching Material	Actual Rate of application (pounds/acre)	Actual Application Date

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ Prior to implementation, verify mulching materials to be used, depth of mulch, and quantity needed, and document on implementation requirements.
- ☐ Prior to implementation, use information provided from the participant to calculate the Management Soil Conditioning Index (SCI) value using current NRCS wind and water erosion prediction technologies. **Management SCI Value = _____**
- ☐ During implementation, evaluate any planned changes in the cropping system, crop management, or mulching to ensure enhancement criteria are met.
- ☐ After implementation, review the applied mulching information and records and recommend adjustments to the mulch specifications for subsequent years based on success of the enhancement.

NRCS Documentation Review:

I have reviewed all required participant documentation and determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E484C
Mulching with natural materials in specialty crops for weed control

Conservation Practice 484: Mulching

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Plants

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

USDA
United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E511A

CONSERVATION STEWARDSHIP PROGRAM

Harvest of crops (hay or small grains) using measures that allow desired species to flush or escape

Conservation Practice 511: Forage Harvest Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture, Range

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Harvest of crops (hay or small grains) using conservation measures that allow desired species to flush or escape (**See State Wildlife Action Plan for species list**). Conservation measures include timing of harvest, idling land during the nesting or fawning period, and applying harvest techniques that reduce mortality to wildlife.

Criteria

- Forage will be harvested at a frequency and height that optimizes the desired forage stand, plant community, and stand life. Follow State Cooperative Extension Service (CES) recommendations for forage harvest based on stage of maturity, moisture content, length of cut, stubble height, and harvest interval. The following criteria must be met:
    - Harvest forage at the stage of maturity that provides the desired quality and quantity without compromising plant vigor and stand longevity.
    - Harvest silage/haylage crops within the optimum moisture range for the type of storage method(s) or structure(s) being utilized. CES recommendations must be followed for optimum moisture content and levels, as well as methods and techniques to monitor and/or determine moisture content and

levels. Avoid fermentation and seepage losses of digestible dry matter from direct cut hay crop silage (moisture content >70%) by treatment with chemical preservatives or addition of dry feedstuffs. For optimal dry hay quality, rake hay at 30% to 40% moisture and ted or invert swaths when moisture is above 40%. To preserve forage quality and quantity, bale field-cured hay at 15% to 20% moisture and bale force air-dried hay at 20% to 35% moisture.

- When harvested for ensilage, forage will be chopped to a size appropriate for the type of storage structure used and optimal effective fiber. The selected length of chop will allow adequate packing to produce the anaerobic conditions necessary to ensure the proper ensiling process. A shorter chop length on very dry silage may help to ensure good packing and adequate silage density.

- Cut forage plants at a height that will promote the vigor and health of the desired species. Cutting heights will provide adequate residual leaf area; adequate numbers of terminal, basal, or auxiliary tillers or buds; insulation from extreme heat or cold; and/or unsevered stem bases that store food reserves needed for full, vigorous recovery. Follow CES recommendations for proper stubble heights to avoid winterkill of forage species in cold climates.

- Forage shall not contain contaminants that can cause illness or death to the animal being fed or rejection of the offered forage. Check CES contaminant notices, cautions, and recommendations for the specific harvest site location and area.

- Appropriate harvest schedule(s), cover patterns, and minimum plant heights to provide suitable habitat for the desired wildlife species should be implemented and maintained (See State Wildlife Action Plan).

- Time harvests to benefit the desired wildlife species by following state guidelines.

- Producer will apply and maintain at least two of the following management actions specified to improve or protect grassland functions for the state-identified or targeted wildlife species:

- Do not cut hay on at least 1/3 of the hay acres each year. Idle strips or blocks must be at least 30 feet wide.
- For at least 1/3 of the hay acreage, hay cutting must occur outside of the primary nesting or fawning seasons based on state-established dates for the targeted species.
- Increase forage heights after mowing to state-specified minimum heights for the targeted species on all hay acres.

- For all harvest activities that will occur during the nesting/fawning season, the producer will implement at least two of the following actions to flush wildlife during the harvest operation:
  - Attach a flush bar on the mower/harvest equipment.
  - Conduct all harvest/mowing during daylight hours.
  - Begin the harvest pattern either:
    - On one end of the field, working back and forth across the field or
    - In the center of the field, working outward.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- Prior to implementation, develop a map delineating the fields selected for improving wildlife habitat and enrolled in the enhancement.
- Prior to implementation, develop a plan to harvest forage in a manner that protects stand longevity while maintaining or improving wildlife habitat. Plan must meet NRCS Conservation Practice Standard Forage Harvest Management (CPS 511) and the criteria for this enhancement. Coordinate the plan with NRCS Conservation Practice Standard Upland Wildlife Habitat Management (645), as applicable. At a minimum, plan must include the following for the forage harvest operations:
    - Goals, objectives, and specific purpose (improve wildlife habitat values)
    - At least two of the management actions specified for improving or protecting grassland functions for the state-identified target wildlife species
    - Implementation of at least two actions to flush wildlife during the harvest operation for all harvest activities that will be conducted during the nesting/fawning season
    - Forage species to be harvested
    - Details for each dominant forage species to be harvested:
        - Method of harvest
        - Harvest timing (stage of maturity, optimal harvest moisture content, length of cut)
        - Stubble height to be left
        - Harvest interval (including late harvest, if applicable)
        - Contaminant avoidance recommendations
- Prior to implementation, ensure forage harvesting tool/machinery is capable of cutting the forage at the height required to provide suitable habitat for the desired wildlife species without compromising plant vigor and stand longevity.

- Prior to implementation, review the State Wildlife Action Plan as it relates to implementing this enhancement and provide the following information:

Wildlife Species of Concern	
Habitat Requirements, such as plant heights to provide suitable habitat	

- During implementation, keep the following documentation for each field:

Field	Forage species harvested	Harvest height (inches)	Harvest Date

- During implementation, time harvests to benefit the desired wildlife species.
- During implementation, take photographs of forage cutting heights with fields and date of harvest identified.
- During implementation, notify NRCS of any planned changes to ensure enhancement criteria are met.
- After implementation, make documentation and photographs of forage cutting heights available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- As needed, provide technical assistance to meet enhancement criteria.

CONSERVATION STEWARDSHIP PROGRAM

- Prior to implementation, verify a map has been developed delineating the fields that will have the enhancement implemented.
- Prior to implementation, provide and explain NRCS Conservation Practice Standards Forage Harvest Management (Code 511) and Upland Wildlife Habitat Management (Code 645) as they relate to implementing this enhancement, including applicable state-specific job sheets.
- Prior to implementation, provide and explain the State Wildlife Action Plan as it relates to implementing this enhancement.
- Prior to implementation, provide technical assistance, as needed, to:
  - Develop a plan to harvest forage in a manner that protects stand longevity, while also maintaining or improving wildlife habitat.
  - Develop specifications detailing the wildlife protection measures and habitat improvement.
- During implementation, evaluate any planned changes to ensure enhancement criteria are met.
- After implementation, review documentation and photographs of forage cutting heights to verify implementation of the enhancement.

NRCS Documentation Review:

I have reviewed all required participant documentation and determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name_____Contract Number _____

Total Amount Applied_____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

E511A

Harvest of crops (hay or small grains) using measures that allow desired species to flush or escape

Conservation Practice 511: Forage Harvest Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

State criteria

This enhancement is applicable to both perennial and annual hay and small grain crops, and includes pasture or range which is being used for a hay crop.

- The primary nesting and fawning season is May 1 through July 15.
- The minimum cutting heights is 4" when 1/3 or more of the field is idled or the minimum cutting height is 6" when the entire field is hayed.

Note: Areas idled from haying or deferred during the nesting/fawning season can be optimized in the outer perimeter (100 yards or more) and areas adjacent to other suitable nesting, feeding and loafing areas such as wooded draws, wetlands, riparian zones, abandoned farmsteads, etc.

These criteria are applicable when haying during the nesting and fawning season (apply two).

- Use of a suitable flushing bar (see NRCS Haying for Wildlife Information Sheet).
- The official sunrise and sunset time for the local area will be used to determine daylight hours pertaining to haying timeline.
- Harvest occurs from the center of the field outward or from one end of the field to the other to provide escape cover. The outer perimeter cannot be hayed first.

Additional activities may be implemented as necessary if targeting specific wildlife species noted in the Nebraska Natural Legacy Project as Tier I at-risk species. This may require a Habitat Suitability Index or other evaluation method to be used to ensure the needs of that species are addressed

Use Forage Harvest Management Implementation Requirements 2018 (formerly named NE-CPA-80 Forage Harvest Management Plan) or equivalent to document the forage management plan. Use the Upland Wildlife Habitat Management Implementation Requirements (formerly named the NE-CPA-14, Wildlife Habitat Development/Management Plan) or equivalent to describe specific actions to be taken to improve wildlife habitat.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E511B

CONSERVATION STEWARDSHIP PROGRAM

Forage harvest management that helps maintain wildlife habitat cover, shelter or continuity

Conservation Practice 511: FORAGE HARVEST MANAGEMENT

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture, Range

RESOURCE CONCERN ADDRESSED: Animals

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

The timely cutting and removal of forages from the field as hay, green chop, or ensilage in such a way, and in time frames, to optimize both forage yield/quality and wildlife cover and shelter and/or continuity between otherwise disconnected habitats.

Criteria

- Specify the wildlife species of concern on the state-approved NRCS Wildlife Habitat Evaluation Guide (WHEG). The species of concern must be one that is present for at least part of their life cycle in the geographical/physiographic region.
- The state's WHEG will be completed by a NRCS biologist or partner wildlife biologist. Cover and shelter or continuity habitat requirements for the wildlife species of concern must be specified on the WHEG. The total WHEG score after installation of this practice must be 0.60 or greater.
- Provide suitable habitat for desired wildlife species. This may require changes to harvest schedules, cover patterns, and minimal plant heights while managing the desired forage stand, plant community, and stand life.

- Time harvest to benefit the desired wildlife species by following state guidelines. Whenever possible, avoid harvest during the primary nesting season, harvest during daylight hours, and harvest in patterns (e.g. - beginning on one end of the field and working back and forth across the field or beginning in the center of the field and working outward).

- Cut forage at a height that will promote the vigor while leaving minimal stubble heights required by the desired wildlife species and the Cooperative Extension Service recommendations to avoid winterkill in cold climates.

- Harvest forage without compromising plant vigor and stand longevity and at the stage of maturity that provides the desired quality and quantity to the degree possible while still providing suitable habitat for the desired wildlife species.

- Harvest silage/haylage within the optimum moisture range for the type of storage utilized. Follow Cooperative Extension Service recommendations for moisture content. For optimal dry hay quality, rake at 30% to 40% moisture and ted or invert swaths when moisture is above 40%. Bale field cured hay at 15% to 20% moisture.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- Prior to implementation, ensure forage harvesting tool/machinery is capable of cutting the forage at the height required to provide suitable habitat for the desired wildlife species without compromising plant vigor and stand longevity.
- Prior to implementation, review the map delineating the fields selected for improving wildlife cover and shelter and enrolled in the enhancement.
- Prior to implementation, develop a plan to harvest forage in a manner that protects stand longevity and also maintains or improves wildlife habitat. Plan must include specifications detailing the wildlife protection measures, such as selecting time periods to avoid forage harvest to protect wildlife and ensuring that suitable wildlife habitat exists during critical nesting periods. Refer to NRCS Conservation Practice Standard Forage Harvest Management (Code 511).
- Prior to implementation, provide the forage harvest plan to NRCS for review to confirm it meets the criteria of the enhancement.
- During implementation, take photographs of forage cutting heights with fields and date of harvest identified.
- During implementation, notify NRCS of any planned changes to verify they meet the enhancement criteria.
- During implementation, keep the following documentation for each field:

Field	Forage species selected for harvest	Harvest height (inches)	Harvest Date

- After implementation, make documentation and photographs of forage cutting heights available for review to NRCS to verify implementation of the enhancement.

NRCS will:

- As needed, provide technical assistance to meet the criteria of the enhancement.
- Prior to implementation, provide and explain NRCS Conservation Practice Standard Forage and Biomass Planting (Code 512) as it relates to implementing this enhancement.
- Prior to implementation, an NRCS biologist or partner wildlife biologist will complete the state-approved NRCS WHEG. Specific species targeted will be notated on the WHEG, and total score after implementation must equal 0.60 or greater.

Wildlife Species of Concern	
Cover & Shelter Requirements	
Planned WHEG Score after implementation	

- Prior to implementation, verify a map has been developed delineating the hayfields that will have the enhancement implemented.
- Prior to implementation, NRCS will provide technical assistance, as needed to:
  - Develop a plan to harvest forage in a manner that protects stand longevity, while also maintaining or improving wildlife habitat. Plan must meet requirements of NRCS Conservation Practice Standard Forage Harvest Management (Code 511).

- Develop specifications detailing the wildlife protection measures, such as selecting time periods to avoid forage harvest to protect wildlife and ensuring that suitable wildlife habitat exists during critical nesting periods.

- During implementation, evaluate any planned changes to verify they meet the enhancement criteria.

- After implementation, verify the planned forage harvest was completed to specifications developed for the fields delineated.

- After implementation, review documentation and photographs of forage cutting heights to verify implementation of the enhancement.

- If changes were made after implementation, complete the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).

Wildlife Species of Concern	
Cover & Shelter Requirements	
WHEG Score after Implementation	

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name_____Contract Number _____

Total Amount Applied_____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

E511B

Forage harvest management that helps maintain wildlife habitat cover, and shelter or continuity

Conservation Practice 511: Forage Harvest Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture;

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

State criteria

This enhancement is applicable to both perennial and annual hay and small grain crops.

Target a wildlife species that is of national/regional interest (i.e. Northern bobwhite quail) or species of concern found on the Tier I list of at-risk species of the Nebraska Natural Legacy Plan that would benefit from forage harvest management techniques for wildlife. The WHEW (Wildlife Habitat Evaluation Worksheet) to be commonly used includes the Hayland Habitat Evaluation Worksheet 2006 or possibly a species-oriented Habitat Evaluation Tool such as Northern Bobwhite Quail Habitat Evaluation Tool 2009. Other models may be used such as a Habitat Suitability Index for an appropriate species.

A WHEW will be completed prior to development of the forage harvest management plan. A score of 0.60 or higher is required following the implementation of the treatment.

In conjunction with the requirements of the WHEW to reach a 0.6 score, the following will apply: Either 1/3 of the field will be rested from haying for the entire year OR 1/3 of the field will be deferred from haying during the primary nesting and fawning season. Cutting heights are as noted.

- The primary nesting and fawning season is May 1 through July 15.
- The minimum cutting heights is 4” when 1/3 or more of the field is idled or the minimum cutting height is 6” when the entire field is hayed. placement of woody biomass.

Note: Areas idled from haying or deferred during the nesting/fawning season can be optimized in the outer perimeter (100 yards) and areas in adjacent to other suitable nesting, feeding and loafing areas such as wooded draws, wetlands, riparian zones, abandoned farmsteads, etc.

These criteria are applicable when haying during the nesting and fawning season (apply two).

- Use of a suitable flushing bar (see NRCS Haying for Wildlife Information Sheet).
- The official sunrise and sunset time for the local area will be used to determine daylight hours pertaining to haying timeline.
- Harvest occurs from the center of the field outward or from one end of the field to the other to provide escape cover. The outer perimeter cannot be hayed first.

Use Forage Harvest Management Implementation Requirements 2018 (formerly named NE-CPA-80 Forage Harvest Management Plan) or equivalent to document the forage management plan. Use the Upland Wildlife Habitat Management Implementation Requirements (formerly named the NE-CPA-14, Wildlife Habitat Development/Management Plan) or equivalent to describe specific actions to be taken to improve wildlife habitat.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E511C

CONSERVATION STEWARDSHIP PROGRAM

Forage testing for improved harvesting methods and hay quality

Conservation Practice 511 Forage Harvest Management

APPLICABLE LAND USE: Perennial cropland (hayland) and Pasture

RESOURCE CONCERN: Animals, Plants

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Dry hay forage samples are collected and analyzed following LGU procedures. Analysis results are kept and used to improve harvest decisions to guide forage supplementation of on-farm livestock to meet nutritional needs and improve health and productivity.

Criteria

- This enhancement only applies to hay harvested on-farm.
- Develop a plan to harvest hay in a manner that protects stand longevity and maintains or improves forage quality. Plans must include specifications for harvest timing, handling prior to baling, and storage options to best preserve forage quality.
- At least **2 consecutive** cuttings will be required of the same forage type, but additional testing may be needed and should follow the Cooperative Extension or other specialist/nutritionists' recommendations and documented in the plan.
- Collect hay samples consistent with land grant university or accredited lab protocol for tissue sampling for each harvest cycle. Consult the National Forage Testing Association list of Certified Labs- https://www.foragetesting.org/links for more assistance.

CONSERVATION STEWARDSHIP PROGRAM

- Complete a record keeping document that will include all the following at a minimum for each cutting:
    - Date and time of harvest AND date of baling
    - Forage type
    - Maturity stage/description during harvest including harvest height
    - Curing and handling prior to baling (number of tedding, raking, and/or merging operations)
    - Moisture during harvest
    - Bale type (Large square, Round, Small Square)
    - Storage type (indoor, poly-wrapped, tubed, tarped, net wrapped, unprotected etc.)
    - Crude protein
    - Fiber (NDF/ADF)
    - Ash
    - Total Digestible Nutrients (TDN)
    - Relative feed value (RFV)
    - Additional recommended tests (where available): NDF-Digestibility (30-hour recommended) and nitrates.
- Provide record keeping documents and hay test results to NRCS office.
- Discuss results with local Cooperative extension educator or livestock nutritionist, provide any recommendations to NRCS office for all harvesting cycles.
- Use results to improve harvesting decisions.
- Use hay analyses to guide forage supplementation to on-farm livestock.

Adoption Requirements

This enhancement is considered adopted when the criteria is met, and documentation records are provided.

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

- ☐ Prior to implementation, develop a map delineating the fields selected for gathering the hay analysis and record keeping documentation.
- ☐ Prior to implementation, ensure forage harvesting tool/machinery is capable of cutting the forage at the desired residual height without compromising plant vigor and stand longevity.
- ☐ Prior to implementation, develop a plan to harvest hay in a manner that protects stand longevity and maintains or improves forage quality and maintains adequate stubble. Plans must include specifications for harvest timing, handling prior to baling, and storage options to best preserve forage quality. Refer to NRCS Conservation Practice Standard Forage Harvest Management (Code 511).
- ☐ Prior to implementation, provide the forage harvest and forage sampling plan to NRCS for review. Two consecutive cuttings of the same forage type will be evaluated, preferably on the same field, unless the first harvested species will be different than the second harvest on the same field, (for example cool season species fields that transition to warm season forage later in the season). The first cutting must be tested after harvest and is one of the two required. Management decisions must be made from the first test to determine how to improve forage quality for the next cutting. Record keeping should be completed for each cutting and a report completed. Additional testing may be needed and should follow the Cooperative Extension or other specialist/nutritionists' recommendations and documented in the plan.
- ☐ During implementation, collect the number of forage samples on mapped field/s during each harvest cycle and send to a land grant university or accredited lab for tissue analysis.
- ☐ During implementation, keep records including all items under criteria.
- ☐ During implementation, discuss results and implement technical recommendations from Cooperative Extension, nutritionist or NRCS.

- ☐ During implementation, use analysis results and data to improve/adjust forage harvesting activities for the next harvest cycle.

Example: Ash content above internal sources (calcium, magnesium, potassium, phosphorus); adjust cutting and/or rake heights to reduce external sources (dirt, bedding, etc.), use cutting heights and harvest timing to positively affect fiber level, change harvest timing to increase protein and NDF-d levels etc.

- ☐ During implementation use data collected from on-farm hay analysis to improve supplemental feeding periods for animals' health and productivity.
- ☐ After implementation, provide tissue analysis and all record keeping documentation to NRCS
- ☐ After implementation, provide technical recommendations from Cooperative Extension or other specialist/nutritionist to NRCS.
- ☐ After implementation, provide report on how the data enabled improvements to hay harvest and feed supplementation efficiency.

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Forage Harvest Management (Code 511) as it relates to this enhancement.
- ☐ Prior to implementation, verify map and crop/hayfields where enhancement will apply.
- ☐ Prior to implementation, provide assistance in determining the forage cutting to be sent for analysis in addition to the required first cutting.
- ☐ Prior to implementation, provide assistance in determining the planned number of hay samples above the required 2.

- ☐ During implementation, verify management changes in harvest management have positively affected test values in the forage analysis results. Positive effects are but not limited to increases in crude protein levels, NDF-D and TDN values and/or lowering of NDF/ADF and Ash levels.

- ☐ After implementation, verify the hay harvest and hay analysis activities and record keeping meet the specifications of this enhancement.

- ☐ After implementation, review data driven report for hay harvest and supplemental feeding improvements.

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E511C

Forage testing for improved harvesting methods and hay quality

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (annual and mixed)

RESOURCE CONCERN: Plants; Animals

ENHANCEMENT LIFE SPAN: 1 Year

State Criteria

University of Nebraska-Lincoln sampling guidelines will be followed. For more detailed information see UN-L NebGuide G-331.

Determining a sample lot:

Each sample will be for one forage lot. A lot consists of forage harvested from one field at the same cutting and maturity within a 48-hour period.

- All forage from the same forage lot should be similar in type of plant(s), soil type, cutting date, maturity, variety, weed contamination, weather during growth and harvest, preservatives, drying agents, pest or disease damage, and similar conditions.

General Hay Sampling:

Collect hay samples using a core sampler or probe. Sampler should extend 12-18" or more into the bale and have an internal diameter of at least 3/8-inch. Keep sampler tips sharp to cut through the hay. If sampler is operated with an electric drill, run the drill at slow speeds to prevent damage of the samples.

- Do not hand sample. Hand samples are unreliable and usually only include leaves.
- Do not use flakes of hay as these are too large and not representative of the bale from which it was selected.
- Avoid sampling decayed or moldy hay when it will be fed free choice. If hay will be ground, include the deteriorated hay in the sample.
- Place entire sample into a plastic bag and seal tightly.

Sampling square or round bales:

Select at least 20 bales from each sample lot. Collect one sample from each bale by coring straight in from the center of the end of square bales and from the wrapped circumference of round bales.

Sampling loose or compressed haystacks:

Use hay probe that is at least 24 inches long.

- Loose haystacks: Collect 15 or more samples from each lot and sample from the top and sides.
- Compressed haystacks: Collect six samples from each compressed stack: top front, top middle, top rear, lower front side, lower middle side and lower rear side. Alternate the two sides with the different stacks. See NebGuide G-331 for detailed sampling information.

Sampling chopped or ground hay:

Periodically collect about 10 small samples from each sample lot during grinding. Sample previously ground or chopped hay beneath the surface with about one-fourth of the samples from the top half of the pile and the rest from the lower half. Do not allow fines to sift between fingers.

Sampling silage:

Sample as it enters the silo or when fed. Sample at harvest for early ration balancing. Collect samples at feeding for the most accurate nutritional information for ration formulation.

- Fresh or at harvest sampling: Collect 20 or more samples periodically from each silage lot, ensuring that the container is closed between samples to retain moisture. Collect at least 2 gallons of samples and mix well. See NebGuide G-331 for more information.
- Sampling at feeding upright silos: Collect 2-3 gallons in 1-2-quart increments in clean, plastic container while unloading or collect 20 handfuls from different sections of feed-bunks while feeding.
- Sampling at feeding horizontal silos: Collect 20 or more grab samples from numerous sites off the exposed face of silo to represent the exposed surface or sample from the bunk.

Sample Handling:

- Place samples in polyethylene freezer bags and seal tightly for accurate dry matter concentration determination. Double bag silage samples for extra protection.
- Freeze samples that contain more than 15 percent moisture until shipping. Store dry samples in a cool location.
- Label bags in accordance with your lab's description sheet, including your name, address, lot ID, and type of material. If your lab does not have a description sheet, clearly state the tests to be completed.
- Ship samples and description sheets in rigid cardboard boxes to reduce changes of damages to the bag.

Documentation and Implementation Requirements

Participant will:

- Provide items listed in the E511C National Jobsheet.

- Use the Forage Harvest and Quality Documentation Record (see page 3) to document forage harvest methods and forage quality testing.

- Use Forage Harvest Management Implementation Requirements 2018 or equivalent to document the forage management plan.

E511C - FORAGE HARVEST and QUALITY DOCUMENTATION	
Tract(s):	
Field(s):	
Harvest Information	
Harvest Date:	
Time of Harvest:	
Baling Date:	
Forage Type:	
Maturity Stage:	
Harvest Height:	
Curing/Handling Information (raking, or other operations):	
Moisture During Harvest:	
Bale Type: (large or small square, round)	
Storage Type: (indoor, poly-wrapped, tarped, net wrapped, unprotected, etc.)	
Forage Quality Information	
Crude Protein:	
Fiber (NDF/ADF):	
Ash:	
Total Digestible Nutrients (TDN):	
Relative Feed Value (RVF):	
Additional Tests (if needed)	
NDF-Digestibility:	
Nitrates:	
Attach recommendations from UN-L Extension or other specialist/nutritionist.	
Attach report on how data has been used to improve hay harvest and feed supplementation efficiency.	

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E511D_

CONSERVATION STEWARDSHIP PROGRAM

Forage harvest management to improve terrestrial habitat for wildlife and invertebrates during critical over-winter periods

Conservation Practice 511: FORAGE HARVEST MANAGEMENT

APPLICABLE LAND USE: Crop (Perennial) RESOURCE CONCERN

ADDRESSED: Animals

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Eliminate or forgo the last fall cutting of hay or haylage to optimize wildlife cover and shelter during critical over-winter periods and lengthen late season bloom period for invertebrates. Allowing late season stand maturity increases stand life and reduces risks of frost and winter damage while providing valuable wildlife habitat and extended bloom periods.

Criteria

- Specify the wildlife species of concern on the state-approved NRCS Wildlife Habitat Evaluation Guide (WHEG). The species of concern must be one that is present for at least part of their life cycle in the geographical/physiographic region and benefit from the late season, over-winter standing hay/haylage crop.
- The state's WHEG must specify cover and shelter or continuity habitat requirements for the wildlife species of concern. The total WHEG score after installation of this practice must be 0.5 or greater.
- Eliminate or forgo the last scheduled fall cutting to provide suitable over-winter habitat for desired wildlife species and pollinators.

- Eliminate or forgo the last fall harvest to benefit the desired wildlife species by following state guidelines. {State Specify last date hay cutting may occur}

    - Example: Hay cutting in SD will occur no later than September 1 of the given year to allow adequate regrowth before winter dormancy.

- Prior cuttings to the foregone harvest must result in stubble heights that will promote health and vigor of the hayland species (refer to Conservation Practice Standard (CPS) 511). The last cutting of the season must ensure minimum plant heights required by the identified wildlife species. Regrowth and taller stubble heights will reduce winter-kill in cold climates (as applicable) and provide additional wildlife benefits. Refer to Cooperative Extension Service recommendations where available.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- Prior to implementation, identify typical date of last fall cutting. Provide the forage harvest plan and cutting dates to NRCS for review to confirm it meets the criteria of the enhancement.
- Prior to implementation, design the last cutting heights to meet WHEG criteria.
- Bales from the last cutting prior to the foregone cutting must be removed from the field for off-field storage to minimize predator impacts.
- Prior to implementation, review the map delineating the fields selected for improving wildlife cover and shelter and enrolled in the enhancement.
- During implementation, take photographs of the forage stand to verify final cutting was left standing in the field and plant heights meet state wildlife requirements for the identified species. Overwintering stubble heights and regrowth must be maintained during the dormant period to promote wildlife habitat.
- During implementation, notify NRCS of any planned changes to verify they meet the enhancement criteria.
- During implementation, keep the following documentation for each field:

Field	Forage species	Overwinter height (inches)	Last Harvest Date

- After implementation, make documentation and photographs of forage cutting heights available for review to NRCS to verify implementation of the enhancement.

NRCS will:

- As needed, provide technical assistance to meet the criteria of the enhancement.
- Prior to implementation, provide and explain NRCS Conservation Practice Standard and specifications of Pasture and Hay Planting (Code 512) as it relates to implementing this enhancement.
- Prior to implementation, an NRCS biologist or partner wildlife biologist will complete the state-approved NRCS WHEG. Specific species targeted will be notated on the WHEG, and total score after implementation must equal 0.50 or greater.

Wildlife Species of Concern	
Cover & Shelter Requirements	
Planned WHEG Score after implementation	

- Prior to implementation, verify a map has been developed delineating the hayfields that will have the enhancement implemented.
- Prior to implementation, NRCS will provide technical assistance, as needed to:
    - Develop a plan to harvest forage in a manner that protects stand longevity, while also maintaining or improving wildlife habitat. Plan must meet requirements of NRCS Conservation Practice Standard Forage Harvest Management (Code 511).

- Develop specifications detailing the wildlife protection measures, such as selecting time periods to avoid forage harvest to protect wildlife and ensuring that suitable wildlife habitat exists during critical nesting periods.

- During implementation, evaluate any planned changes to verify they meet the enhancement criteria.

- After implementation, verify the planned forage harvest was completed to specifications developed for the fields delineated.

- After implementation, review documentation and photographs of forage cutting heights to verify implementation of the enhancement.

- If changes were made after implementation, complete the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).

Wildlife Species of Concern	
Cover & Shelter Requirements	
WHEG Score after Implementation	

NRCS Documentation Review:

CONSERVATION STEWARDSHIP PROGRAM

I have reviewed all required participant documentation and determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name_____Contract Number _____

Total Amount Applied_____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E511D

Forage harvest management to improve terrestrial habitat for wildlife and invertebrates during critical over-winter periods

Conservation Practice 511: FORAGE HARVEST MANAGEMENT

APPLICABLE LAND USE: Crop (Perennial)

RESOURCE CONCERN ADDRESSED: Animal

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

The intention of this enhancement is to eliminate the last hay cutting of the year to provide adequate winter cover for target wildlife species, including invertebrates. Document target species on the 645 NE IR Upland Wildlife Habitat Management 2007. Only acres which are left unhayed from the last cutting of the year are eligible for payment (i.e., only half of hayfield is left untouched, only those acres are eligible for payment). The last date for any allowed hay cutting is August 15th. An earlier date may be warranted based on local weather patterns and site-specific management as determined by NRCS. A minimum of 5 acres should be left unhayed. Fields less than 5 acres in size will leave the whole field unhayed to provide winter habitat.

The most appropriate Wildlife Habitat Evaluation Worksheet for this enhancement would be the Hayland Habitat Evaluation Worksheet 2006, or a species-specific evaluation tool (i.e., Northern Bobwhite Quail Habitat Evaluation Tool 2009). A planned score of 0.5 is required to meet this enhancement.

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E512A

CONSERVATION STEWARDSHIP PROGRAM

Cropland conversion to grass-based agriculture to reduce soil erosion

CONSERVATION PRACTICE: 512 - Pasture and Hay Planting

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 5 years

Enhancement Description

Conversion of cropped land to grass-based agriculture to reduce soil erosion. Mixtures of perennial grasses, forbs, and legume species are established on cropland where annually-seeded cash crops have been grown.

Criteria

- The current NRCS wind and water erosion prediction technologies must be used to document the average annual soil erosion estimates (before and after) to show reduction in soil erosion.

- Establish perennial grassland mixture on cropland. Mixtures shall be selected based on:
  - Minimum of 50% grass species.
  - Must contain at least one legume.
  - Climatic conditions, such as annual precipitation and its distribution, growing season length, temperature extremes and the USDA Plant Hardiness Zone.
  - Soil condition and landscape position attributes such as pH, available water holding capacity, aspect, slope, drainage class, fertility level, salinity, depth, flooding and ponding, and levels of phytotoxic elements that may be present.
  - Resistance to disease and insects common to the site or location.
  - Intended use, level of management, realistic yield estimates, maturity stage, and compatibility with other species.

- Follow state specific recommendations for planting rates, methods, and dates. Seeding rates will be calculated on a pure live seed (PLS) basis. Plant at a depth appropriate for the seed size or plant material, while assuring uniform contact with soil.
- Prepare the site to provide a medium that does not restrict plant emergence.
- Plant when soil moisture is adequate for germination and establishment.
- All seed and planting materials must meet state quality standards.
- Do not plant federal, state, or local noxious species.
- Apply all plant nutrients and soil amendments for establishment purposes according to a current soil test and developed specifications.
- When planting legumes, use pre-inoculated seed or inoculate with the proper viable strain of Rhizobia immediately before planting.
- Exclude livestock until the plants are well established.
- Ground cover and root mass need to be sufficient to protect the soil from water erosion.

Additional criteria when livestock are included in the system:

- Grazing plan must be developed to keep grazing period(s) sufficiently short to allow for plants to recover before re-grazing occurs.
- No more than 20% of the mixture may be alfalfa. Other legumes (especially non-bloating species) may be used in place of or in addition to alfalfa up to a maximum legume percentage of 50%.
- In areas where animals congregate, establish persistent species than can tolerate close grazing and trampling.

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, select a perennial grassland mixture for establishment. The mixture must contain at least one legume. *If livestock are included in the system*, no

more than 20% of the mixture may be alfalfa. (NRCS will provide technical assistance, as needed.) *If livestock are included in the system*, in areas where animals congregate, establish persistent species than can tolerate close grazing and trampling.

CONSERVATION STEWARDSHIP PROGRAM

Species	Species type (grass, legume, forb)

☐ Prior to implementation, select planting technique, seeding rates, and timing appropriate for the site and soil conditions. (NRCS will provide technical assistance, as needed.)

Planting Date	
Planting Technique	
Seeding rates	

☐ If livestock are included in the system, during implementation following establishment, a grazing plan must be developed to keep grazing periods sufficiently short to allow for plants to recover before re-grazing occurs.

☐ During implementation, keep the following documentation:
- Records and photographs of planting preparation and any materials purchased or materials on hand used for the implementation of the enhancement.
- Documentation of seed (Pure Live Seed) and any fertilizer or soil amendments used for the implementation of the enhancement.
- If livestock are included in the system, keep documentation and photographs of turn in/turn out grazing records for each field.

☐ After implementation, make documentation and records available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ Prior to implementation, use selected mixture and site information to calculate the before and after soil loss erosion using current NRCS wind and water erosion prediction technologies. **Soil erosion BEFORE _____ t/ac/year and AFTER _____ t/ac/year**
- ☐ Prior to implementation, verify the enhancement is planned for cropland.
- ☐ Prior to implementation, verify the selected perennial grassland mixture includes a minimum of 50% grass species. Verify the mixture contains at least one legume. If livestock are included in the system, no more than 20% of the mixture may be alfalfa. If livestock are included in the system, in areas where animals congregate, establish persistent species than can tolerate close grazing and trampling.
- ☐ As needed, prior to implementation, NRCS will provide technical assistance:
  - Planning site preparation and establishment specifications meeting NRCS Conservation Practice Standard Forage and Biomass Planting (512).
  - Preparing specifications for applying this enhancement for each site using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
- ☐ Prior to implementation, verify the enhancement is planned for cropland.
- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ If livestock are included in the system, verify during implementation following establishment, that a grazing plan is developed to keep grazing periods sufficiently short to allow for plants to recover before re-grazing occurs.
- ☐ After implementation, verify the planned perennial grassland mixture was established to specifications developed for the site.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E512A

Cropland conversion to grass-based agriculture to reduce soil erosion

Conservation Practice 512: Pasture and Hay Planting

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 5 years

Documentation and Implementation Requirements

The participant will work with NRCS to:

- Develop maps which show the locations and acres of planned seedings.
- Develop grass seeding mixture and specifications.
- Complete a WinPST run if herbicides will be used during grass seeding and establishment.
- Develop a prescribed grazing plan if the seeded areas will be grazed.

NRCS will:

- Assist participant in developing maps showing the location of areas or fields to be seeded including field numbers and acres.
- Document average annual soil loss before and after seeding using RUSLE2 and WEPS to show a reduction in erosion.
- Assist the participant in developing the seeding mixture and specifications using Herbaceous_Vegetation_Seeding_Design_Worksheet_2020, Job Sheet for Grass Seeding to record seeding information.
- Complete a WinPST Run when herbicides will be used for grass establishment prior to implementation and provide mitigation recommendations. NRCS will not make chemical treatment recommendations.
- At producer's request, if the fields will be grazed, assist with the development of the prescribed grazing plan using the 528 NE IR Prescribed Grazing Design Tool.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E512B

CONSERVATION STEWARDSHIP PROGRAM

Forage and biomass planting to reduce soil erosion or increase organic matter to build soil health

CONSERVATION PRACTICE: 512 - Pasture and Hay Planting

APPLICABLE LAND USE: Pasture

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 5 years

Enhancement Description

Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production that can provide for reduced soil erosion, improving soil health.

Criteria

- Select perennial grass or forb and legume plant species or a mix of annual and perennial species and their cultivars based on climatic conditions, soil condition, landscape position and resistance to disease and insects, that will provide ground cover and root mass needed to be sufficient to protect the soil from wind and water erosion.
- Recommendations for planting rates, methods, depths, and dates from land grant/research institutions, plant materials program, extension agencies, or agency field trials will be followed.
- Prepare seed bed for planting that does not restrict plant emergence or leave the site vulnerable to erosion.
- Planting will take place when soil moisture is adequate for germination and establishment.
- Federal, state, or local noxious species will not be planted.

- Plant nutrients and/or soil amendments for establishment purposes will be applied according to a current soil test. Legume seed will be pre-inoculated or inoculated with the proper viable strain of Rhizobia immediately before planting.

- Deep-rooted, perennial species or deep-rooted perennial and annual species mix will be selected that will contribute to maintaining or increasing underground carbon storage.

- New plantings will be monitored for water stress. Depending on the severity of drought, water stress may require reducing weeds, early harvest of any companion crops, irrigating when possible, or replanting failed stands. Plantings will be protected from grazing until an adequate stand is established and meets the species specific, local standard for beginning grazing.

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, select a deep-rooted perennial forage species or grassland mixture of deep-rooted perennials and annuals for establishment. *If livestock are included in the system, forage species selected will meet the desired level of nutrition for the kind and class of the livestock to be fed. (NRCS will provide technical assistance, as needed.)*

Species	Forage category (grass, legume, forb)

☐ Prior to implementation, select planting technique, seeding rates and timing appropriate for the site and climatic conditions. (NRCS will provide technical assistance, as needed.)

Planting date	
Planting method	
Seeding rate	

- ☐ *If livestock are included in the system*, prior to implementation a grazing plan must be developed to keep grazing periods sufficiently short to allow for forages to recover before re-grazing occurs and ensure adequate stubble heights remain to prevent erosion.

- ☐ During implementation, keep the following documentation:
  - Records and photographs of planting preparation and any materials purchased or materials on hand used for the implementation of the enhancement.
  - Documentation of seed rate basis (Pure Live Seed) and any fertilizer or soil amendments used for the implementation of the enhancement.

- ☐ *If livestock are included in the grazing system*, documentation, and photographs of turn in/turn out grazing records and stubble height residue for each field.

- ☐ *If livestock are included in the grazing system*, during implementation in areas where animals congregate, establish persistent species than can tolerate close grazing and trampling.

- ☐ After implementation, make the forage planting and grazing records and photos available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- ☐ Prior to implementation, use selected mixture and site information to calculate the before and after soil loss from water erosion using current NRCS wind and water erosion prediction technologies.
  Soil erosion BEFORE _____ t/ac/year and AFTER _____ t/ac/year

- ☐ As needed, prior to implementation, NRCS will provide technical assistance:
  - Planning site preparation and establishment specifications meeting NRCS Conservation Practice Standard Forage and Biomass Planting (Code 512).
  - Prepare specifications for applying this enhancement for each site using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

- ☐ *If livestock are included in the system*, develop a grazing plan to keep grazing periods sufficiently short to allow for forages to recover before re-grazing occurs and maintain adequate stubble heights to prevent erosion.

- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ After implementation, verify the planned grassland mixture was established to specifications developed for the site.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E512B

Forage and biomass planting to reduce soil erosion or increase organic matter to build soil health

Conservation Practice 512: Pasture and Hay Planting

APPLICABLE LAND USE: Pasture

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 5 years

Documentation and Implementation Requirements

The participant will work with NRCS to:

- Develop maps which show the locations and acres of planned seedings.
- Develop grass seeding mixture and specifications.
- Complete a WIN-PST run if herbicides will be used during grass seeding and establishment.
- Develop a prescribed grazing plan if the seeded areas will be grazed.

NRCS will:

- Assist participant in developing maps showing the location of areas or fields to be seeded including field numbers and acres.
- Document average annual soil loss before and after seeding using RUSLE2 and WEPS to show a reduction in erosion.
- Assist the participant in developing the seeding mixture and specifications using Herbaceous_Vegetation_Seeding_Design_Worksheet_2020, Job Sheet for Grass Seeding to record seeding information.
- Complete a WIN-PST Run when herbicides will be used for grass establishment prior to implementation and provide mitigation recommendations. NRCS will not make chemical treatment recommendations.
- At producer's request, if the fields will be grazed, assist with the development of the prescribed grazing plan using the Nebraska Prescribed Grazing Design Tool September 2021.

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E512C

CONSERVATION STEWARDSHIP PROGRAM

Cropland conversion to grass for soil organic matter improvement

CONSERVATION PRACTICE: 512 - Pasture and Hay Planting

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 5 years

Enhancement Description

Conversion of cropped land to grass-based agriculture. Mixtures of perennial grasses, forbs, and/or legume species are established on cropland where annually-seeded cash crops have been grown.

Criteria

- The current NRCS wind and water erosion prediction technologies must be used to document the average annual soil erosion estimates and soil conditioning index improvements.

- Establish perennial grassland mixture on cropland. Select deep-rooted perennial species that provide adequate kinds and amount of plant materials needed to increase soil organic matter. Mixtures shall be selected based on:
  - Minimum of 50% grass species.
  - Must contain at least one legume.
  - Climatic conditions, such as annual precipitation and its distribution, growing season length, temperature extremes and the USDA Plant Hardiness Zone.
  - Soil condition and landscape position attributes such as pH, available water holding capacity, aspect, slope, drainage class, fertility level, salinity, depth, flooding and ponding, and levels of phytotoxic elements that may be present.
  - Resistance to disease and insects common to the site or location.
  - Intended use, level of management, realistic yield estimates, maturity stage, and compatibility with other species. Verify plant adaptation to the area prior to planting.

- Follow state specific recommendations for planting rates, methods and dates. Seeding rates will be calculated on a pure live seed (PLS) basis. Plant at a depth appropriate for the seed size or plant material, while assuring uniform contact with soil.
- Prepare the site to provide a medium that does not restrict plant emergence.
- Plant when soil moisture is adequate for germination and establishment.
- All seed and planting materials must meet state quality standards.
- Do not plant federal, state, or local noxious species.
- Apply all plant nutrients and/or soil amendments for establishment purposes according to a current soil test and developed specifications.
- When planting legumes, use pre-inoculated seed or inoculate with the proper viable strain of Rhizobia immediately before planting.
- Exclude livestock until the plants are well established.

Additional criteria when livestock are included in the system:

- Grazing plan must be developed to keep grazing period(s) sufficiently short to allow for plants to recover before re-grazing occurs.
- No more than 20% of the mixture may be alfalfa. Other legumes (especially non-bloating species) may be used in place of or in addition to alfalfa up to a maximum legume percentage of 50%.
- In areas where animals congregate, establish persistent species than can tolerate close grazing and trampling.

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, select a perennial grassland mixture for establishment. Verify the mixture contains at least one legume. *If livestock are included in the system,* no more than 20% of the mixture may be alfalfa. (NRCS will provide technical assistance, as

needed.) *If livestock are included in the system*, in areas where animals congregate, establish persistent species than can tolerate close grazing and trampling.

CONSERVATION STEWARDSHIP PROGRAM

Species	Species type (grass, legume, broadleaf)

☐ Prior to implementation, select planting technique, seeding rates, and timing appropriate for the site and soil conditions. (NRCS will provide technical assistance, as needed.)

Planting Date	
Planting Technique	
Seeding rates	

☐ *If livestock are included in the system*, during implementation following establishment, a grazing plan must be developed to keep grazing periods sufficiently short to allow for plants to recover before re-grazing occurs.

☐ During implementation, keep the following documentation:
- Records and photographs of planting preparation and any materials purchased or materials on hand used for the implementation of the enhancement.
- Documentation of seed (Pure Live Seed) and any fertilizer or soil amendments used for the implementation of the enhancement.
- *If livestock are included in the system*, keep documentation and photographs of turn in/turn out grazing records for each field.

☐ After implementation, make documentation and records available for review by NRCS to verify implementation of the enhancement.

NRCS will:

☐ As needed, provide technical assistance to meet the criteria of the enhancement.

☐ Prior to implementation, use selected mixture and site information to calculate the soil loss and the Soil Condition Index (SCI) values using current NRCS wind and water erosion prediction technologies. **Soil erosion = _____ t/ac/year and SCI value = _____**

CONSERVATION STEWARDSHIP PROGRAM

- ☐ Prior to implementation, verify the enhancement is planned for cropland.
- ☐ Prior to implementation, verify the selected perennial grassland mixture includes a minimum of 50% grass species. *If livestock are included in the system*, no more than 20% of the mixture may be alfalfa. *If livestock are included in the system*, in areas where animals congregate, establish persistent species than can tolerate close grazing and trampling.
- ☐ As needed, prior to implementation, NRCS will provide technical assistance:
  - Planning site preparation and establishment specifications meeting NRCS Conservation Practice Standard Forage and Biomass Planting (512).
  - Preparing specifications for applying this enhancement for each site using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
- ☐ Prior to implementation, verify the enhancement is planned for cropland.
- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ *If livestock are included in the system*, verify during implementation following establishment, that a grazing plan is developed to keep grazing periods sufficiently short to allow for plants to recover before re-grazing occurs.
- ☐ After implementation, verify the planned perennial grassland mixture was established to specifications developed for the site.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E512C

Cropland conversion to grass for soil organic matter improvment

Conservation Practice 512: Pasture and Hay Planting

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 5 years

Documentation and Implementation Requirements

The participant will work with NRCS to:

- Develop maps which show the locations and acres of planned seedings.
- Develop grass seeding mixture and specifications.
- Complete a WinPST run if herbicides will be used during grass seeding and establishment.
- Develop a prescribed grazing plan if the seeded areas will be grazed.

NRCS will:

- Assist participant in developing maps showing the location of areas or fields to be seeded including field numbers and acres.
- Document average annual soil loss before and after seeding using RUSLE2 and WEPS to show a reduction in erosion.
- Assist the participant in developing the seeding mixture and specifications using Herbaceous_Vegetation_Seeding_Design_Worksheet_2020, Job Sheet for Grass Seeding to record seeding information.
- Complete a WinPST Run when herbicides will be used for grass establishment prior to implementation and provide mitigation recommendations. NRCS will not make chemical treatment recommendations.
- At producer's request, if the fields will be grazed, assist with the development of the prescribed grazing plan using the Nebraska 528 NE IR Prescribed Grazing Design Tool.

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E512D

CONSERVATION STEWARDSHIP PROGRAM

Forage plantings that help increase organic matter in depleted soils

CONSERVATION PRACTICE: 512 - Pasture and Hay Planting

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 5 years

Enhancement Description

Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production that can help improve soil quality of depleted sites through increase or conservation of the organic matter in the soil.

Criteria

- Select perennial grass or forb and legume plant species or a mix of annual and perennial species and their cultivars based on climatic conditions, soil condition, landscape position and resistance to disease and insects, that will provide ground cover and root mass needed to be sufficient to protect the soil from wind and water erosion.

- This enhancement is applicable where soils have been depleted of organic matter (typically from direct exposure to air through plowing or disking, and/or having little or no vegetation growing on the soil for a period. In these circumstances, organic matter can be increased through planting of deep-rooted perennial species or a mix of deep-rooted perennials and annual species with the capability of moving carbon into the soil horizons naturally, and then managing these plant communities for optimum production of above ground matter (forage).

- Recommendations for planting rates, methods, depths, and dates from land grant/research institutions, plant materials program, extension agencies, or agency field trials will be followed.

CONSERVATION STEWARDSHIP PROGRAM

- Prepare seed bed for planting that does not restrict plant emergence or leave the site vulnerable to erosion.
- Planting will take place when soil moisture is adequate for germination and establishment.
- Federal, state, or local noxious species will not be planted.
- Plant nutrients and/or soil amendments for establishment purposes will be applied according to a current soil test and according to Land Grant University recommendations. Legume seed will be pre-inoculated or inoculated with the proper viable strain of Rhizobia immediately before planting.
- Inspect and calibrate equipment prior to use. Continually monitor during planting to ensure proper rate, distribution and depth of planting is maintained.
- Monitor new plantings for water stress. Depending on the severity of drought, water stress may require reducing weeds, early harvest of any companion crop, irrigating when possible, or replanting failed stands.

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, select a deep-rooted perennial forage species or grassland mixture of deep-rooted perennials and annuals for establishment. *If livestock are included in the system*, forage species selected will meet the desired level of nutrition for the kind and class of the livestock to be fed. (NRCS will provide technical assistance, as needed.)

Species	Forage category (grass, legume, forb)

☐ Prior to implementation, select planting technique, seeding rates and timing appropriate for the site and climatic conditions. (NRCS will provide technical assistance, as needed.)

Planting date	
Planting method	
Seeding rate	

- ☐ *If livestock are included in the system*, prior to implementation a grazing plan must be developed to keep grazing periods sufficiently short to allow for forages to recover before re-grazing occurs and ensure adequate stubble heights remain to prevent erosion.

- ☐ During implementation, keep the following documentation:
  - Records and photographs of planting preparation and any materials purchased or materials on hand used for the implementation of the enhancement.
  - Documentation of seed rate basis (Pure Live Seed) and any fertilizer or soil amendments used for the implementation of the enhancement.

- ☐ *If livestock are included in the grazing system*, documentation, and photographs of turn in/turn out grazing records and stubble height residue for each field. *If livestock are included in the grazing system*, during implementation in areas where animals congregate, establish persistent species than can tolerate close grazing and trampling.

- ☐ After implementation, make the forage planting and grazing records available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- ☐ As needed, prior to implementation, NRCS will provide technical assistance:
  - Planning site preparation and establishment specifications meeting NRCS Conservation Practice Standard Forage and Biomass Planting (Code 512).
  - Prepare specifications for applying this enhancement for each site using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
  - *If livestock are included in the system*, develop a grazing plan to keep grazing periods sufficiently short to allow for forages to recover before re-grazing occurs and maintain adequate stubble heights to prevent erosion.

- ☐ During implementation, evaluate any planned changes to verify they meets the enhancement criteria.
- ☐ After implementation, verify the planned grassland mixture was established to specifications developed for the site.

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E512D

Forage plantings that help increase organic matter in depleted soils

Conservation Practice 512: Pasture and Hay Planting

APPLICABLE LAND USE: Pasture, Crop (Annual and Mixed), Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 5 years

Documentation and Implementation Requirements

The participant will work with NRCS to:

- Develop maps which show the locations and acres of planned seedings.
- Develop grass seeding mixture and specifications.
- Complete a WinPST run if herbicides will be used during grass seeding and establishment.
- Develop a prescribed grazing plan if the seeded areas will be grazed.

NRCS will:

- Assist participant in developing maps showing the location of areas or fields to be seeded including field numbers and acres.
- Document average annual soil loss before and after seeding using RUSLE2 and WEPS to show a reduction in erosion.
- Assist the participant in developing the seeding mixture and specifications using Herbaceous Vegetation Seeding Design Worksheet 2020, Job Sheet for Grass Seeding to record seeding information.
- Complete a WinPST Run when herbicides will be used for grass establishment prior to implementation and provide mitigation recommendations. NRCS will not make chemical treatment recommendations.
- At producer's request, if the fields will be grazed, assist with the development of the prescribed grazing plan using the 528 NE IR Prescribed Grazing Design Tool.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E512I

CONSERVATION STEWARDSHIP PROGRAM

Establish pollinator and beneficial insect or Monarch habitat

CONSERVATION PRACTICE: 512 - Pasture and Hay Planting

APPLICABLE LAND USE: Pasture; Associated Ag Land; Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 years

Enhancement Description

Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species that can provide nectar for Monarch butterflies and/or pollinators and forage and other habitat values for wildlife and livestock, particularly at times when targeted nectar, forage supply and quality, cover, and shelter are not available in other pastures.

Criteria

- This enhancement is acceptable for use when converting from degraded pastureland sites that require NRCS Conservation Practice Standard Forage and Biomass Planting (Code 512) in order to stabilize the site to address a resource concern.

- Select native, perennial, grass/forb/legume plant species and their cultivars based on climatic conditions, soil condition, landscape position and resistance to disease and insects, and will meet the nectar needs of specified, pollinating insects (and/or Monarch butterflies) at times when they will be present and foraging. These plants need to also provide forage or other habitat values for wildlife and livestock.

- Recommendations for planting rates, methods, depths, and dates from land grant/research institutions, plant materials program, extension agencies, or agency field trials will be followed.

- Seeding medium that does not restrict plant emergence will be provided, and planting will take place when soil moisture is adequate for germination and establishment.

- Federal, state, or local noxious species will not be planted.

- Plant nutrients and/or soil amendments for establishment purposes will be applied according to a current soil test. Legume seed will be pre-inoculated or inoculated with the recommended viable strain of Rhizobia immediately before planting.

- When selecting Monarch habitat, plants will be selected that help meet nectar requirements for Monarch butterflies during times that the Monarch will be present. Plant selection will help to increase scores on the state's approved NRCS Monarch butterfly habitat evaluation.

Documentation and Implementation Requirements

Participant will:

Prior to implementation, select a perennial forage species or grassland species mixture for establishment. If livestock are included in the system, forage species selected will meet the desired level of nutrition for the kind and class of the livestock to be fed. (NRCS will provide technical assistance, as needed.)

Species	Forage category (grass, legume, forb)

☐ Prior to implementation, select planting technique, seeding rates and timing appropriate for the site and climatic conditions. (NRCS will provide technical assistance, as needed.)

Planting date	
Planting method	
Seeding rate	

If livestock are included in the system, prior to implementation a grazing plan must be developed to keep grazing periods sufficiently short to allow for grazed forages to recover and develop habitat before re- grazing occurs.

- ☐ *If livestock are included in the grazing system*, during implementation in areas where animals congregate, establish persistent species than can tolerate close grazing and trampling.

- ☐ During implementation, keep the following documentation:
  - Records and photographs of planting preparation and any materials purchased or materials on hand used for the implementation of the enhancement.
  - Documentation of seed (Pure Live Seed) and any fertilizer or soil amendments used for the implementation of the enhancement.
  - *If livestock are included in the grazing system*, documentation, and photographs of turn in/turn out grazing records for each field.

- ☐ After implementation, make the forage planting and grazing records available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- ☐ Prior to implementation, complete the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).
  Target Pollinator Species: _____
  WHEG score before implementation: _____
  WHEG score after implementation: _____

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Forage and Biomass Planting (Code 512) as it relates to implementing this enhancement.

- ☐ As needed, prior to implementation, NRCS will provide technical assistance:
  - Planning site preparation and establishment specifications meeting NRCS Conservation Practice Standard Forage and Biomass Planting (Code 512).
  - Prepare specifications for applying this enhancement for each site using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
  - *If livestock are included in the system*, develop a grazing plan to keep grazing periods sufficiently short to allow for forages to recover before re-grazing occurs.

- ☐ During implementation, evaluate any planned changes to verify they meets the enhancement criteria.

- ☐ After implementation, verify the planned perennial grassland mixture was established to specifications developed for the site.

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E512I

Establish pollinator and/or beneficial insect and/or Monarch habitat

Conservation Practice 512: Pasture and Hay Planting

APPLICABLE LAND USE: Pasture, Associated Ag Land, Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 years

State Criteria

Configuration: This enhancement must apply to an entire pasture unit and all acres of the unit must be interseeded and included in the habitat assessment.

Protection from direct application and drift of insecticides, fungicides, and herbicides should be addressed by site selection and ongoing management. If pollinator plantings are next to a treated crop/area (including treated seed and insecticide, fungicide, or herbicide applications) a 30 ft buffer is required, 100 ft buffers are recommended. Buffers should be maintained as flower free areas. Leaving 30-100 ft of crop rows untreated near pastures with pollinator/beneficial insect habitat can serve as a buffer.

Species composition, Selection, and Planting: In all cases, a seed mix of native forbs and introduced flowering species will be interseeded at a minimum seeding rate of 10 seeds/ft^2. Use at least 2 flowering plant species native to the region from Monarch Planting List: Northern Plains Edition-Nebraska supplement, use species in different bloom periods with a minimum of 1 seed/ft^2 total for both species. In addition, a minimum of 0.15 milkweed (*Asclepias* spp.) PLS seed/ft^2 is required, Common milkweed (*Asclepias syriaca*) and Showy milkweed (Asc*lepias speciosa*) are the only appropriate milkweed species for this enhancement, use the species most adapted to the region.

If pest control by beneficial insects is desired, select native and non-native plant species identified as valuable for beneficial insects for the region on Pollinator Plants of Nebraska. For targeted pest control, see Habitat Planning for Beneficial Insects: Guidelines for Conservation Biological Control (available on The Xerces Society website) or contact the NRCS/Xerces biologist. Use the Herbaceous_Vegetation_Seeding_Design_Worksheet_2020 to document seed mixes for

this enhancement. Complete the Pastureland Habitat Evaluation Worksheet 2006 prior to implementation of the seeding. A score of 0.75 or higher is required after implementation.

CONSERVATION STEWARDSHIP PROGRAM

For all Vegetative Zones, up to 2 PLS seeds/ft^2 Buckwheat (Fagopyrum esculentum) are allowed. Consider reseeding buckwheat and legumes at similar increased rates when stands fade. In Vegetative Zones III and IV, the remaining 6.85 – 8.85 seeds/ft^2 must be Red Clover (Trfolium pratense). In Vegetative Zones I and II, the remaining 6.85-8.85 PLS seeds/ft2, must be Alfalfa (Medicago sativa). If Alfalfa or Red Clover are not appropriate for the site, this enhancement is not appropriate for the site. Complete Pastureland Habitat Evaluation Worksheet 2006 NE-CPA-34 WHEW (Wildlife Habitat Evaluation Worksheet) for Pastureland before implementation of the seeding. A score of 0.75 or higher is required after implementation.
Before interseeding with wildflowers/legumes, suppress the existing grass stand using intensive grazing, haying, burning, and/or chemical treatment during the active growth stage of the grass and remove as much thatch as possible. Multiple techniques may be needed (e.g. chemical application will stress grasses but thatch will remain, haying, burning, or grazing before or after chemical application will be necessary to remove thatch). When chemical treatment is used to suppress grasses, complete a WINPST run. Dormant season broadcast seeding is recommended for wildflower seeds, however, non-native species may require different planting depths or planting seasons. Bare ground is essential for seed soil contact for broadcast seedings and is recommended for drilled seed as well, even a moderate amount of thatch can affect planting depth and seed germination. If a seed drill is used, use frequent calibration checks to ensure that seeds are planted at or less than 1/4" deep.

Establishment: During the first year and second year of growth, one or multiple hayings at 8-10" high but no shorter when the stand reaches 18-24" are recommended to help prevent weed seed set and promote establishment of native forbs. Cut vegetation should be removed promptly. Mowing or haying as directed above is allowed throughout the growing season in the first and second year of growth, thereafter, follow guidelines below for disturbance timing.

Grazing should be deferred or reduced in intensity in the first year of growth after interseeding to allow wildflowers to establish.

Management: Maintain blooms on pasture using moderate stocking rates, rotational grazing, and rest periods of four weeks or longer. Document the actual grazing use (livestock numbers, class and size and grazing in out dates for each pasture) in form NE-CPA-64 Actual Use Report found in the Nebraska 528 NE IR Prescribed Grazing Design Tool 2021 and document any management actions needed to provide pollinator habitat benefits on the (formerly known as NE-CPA-14), 645 IR Upland Wildlife Habitat Management 2007 Plan.
Avoid broadcast spraying of herbicides that will harm pollinator plants (non-selective and broadleaf herbicides). Spot spray noxious weeds in the pasture. If spot spraying weeds that also serve as pollinator plants (e.g. exotic thistles or other flowering noxious weeds), spray when the plants are not in bloom. If spot spraying must occur during the bloom period, spray during the evening, in order to avoid spraying herbicide directly on pollinators.

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E512J

CONSERVATION STEWARDSHIP PROGRAM

Establish wildlife corridors to provide habitat continuity or access to water

CONSERVATION PRACTICE: 512 - Pasture and Hay Planting

APPLICABLE LAND USE: Pasture; Associated Ag Land; Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 years

Enhancement Description

Establishing adapted and/or compatible species, varieties, or cultivars of perennial, herbaceous species that can provide cover needed for wildlife species of concern to move from food/cover/water sources to other food/cover/water sources as needed for their life cycles, and/or to enhance the utility of underused wildlife habitat areas.

Criteria

- Select native, perennial, grass/forb/legume plant species and their cultivars based on climatic conditions, soil condition, landscape position and resistance to disease and insects, that meet the cover demand for movement by the wildlife species of concern.
- Recommendations for planting rates, methods, depths, and dates from land grant universities (LGU), plant materials program, extension agencies, or agency field trials will be followed.
- Seeding medium that does not restrict plant emergence will be provided, and planting will take place when soil moisture is adequate for germination and establishment.
- Federal, state, or local noxious species will not be planted.
- Plant nutrients and/or soil amendments for establishment purposes will be applied according to a current soil test. Legume seed will be pre- inoculated or inoculated with the proper viable strain of Rhizobia immediately before planting.

- Plant selection will be made and maintained based on the state's approved NRCS habitat evaluation procedure.
- Protection from grazing or other plant defoliation/biomass loss will be provided as needed to assure adequate corridor cover during the primary wildlife movement time frames.
- Grazing or other plant defoliation/biomass operations will be timed as needed to assure adequate corridor cover during the primary wildlife movement time frames.
- Wildlife species of concern for corridor utilization will be specified on the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, select a perennial forage species or grassland mixture for establishment. If livestock are included in the system, forage species selected will meet the desired level of nutrition for the kind and class of the livestock to be fed. (NRCS will provide technical assistance, as needed.)

Species	Species type (grass, legume, forb)

☐ Prior to implementation, select planting technique, seeding rates and timing appropriate for the site and climatic conditions. (NRCS will provide technical assistance, as needed.)

Planting Date	
Planting method	
Seeding rate	

- ☐ *If livestock are included in the system*, prior to implementation a grazing plan must be developed to keep grazing periods sufficiently short to allow for forages to recover before re-grazing occurs.

- ☐ *If livestock are included in the grazing system*, in areas where animals congregate, establish persistent species than can tolerate close grazing and trampling.

- ☐ During implementation, keep the following documentation:
  - Records and photographs of planting preparation and any materials purchased or materials on hand used for the implementation of the enhancement.
  - Documentation of seed (Pure Live Seed) and any fertilizer or soil amendments used for the implementation of the enhancement.
  - *If livestock are included in the grazing system*, documentation, and photographs of turn in/turn out grazing records for each field.
- ☐ During implementation, ensure that the forage/biomass is protected from grazing or other plant defoliation/biomass loss.

- ☐ After implementation, make the forage planting and grazing records available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Forage and Biomass Planting (Code 512) as it relates to implementing this enhancement.

- ☐ Prior to implementation, complete the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).
  Species of concern: _____
  WHEG score before implementation: _____
  WHEG score after implementation: _____

- ☐ As needed, prior to implementation, NRCS will provide technical assistance:
  - Planning site preparation and establishment specifications meeting NRCS Conservation Practice Standard Forage and Biomass Planting (512).
  - Prepare specifications for applying this enhancement for each site using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

- *If livestock are included in the system*, develop a grazing plan to keep grazing periods sufficiently short to allow for forages to recover before re-grazing occurs.

CONSERVATION STEWARDSHIP PROGRAM

☐ During implementation, evaluate any planned changes to verify they meets the enhancement criteria.

☐ After implementation, verify the planned perennial grassland mixture was established to specifications developed for the site.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E512J

Establish wildlife corridors to provide habitat continuity or access to water

Conservation Practice 512: Forage and Biomass Planting

APPLICABLE LAND USE: Pasture, Associated Ag Land, Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 years

State Criteria

This enhancement is applied to areas which do not currently provide suitable wildlife habitat and serve to connect two habitat areas – one of permanent habitat and one with a water source suitable for use by wildlife. Identify the habitat areas and corridor on a map. Work with a wildlife biologist, as needed, to identify the target wildlife species (any wildlife species may be selected) and also to design the seeding mixture to provide beneficial wildlife habitat.

The minimum size area to apply this enhancement is 0.5 acres and a width of 30 feet or more. Utilize a WHEW such as the Pastureland Habitat Evaluation Worksheet 2006 or one of the species-specific Habitat Evaluation Tools (i.e. Northern Bobwhite) to ensure the entire planning unit meets a 0.5 after implementation.

The seeding must include introduced legumes and/or native forbs at a minimum seeding rate of 25% of the grass seeding rate (i.e. 7.5 PLS/ft^2 when grass is seeded at 30 PLS/ft^2). Document the target wildlife species and actions needed to provide benefits on the formerly known as NE-CPA-14), 645 NE IR Upland Wildlife Habitat Management 2007 Plan. Document recommended site preparation, planting method, seed mixture, seeding rates and other information on the Herbaceous_Vegetation_Seeding_Design_Worksheet_2020.

If chemical weed control is needed to establish the seeding, complete a WinPST run prior to implementation and provide mitigation recommendations. Assist the participant with development of the Grazing Management plan (if grazed) once the stand is established using the Nebraska 528 NE IR Prescribed Grazing Design Tool . The site will be deferred from grazing one entire year and possibly more to allow for adequate establishment.

Diversifying forage base with interseeding forbs and legumes to increase pasture quality

Conservation Practice 512 (L): Pasture and Hay Planting

APPLICABLE LAND USE: Pasture, Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 years

Enhancement Description

Establishing adapted and/or compatible species, varieties, or cultivars of perennial, herbaceous species that increases the diversity to enhance livestock, forage supply and quality, not available in other pastures.

Criteria

- Select perennial, forbs and legume plant species and their cultivars based on compatibility with established forage species, climatic conditions, soil condition, landscape position and resistance to disease and insects.
- Recommendations for planting rates, methods, depths, and dates from land grant universities (LGU), plant materials program, extension agencies, or agency field trialswill be followed.
- Utilize seed and planting materials that will meet State quality standards.
- Inter-seeding method will not restrict plant emergence or leave the site vulnerable to erosion.
- When planting legumes, use pre-inoculated seed, inoculum coated seed, or inoculate with the recommended viable strain of rhizobia immediately before planting.

- Select plants that will help meet livestock forage demand during times that normal forage production is not adequate.
- Use forage species that will meet the desired level of nutrition (quantity and quality) for the kind and class of livestock to be grazed or fed.
- Select species mixtures with similar palatability to avoid selective grazing.
- Select species with low or not toxic effects on grazing livestock. If two species for consideration provide similar forage quality, with one providing added benefit to wildlife and pollinator species, the wildlife beneficial species should be selected.
- In areas where animals congregate, consider establishing persistent species that can tolerate close grazing and trampling.
- Refer to NRCS Conservation Practice Standard (CPS) Nutrient Management (Code 590) for details for managing nutrients.
- Plant nutrients and/or soil amendments for establishment purposes will be applied according to a current soil test and LGU recommendations. Legume seed will be pre-inoculated or inoculated with the recommended viable strain of Rhizobia immediately before planting.

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

- Prior to implementation, select a perennial forb and/or legume mixture for establishment. *If livestock are included in the system, forage species selected will meet the desired level of nutrition for the kind and class ofthe livestock to be fed.* (NRCS will provide technical assistance, as needed.)

Species	Species type (grass, legume, broadleaf)

- Prior to implementation, select planting technique, seeding rates and timing appropriate for the site and climatic conditions. (NRCS will provide technical assistance,as needed.)

Planting Date	

Planting Technique	
Seeding rates	

- *Prior to implementation when livestock are included in the system, modify the grazing plan that maintains grazing periods sufficiently short to allow for forages to recover before re-grazing occurs.*
- *Prior to implementation, a current (within 3 years of the proposed planting date) soil sample analysis is required when soil amendments will be added.*

- During implementation, *exclude livestock until the overseeded species are well established and have reached the full start grazing heights or recommended cutting heights before the first grazing or cutting begins. Refer to Conservation Practice Standards (CPS) 511 Forage Harvest Management and (CPS) 528 Prescribed Grazing for more information.*

- During implementation, keep the following documentation:

    - Records, seed tags and photographs of planting preparation and any materials purchasedor materials on hand used for the implementation of the enhancement.

    - Documentation of seed rate basis (Pure Live Seed) and any fertilizer or soil amendments and rates used for the implementation of the enhancement.

- *During implementation where livestock are included in the grazing system, documentation and photographs of turn in/turn out grazing records for each field are required.*

- As needed, provide technical assistance to meet the criteria of the enhancement.

- Prior to implementation, provide and explain NRCS Conservation Practice Standard Pasture and Hay Planting (Code 512) and all supporting implementation requirements and specifications as it relates to implementing this enhancement.

- *Prior to implementation where livestock are included in the system, modify the grazing*

plan to keep grazing periods sufficiently short to allow for forages to recover before re-grazing occurs and maintain sufficient height to protect from soil erosion.

- As needed, prior to implementation, NRCS will provide technical assistance:
    - Planning site preparation and establishment specifications meeting NRCS Conservation Practice Standard Pasture and Hay Planting (512).
- During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- After implementation, verify the planned perennial forbs/ legumes or mixture was established to specifications developed for the site.

NRCS Documentation Review:

CONSERVATION STEWARDSHIP PROGRAM

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____

Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E512L

Diversifying forage base with interseeding forbs and legumes to increase pasture quality

Conservation Practice 512 (L): PASTURE AND HAY PLANTING

APPLICABLE LAND USE: Pasture, Associated Ag land

RESOURCE CONCERN ADDRESSED: Animals

ENHANCEMENT LIFE SPAN: 5 year

Documentation and Implementation Requirements

The participant will:

- Establish stated objectives that substantiate the need for this enhancement. Describe resource conditions or concerns that presently exist on the pasture land use. This can be based upon a variety of different assessments, which include: present forage yield estimates, forage quality tests, Nebraska Pasture Condition Score, Indicators of Pasture Health Matrix or others.
- Select adapted species and varieties of forbs and/or legumes that will provide the improved quality of forage desired.
- Obtain soil sample for base line nutrient analysis. Sample must be collected and submitted to a reputable soil test laboratory based upon UNL or other soil testing lab guidelines. Be prepared to add nutrients and/or soil amendments as recommended as a result of the soil test ahead of interseeding.
- Evaluate and select best interseeding method based upon NRCS recommendations. Suppression techniques of existing vegetation may be needed to allow for new seedling establishment.
- Utilize Prescribed Grazing (528) to allow vegetation to establish and to maintain quality and production.

NRCS will:

- Assist participant in making sound technical and management decisions to ensure success in improving pasture quality.

- Utilize Forage Suitability Groups (FSG's) for the appropriate MLRA and/or Pasture Condition Score (PCS) Midwest Species List for Nebraska (Section 2 FOTG) to assist participant in selecting adapted and desired species to accomplish objective of improving forage quality.
- Utilize the Herbaceous Vegetation Establishment Guidance Document 2020 to establish procedures and guidelines for the interseeding process. Suppression of existing vegetation is likely needed to allow new seedlings to become established.
- Provide procedures and list of adapted species to participant on Herbaceous Vegetation Seeding Design Worksheet 2021 Utilize appropriate inoculant for legumes.
- Provide grazing recommendations as needed to promote vegetation establishment and maintain quality and productivity over time. Utilize Prescribed Grazing Design Tool September 2021.

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E512M

CONSERVATION STEWARDSHIP PROGRAM

Forage plantings that improve wildlife habitat cover and shelter or structure and composition

CONSERVATION PRACTICE: 512 - Pasture and Hay Planting

APPLICABLE LAND USE: Pasture; Associated Ag Land

RESOURCE CONCERN: Plants, Animals

ENHANCEMENT LIFE SPAN: 5 years

Enhancement Description

Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production that can provide cover and shelter or structure and composition for wildlife.

Criteria

- Wildlife species of concern for cover and shelter will be specified on the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG) and will be a species that would be present for at least part of their life cycle in the geographical/physiographic region.

- The state's WHEG will be completed by an NRCS or partner wildlife biologist. Cover and shelter habitat requirements for the wildlife species of concern will be specified on the WHEG. The total WHEG score after installation of this practice will be 0.60 or greater.

- Select native, perennial, grass/forb/legume plant species (all species must be native) and their cultivars based on climatic conditions, soil condition, landscape position and resistance to disease and insects, which meet the cover and shelter needs for wildlife species of concern when they will be present.

- Recommendations for planting rates, methods, depths, and dates from land grant/research institutions, plant materials program, extension agencies, or agency field trials will be followed.
- Seeding medium that does not restrict plant emergence will be provided, and planting will take place when soil moisture is adequate for germination and establishment.
- Federal, state, or local noxious species will not be planted.
- Plant nutrients and/or soil amendments for establishment purposes will be applied according to a current soil test. Legume seed will be pre-inoculated or inoculated with the proper viable strain of Rhizobia immediately before planting.
- Plants will be selected that help meet cover and shelter habitat requirements for specified wildlife species during times that normal farm/ranch forage production is inadequate. Plant selection will help to increase scores on the state's approved NRCS habitat evaluation procedure for the wildlife species of concern.

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, select a perennial species or grassland mixture for establishment. (NRCS will provide technical assistance, as needed.)

Species	Forage category (grass, legume, forb)

☐ Prior to implementation, select planting technique, seeding rates and timing appropriate for the site and climatic conditions. (NRCS will provide technical assistance, as needed.)

Planting Date	
Planting method	
Seeding rate	

- ☐ *If livestock are included in the grazing system*, prior to implementation a grazing plan must be developed to keep grazing periods sufficiently short to allow for plants to recover before re-grazing occurs.

- ☐ During implementation, keep the following documentation:
  - Records and photographs of planting preparation and any materials purchased or materials on hand used for the implementation of the enhancement.
  - Documentation of seed (Pure Live Seed) and any fertilizer or soil amendments used for the implementation of the enhancement.
  - *If livestock are included in the grazing system*, documentation, and photographs of turn in/turn out grazing records for each field.

- ☐ After implementation, make the forage planting and grazing records available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- ☐ Prior to implementation, complete the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).
  Targeted Species: _____
  WHEG score before implementation: _____
  WHEG score after implementation: _____

- ☐ As needed, prior to implementation, NRCS will provide technical assistance:
  - Planning site preparation and establishment specifications meeting NRCS Conservation Practice Standard Forage and Biomass Planting (Code 512).
  - Prepare specifications for applying this enhancement for each site using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
  - *If livestock are included in the system*, develop a grazing plan to keep grazing periods sufficiently short to allow for forages to recover before re-grazing occurs.

- ☐ During implementation, evaluate any planned changes to verify they meets the enhancement criteria.

- ☐ After implementation, verify the grassland mixture was established to specifications developed for the site.

NRCS Documentation Review:

CONSERVATION STEWARDSHIP PROGRAM

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E512M

Forage plantings that improve wildlife habitat cover and shelter or structure and composition

Conservation Practice 512: Pasture and Hay Planting

APPLICABLE LAND USE: Pasture, Associated Ag Land

RESOURCE CONCERN ADDRESSED: Plants and Animals

ENHANCEMENT LIFE SPAN: 5 years

State Criteria

Select and document a target wildlife species on the 645 NE IR Upland Wildlife Habitat Management 2007. Only native grass species adapted to the site are allowed for this enhancement, giving considerations to MLRA and other site specifics. Native species should make up at least 75% of the forb/wildflower component of the seed mix. Select species appropriate for the target wildlife species while also considering forage value for livestock. A minimum of 9 blooming species with 3 species in each bloom period is required in this mixture. If the site requires additional grass establishment, a minimum of 5 grasses will be used in the mix. Use the Herbaceous Vegetation Seeding Design Worksheet 2020 to record seeding information including site preparation. Site preparation may need to include additional activities such as grazing, burning, chemical application, cover crop etc. to ensure adequate establishment of the planned seed mix.

Grazing and haying activities will be excluded from the site until the stand is established. Additional activities to meet a minimum WHEW/WHEG score of 0.6 may be required. Use an appropriate Wildlife Habitat Evaluation Worksheet such as the Rangeland Habitat Evaluation Worksheet 2006, Pastureland Habitat Evaluation Worksheet 2006, or a species-specific evaluation tool (i.e. Plains Sharp-tailed Grouse Habitat Evaluation Tool 2009). Document an appropriate grazing plan for the site on the 528 NE IR Prescribed Grazing Design Tool.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E528A

CONSERVATION STEWARDSHIP PROGRAM

Maintaining quantity and quality of forage for animal health and productivity

CONSERVATION PRACTICE: 528 - Prescribed Grazing

APPLICABLE LAND USE: Pasture; Range; Forest; Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Managing the harvest of vegetation with grazing and/or browsing animals for the purposes of maintaining desired plant composition/plant vigor and improving/maintaining quantity and quality of forage for the animals' health and productivity. Follow the recommendations of a qualified professional, as detailed in the documentation and implementation requirements.

Criteria

- A written plan matching the forage quantity and quality produced with the grazing and/or browsing demand will be followed.
- Removal of herbage will be in accordance with site production limitations, rate of plant growth, the physiological needs of forage plants, and the nutritional needs of the animals.
- Deferments will be planned and implemented for critical periods of plant needs (such as post-planting or renovation, severe drought, etc.).
- Manage grazing and/or browsing animals to maintain adequate cover on sensitive areas (such as riparian areas, wetlands, habitats of concern, karst areas, etc.).
- Manage livestock movements based on rate of plant growth, available forage, and allowable utilization target. Develop and follow contingency plans to deal with episodic disturbance events.

- Plan grazing and/or browsing to match forage quantity and quality goals of the producer within the capability of the resource to respond to management. Plan the intensity, frequency, timing, and/or browsing to reduce animal stress and mortality from toxic and poisonous plants.

- Supplemental feed and/or minerals will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.

- The qualified professional's provided recommendations (see documentation requirements) will be based on the National Research Council's Nutrient Requirements of Domestic Animals.

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, make initial target livestock performance goals and mediation actions taken available to NRCS; including reasons for no action.

☐ Prior to implementation, obtain a written plan for collecting samples, sample analysis, and corresponding management recommendations as developed and provided by a Certified Range Management Consultant, Certified Professional in Range Management, Certified Forage and Grassland Professional, NRCS Technical Service Provider certified for development of a DIA 159, or a non-affiliated consultant with a bachelor or higher level degree in forage agronomy, range science, animal science, animal nutrition or other closely-related plant science discipline or a minimum of three years' experience in grazing lands conservation planning and grazing animal nutrition.

☐ During implementation, keep records to annually document prescribed grazing requirements are met.

☐ After implementation, make available documentation of protein and energy of consumed forages/browse based on a land grant university laboratory analysis, including corresponding management recommendations. The analysis be based on collected sample of the forage available to the livestock or fecal samples analyzed with appropriate Near-infrared spectroscopy (NIRS). ON FOREST LAND USE, fecal samples can only be analyzed in Arizona and New Mexico at this time. This analysis needs to illuminate shortfalls and/or excessive amounts of protein and energy. **Samples must be submitted in a timely manner to allow for appropriate adjustments in management and/or supplementation**.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ After implementation, make grazing and supplementation records available for review by NRCS.

NRCS will:

- ☐ Prior to implementation, assist the participant with development of a grazing plan if requested to do so.
- ☐ During implementation, as requested, assist the participant with adapting the grazing strategy and plan to current conditions, as it relates to sample analysis results.
- ☐ After implementation, review forage or fecal sampling schedule and corresponding management actions taken to determine if a supplementation plan was reasonably followed.
- ☐ After implementation, annually review documentation provided indicating that prescribed grazing specifications have been met and to verify the enhancement has been implemented.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528A

Maintaining quantity and quality of forage for animal health and productivity

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture, Range, Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

Documentation and Implementation Requirements

Participant will:

- Obtain the services of a certified Range Management Consultant, Certified Professional in Range Management, Certified Forage and Grassland Professional, NRCS Nebraska Technical Service Provider (TSP) certified for development of a DIA 159, or a non-affiliated consultant with a bachelor or higher level degree in forage agronomy, range science, animal science, animal nutrition or other closely-related plant science discipline or a minimum of three years' experience in grazing lands conservation planning and grazing animal nutrition to assist in reviewing forage test results and to make recommendations for management changes when mediation actions are needed. Use of a non-affiliated consultant requires the approval of the Nebraska State Range Management Specialist prior to obtaining the services of this individual for purposes of this enhancement.
- Use Nebraska Prescribed Grazing Design Tool September 2021 or equivalent to document the grazing plan.
- Collect a series of samples (minimum of 4) throughout the grazing period. Collect samples when forage quality is expected to be low (late in the growing season, dormant season grazing, grazing crop aftermath, etc.). Use one of the following methods to analyze protein and energy consumed:
  1. Fecal samples analyzed for protein and energy consumed using Near-Infrared Spectroscopy (NIRS) The Grazing Animal Nutrition Lab (GANLAB) is the primary source for NIRS analysis of fecal samples. Other land-grant university labs may be utilized if these labs are available.
  2. Forage samples analyzed for protein and energy content by a qualified forage testing lab. Samples will be collected in accordance with the procedure outlined on Pages 2 and 3 of this supplement. It is recommended that the analysis be completed by a lab that is accredited by the National Forage Testing Association (NFTA).

NRCS will:

- At participant's request, assist the participant with development of the grazing management plan using the Nebraska Prescribed Grazing Design Tool September 2021.

Forage Sampling Protocol

Proper forage sampling is essential to obtain an accurate representation of the forage for analysis. Forages may be sampled in the pasture, after harvest and baling, or post-ensiling. Samples should be a representative sample of the livestock's diet. Each forage lot should be analyzed for feed value.

Sampling Standing Forage

Sampling and analyzing standing forage will help to determine supplemental feed requirements during dormant season grazing and other situations where forage quality may be reduced.

Forage Lots: Pastures should be divided into forage lots. A pasture with similar vegetation throughout could be considered one forage lot. Since grass species can vary significantly across a pasture, there often will be several forage lots within each pasture. Variations in forage may be caused by areas of heavier or lighter grazing utilization, different topography and/or different soil types.

Sample Plots: At least 8 locations or plots should be sampled within each forage lot. Each plot should be clipped to the typical grazing height. Clip only the species that will be or are being grazed. Clipped plots should consist of a 1 foot square area. The forage from each of the 8 (or more) plots within a forage lot should be cut into 2- to 3-inches pieces, combined in a bucket or other sample collection container, and mixed well to create a representative sample.

Sample Plot Location: Plots should be located randomly throughout the forage lot to provide a representative sample. The easiest way to achieve this is to walk in an "M" or "Z" pattern throughout the forage lot, harvesting samples at regular intervals. For a small grazing lot, sampling every 20 steps may be appropriate; for a large pasture, every 50 steps. The number of samples should be increased for larger grazing lots in order to obtain more accurate test results.

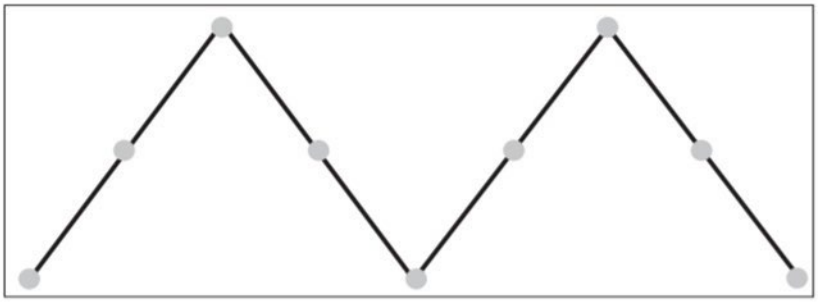


Figure 1: Recommended sampling pattern for fresh forage analysis in a uniform pasture. Dots represent sampling sites. Within the sample area.

Sample care: Forage samples should be spread out on paper to air dry to minimize any molding that may

occur during shipment to the laboratory. Ensure that the samples arrive at the laboratory as quickly as possible. It is not a good idea to allow samples to sit outside, especially in the sunlight, during the day. While 0.5-1.0 lb. is usually sufficient, it is a good idea to check with your lab to ensure that you are sending an adequately sized sample.

Sampling Harvested Forage

Accurate feed analyses are needed to balance livestock rations, correctly price hay and accurately formulate least cost supplementation program.

Forage Lots: A forage lot of harvested hay consists of hay harvested from one field, or portion of a field, at the same cutting and maturity within a 48-hour period. The determination of a forage lot will depend on forage species, soils, maturity, cutting date, weather and harvest and storage conditions.

Sampling Baled Hay: Baled hay should be sampled after curing using a core sampler or probe that will penetrate at least 12 to 18" into the bale and that has an internal diameter of at least 3/8-inch. *Hand samples are not reliable.* When sampling large round or square bales, at least 20 bales in each lot should be selected for sampling. Collect one sample from each bale by coring straight in from the center of square bales and from the wrapped circumference round bales (Figure 2) to receive the most representative sample. Combine the cores from the lot into a bucket and mix thoroughly. For sampling stacks or silage, see NebGuide G331, Sampling Feeds for Analysis, 2007.

Figure 2. Forage sampling round bales. Collect sample from the cured side. The probe should be straight in and perpendicular to the surface.

Sample Handling: Place samples in polyethylene freezer bags and seal tightly. Double bag silage bags for extra protection. Freeze samples containing over 15% moisture until shipping; store dry samples in a cool location. Avoid direct sunlight and damage to the bags. Mail or deliver samples so that they arrive at the laboratory early to mid-week to avoid delays. Most labs will provide a description sheet to report information and to request the desired tests.

References:

Sampling Feeds for Analysis, UN-L Neb Guide G331
Collecting Forage Samples for Analysis – Oklahoma Cooperative Extension Service PSS-2589
Forage Sampling and Analysis, K-State University Forage Facts

United States Department of Agriculture

Conservation Enhancement Activity

E528B

CONSERVATION STEWARDSHIP PROGRAM

Grazing management that improves Monarch butterfly habitat

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Range, Pasture, Forest

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Implement a grazing management plan that will increase the abundance and diversity of monarch nectar-producing perennial forbs, including milkweed, while maintaining ecosystem benefits for other wildlife and livestock.

Criteria

- Evaluate habitat in the enhanced, delineated Monarch areas with the state NRCS Monarch Butterfly Wildlife Habitat Evaluation Guide (WHEG) and manage delineated Monarch areas to improve the WHEG score at least one category (e.g. from poor to fair, or from good to excellent).
- Enhance diversity of rangeland plants to optimize delivery of nutrients to domestic grazing animals by incorporating the intensity, frequency, timing and duration of grazing and/or browsing needed as determined by a planning process that includes:
  - Clear objectives,
  - A resource inventory with ecological site description or reference sheet and structural improvements and existing resource conditions,
  - Grazing plan,

  - A contingency plan, and
  - Monitoring and needed adjustments for Monarchs, domestic grazing animals, and other wildlife (including pollinators).

- Defer, rest, or graze the enhanced, delineated Monarch areas to meet the nectar-producing forbs, including milkweed, needs of Monarch Butterflies when the Monarchs will be migrating through the area (e.g. spring and fall for the southern Great Plains, summer and fall for the Midwest, northern Great Plains and east, and spring through fall for the west.
- Delineate Monarch area(s) within the planned enhancement area/acres, comprising at least 5 acres or at least 5% of the planned enhancement area/acres, whichever is most.
- A written plan for matching the forage quantity and quality produced with the grazing and/or browsing demand by livestock and wildlife will be followed.
- Supplemental feed and/or minerals will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- Prior to implementation, develop a map delineating the areas where the Monarch habitat will be implemented.
- Prior to implementation, obtain a written grazing plan (NRCS can provide assistance as needed). Plan must include:
    - Clear goals and objectives of the plan, including identification of the specie(s) of concern and the plant functional groups providing structure and composition.
    - Map identifying all permanent pastures, water sources, and any riparian area or watershed drainage locations improved or maintained by this management.
    - Forage inventory
    - Forage-animal balance sheet
    - A grazing plan narrative describing the basis for when livestock movement or rotation will occur, including deferment plans.
    - Contingency plans for forage shortfalls and for events that trigger adverse results.
    - Monitoring locations, key species, and monitoring techniques.
- Prior to implementation, work with NRCS to complete an assessment of the site using the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).
- During implementation, keep the following documentation:
    - Livestock herd management records with seasonally important phenological stages of plant growth relative to species of concern.
    - Annually complete a forage utilization worksheet, such as NRCS Conservation Practice Standard Prescribed Grazing (Code 528) job sheet.
    - Grazing intensity records for all key grazing areas that accommodate the criteria.
- During implementation, defer, rest, or graze the enhanced, delineated Monarch areas to meet the nectar-producing forbs, including milkweed, needs of Monarch Butterflies when the Monarchs will be migrating through the area (e.g. spring and fall for the

southern Great Plains, summer and fall for the Midwest, northern Great Plains and east, and spring through fall for the west.

- During implementation, consult with NRCS to adjust and adapt the grazing plan to current conditions to verify the changes meet enhancement criteria. Changes to the grazing plan will be documented in writing.
- After implementation, make all records available for review by NRCS to verify implementation of the enhancement.
- After implementation, complete an assessment of the site with NRCS using the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).

NRCS will:

- As needed, provide technical additional assistance to the participant as requested.
- Prior to implementation, verify there are at least two delineated Monarch areas within the enrolled area, comprising at least 5 acres or 5% of the enrolled area, whichever is most.
- Prior to implementation, provide and explain NRCS Conservation Practice Standard Prescribed Grazing (Code 528) as it relates to implementing this enhancement, including any state approved job sheets or work sheets.
- Prior to implementation, complete an assessment of the site with the participant using the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG). Minimum score after implementation will be one category higher than initial score when specifically rated for Monarch Butterflies.
  WHEG score before implementation: _____
  WHEG score after implementation: _____
- Prior to implementation, assist the participant with development of a grazing plan, if requested. If NRCS does not assist with plan development, the plan(s) will be reviewed by NRCS for approval prior to implementation to confirm the written objectives meet the criteria of the enhancement.
- During implementation, as requested, assist the participant with adapting the grazing strategy and plan to current conditions.

CONSERVATION STEWARDSHIP PROGRAM

- After implementation, review grazing plan, records, and documentation to verify the enhancement was implemented to meet the criteria.
- After implementation, complete an assessment of the site with the participant using the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG). Minimum score after implementation will be one category higher than initial score when specifically rated for Monarch Butterflies. **WHEG score after implementation:** _____

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name_____ Contract Number _____

Total Amount Applied_____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528B

Grazing management that improves Monarch butterfly habitat

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Range & Pasture

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Monarch habitat areas must be a minimum of 5 acres or 5% of the selected land use area, whichever is larger. Complete the Monarch Habitat Evaluation Guide: Northern Plains on monarch habitat areas. Monarch habitat areas must rank "Good" or "Excellent" in all planned scores for Pesticide Threats, Breeding Habitat, and Nectaring Habitat. If benchmark scores are "Poor" or "Fair" in either Breeding or Nectaring Habitat scores, interseeding to increase scores and enrollment for 3 consecutive years of this enhancement are required. Follow interseeding and establishment management guidelines outlined below. Refer to the supplement Monarch Habitat in Rangelands for example photos of poor, fair, good, and excellent habitat that can be used as a guide for management decisions prior to implementation of the Monarch WHEG.

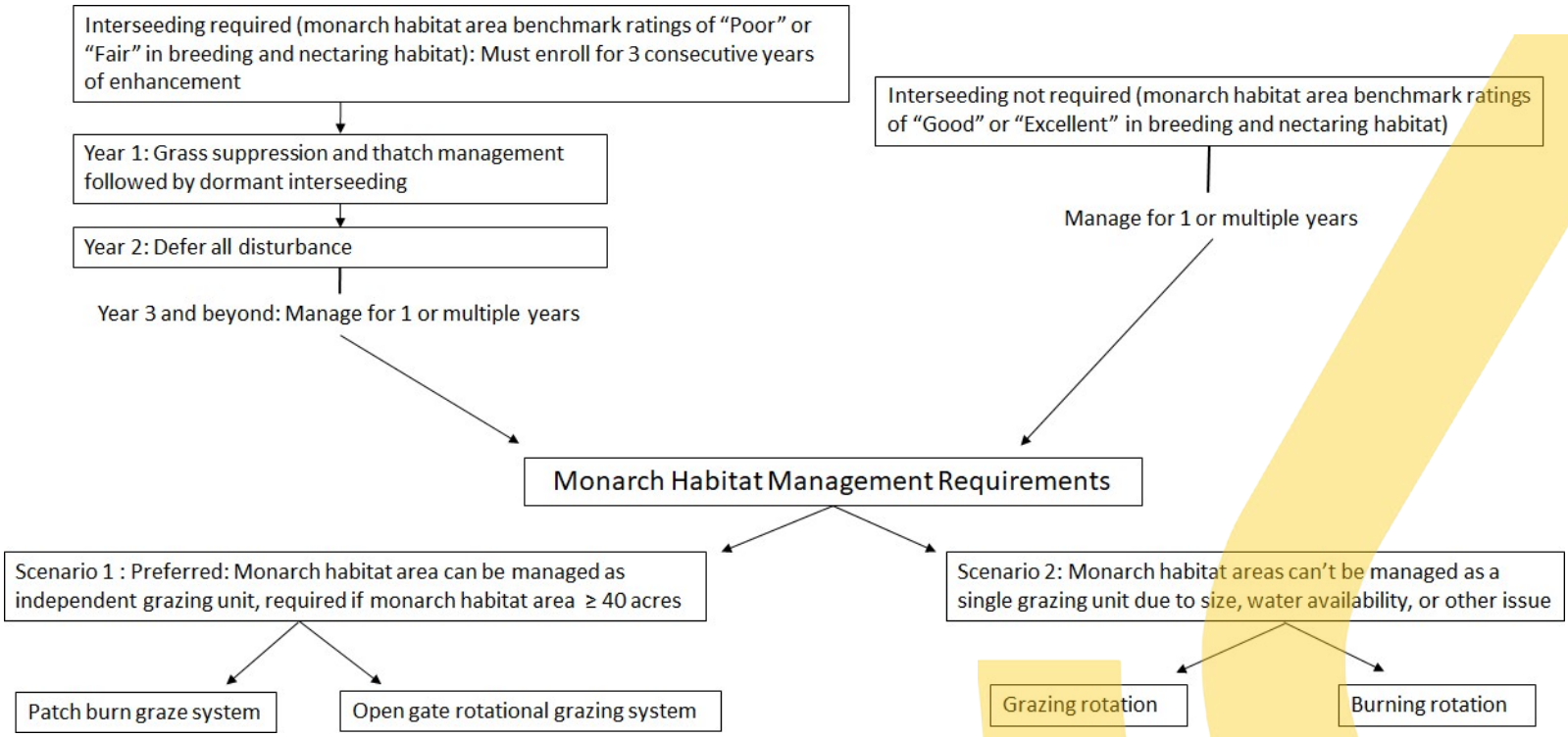
Monarch habitat areas with benchmark scores of "Good" or "Excellent" in Breeding Habitat and Nectaring Habitat will be managed with monarch habitat as the primary goal following management guidelines outlined below (fencing to separate from the 95% of selected range acres is necessary and interior fencing within the area may also be required).

Protection from direct application and drift of insecticides, fungicides, and herbicides should be addressed by monarch habitat area site selection and ongoing management. If monarch areas are next to a treated crop/area (including treated seed and herbicide, insecticide, or fungicide applications and including any treated seed or applications on an adjacent operation) a 100 ft buffer is required. Buffers should be maintained as flower free areas. Leaving 100 ft of crop rows untreated near monarch habitat areas can serve as a buffer.

Complete the NE-CPA-35 Rangeland Wildlife Habitat Evaluation Worksheet on all selected range acres outside of the monarch habitat areas. All selected range acres must have planned scores of 0.5 or higher. Additionally, broadcast sprays of herbicide on any selected range acres is prohibited. Spot spraying of noxious weeds is allowed. If spraying weeds that also serve as monarch nectar plants (e.g. exotic thistles), spray when the plants are not in bloom. If spraying during the bloom

period is necessary, spray during the evening, when plants are not in bloom.

Use the flow chart to guide management decisions. More information about management can be found following the flow chart.



Species Composition, Selection, Planting and Establishment Management for Interseeding: If the monarch habitat area ranks "Poor" or "Fair" in either Breeding or Nectaring Habitat Scores on the benchmark Monarch Habitat Evaluation Guide: Northern Plains, interseeding of both host plants (Asclepias spp. – milkweeds) and identified nectar plants for monarch butterflies is required. A minimum of 15 PLS seeds/ft^2 are required for interseeding. All seeded species must be on the Monarch Planting List: Northern Plains Edition-Nebraska supplement and at least 7 species from this list must be interseeded with at least 1 species in each bloom period (note: use bloom periods on the Monarch Planting List: Northern Plains Edition-Nebraska Supplement for this enhancement, they may vary from bloom period listed on other NRCS documents). A minimum of 1 milkweed PLS seed/ft^2 is required, it is recommended that more than 1 milkweed species be used in each planting. (Note: multiple milkweed species may contribute to 1 PLS seed/ft^2). Local ecotype seed should be utilized when available. Use the NE-CPA-8 Grass Seeding Job Sheet. Interseeding is allowed only when existing habitat areas are comprised of mostly native grasses and forbs, if non-native aggressive grasses are dominant or increasing (i.e. smooth brome cover > 25%), this enhancement is not appropriate. Before interseeding with wildflowers, suppress the existing grass stand using intensive grazing, haying, burning, and/or chemical treatment during the active growth stage of the grass and remove as much thatch as possible. Multiple techniques may be needed (e.g. chemical application will stress grasses but thatch will remain, haying,

burning, or grazing before or after chemical application will be necessary to remove thatch). See Early Successional Habitat Guidance Document 2019 (formerly named Early Successional Habitat Development/Management Procedures (647 DP)) for more information. When chemical treatment is used to suppress grasses, complete a WINPST run. Dormant season broadcast seeding is recommended for wildflower seeds.
Bare ground is essential for seed soil contact for broadcast seedings and is recommended for drilled seed as well, even a moderate amount of thatch can affect planting depth and seed germination. If drilled, a native grass seed drill should be used by an experienced operator with frequent calibration checks to ensure that seeds are planted at or less than 1/4" deep.
In the first growing season after interseeding, grazing and all other disturbances will be deferred. In year 3 and optional years 4-5, follow the guidelines for management on monarch habitat areas outlined below.

Management on monarch habitat areas

An annual disturbance regime is required on monarch habitat areas (if interseeding is required, annual disturbance is not required until year 3, see above). There are two scenarios for monarch habitat areas,

Scenario 1: Monarch habitat area is able to be managed as an independent grazing unit, if monarch habitat area is 40 acres or more scenario 1 is recommended and smaller monarch habitat areas should adopt scenario 1 management if able, this is the preferred management strategy. Follow management requirements for monarch habitat management scenario 1

OR

Scenario 2: Monarch habitat areas can't serve as an independent grazing unit, due to size, lack of water, or other issue, follow management requirements for monarch habitat management scenario 2.

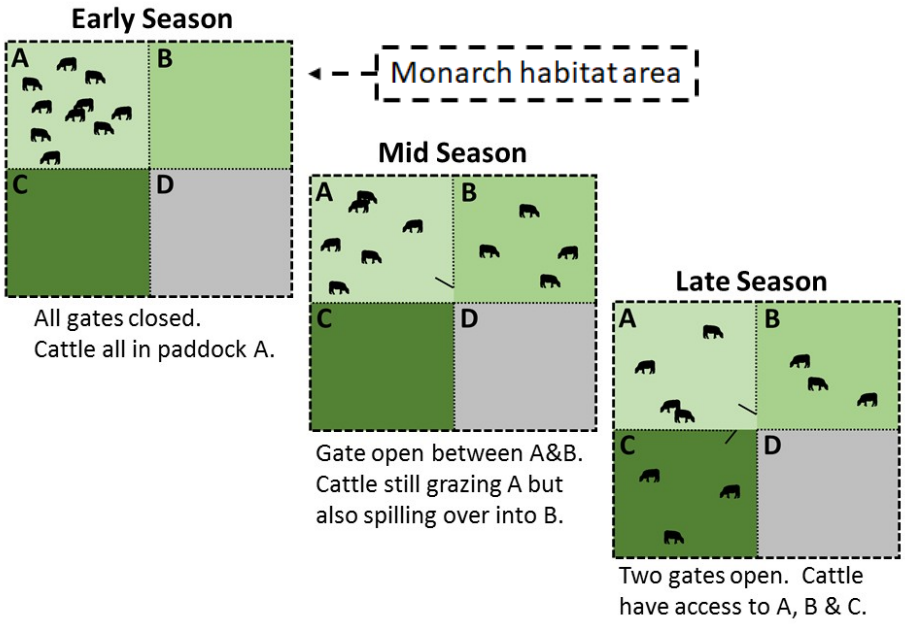
Scenario 1-Monarch habitat management : **Patch burn grazing** or **open gate rotational grazing**

Patch burn grazing: Interior fencing is not required except to fence out 1/4 of the monarch habitat area as a refuge site with no disturbance. Cattle have access to the remaining 3/4 of the site. Perform a late fall burn (after October 15th) the year before grazing or an early spring burn (prior to April 15th) on 1/4 of the site followed by grazing the entire 3/4 of the site. The stocking rate should be calculated for 40% utilization of all grazed areas. Cattle will graze the recently burned 1/4 most intensely. Plan to burn a different quarter of the site annually, choosing a quarter with higher fuel loads and shifting between fall and spring burns when able. Refuge quarter should also shift every year. Plan and map areas to be patch burned each year and complete the NE-ECS-72, Prescribed Burn Management Plan. More information is available at https://prairienebraska.files.wordpress.com/2011/05/patch-burning-for-biodiversity.pdf - Patch-Burn Grazing for Biological Diversity.

Open gate rotational grazing: Site must be fenced into quarters. 1/4 will be maintained as a refuge from disturbance. Use a stocking rate of 40% utilization for the entire 3/4 of the site. Early in the season, all cattle will be confined to grazing in 1/4 of the grazing area. When cattle have grazed most of the grass in that 1/4 (70% utilization), open a gate or remove fence to a second 1/4of the site, leaving the gateopen so cattle may graze in the first 1/4 or new 1/4. Midway through the growing season or when cattle have grazed the second 1/4 significantly (30-40% utilization), open a gate or remove fencing to the third 1/4, leaving open all gates between the 3 quarters that are being disturbed in that year. Cattle should be able to move freely between 3 of

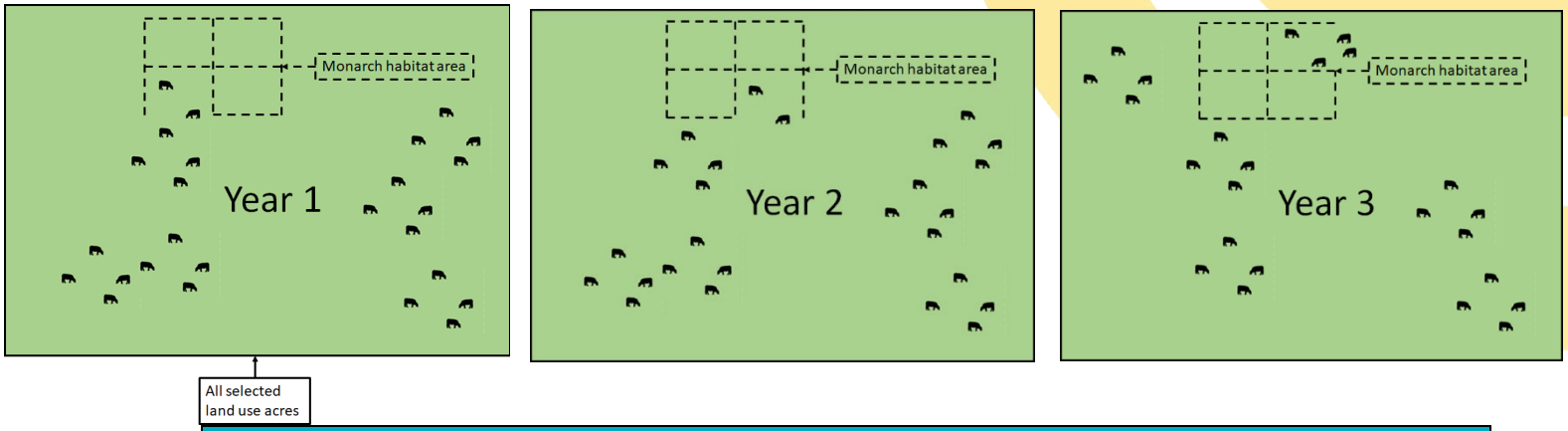
quarters by the end of the grazing period. Choose a different quarter to start cattle on each year and rotate the refuge quarter yearly. Open gate rotational grazing figure provided by Chris Helzer, The Nature Conservancy.

Open Gate Rotational Grazing



Scenario 2 -Monarch habitat management: **Grazing rotation** or **burning rotation**

Grazing rotation: Monarch habitat should be divided into 4 equal units. Graze a single unit (1/4) of the monarch habitat area per year **with all selected range acres** (all planned grazing areas must score at or above 0.5 on Rangeland WHEW). Change the unit (1/4) of monarch habitat that is grazed in subsequent years. Do not regraze a quarter, until all 4 quarters have been grazed. No burning of monarch habitat areas is allowed in the grazing rotation. Document the actual grazing use (livestock numbers, class and size and grazing in out dates for each pasture) in form NE-CPA-64 Actual Use Report which is found in the Nebraska Prescribed Grazing Design Tool 2016.



Burning rotation: Monarch habitat should be divided into 4 equal units. Perform a prescribed burn on a single unit (1/4) of the monarch habitat area per year. Prescribed burns cannot happen from April 15th to October 15th, while monarchs may be present on site. Change the unit (1/4) of monarch habitat that is burned in subsequent years. Do not burn the same quarter more than once before all 4 quarters have been burned. No grazing of monarch habitat areas is allowed in the burning rotation. Plan and map areas to be burned each year and complete the NE-ECS-72, Prescribed Burn Management Plan.

United States Department of Agriculture

Conservation Enhancement Activity

E528C

CONSERVATION STEWARDSHIP PROGRAM

Incorporating wildlife refuge areas in contingency plans for wildlife

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture; Range; Forest

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

A prescribed grazing plan that includes 12 month (or longer) rest (non-grazing period equal or greater than one year) of a grazing unit that consists of native grasses and/or legumes and/or perennial forbs for the purpose of meeting the needs for drought/disaster contingency plans that will also provide wildlife habitat or wildlife access to water for a period of time.

Criteria

- A written plan for matching the forage quantity and quality produced with the grazing and/or browsing demand by livestock and wildlife will be followed.
- Enhance diversity of rangeland plants to optimize delivery of nutrients to the animals by incorporating the intensity, frequency, timing and duration of grazing and/or browsing needed as determined by a planning process that includes:
  - Clear objectives,
  - A resource inventory of structural improvements, existing resource conditions, and forage inventory.
  - Grazing plan, and

  - A contingency plan
  - A monitoring plan

- Supplemental feed and/or minerals will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.
- Identify wildlife species of concern in the objectives of the prescribed grazing plan.
- An area that constitutes at least 15% of the planned enhancement acreage (or a minimum of ten acres, whichever is larger) that is predominantly native grasses and/or legumes and/or perennial forbs will be rested from all harvest by livestock or prescribed burning for a period of 12 months or longer.
- The rested area must be a grazing unit (or located in a grazing unit) that scores a minimum of 0.5 on the state NRCS Wildlife Habitat Evaluation Guide (WHEG).
- The rested area can be used to stockpile forages to build reserves for livestock forage after the 12-month rest period.
- In the event the designated refuge area gets utilized by livestock during a drought/disaster emergency or other contingency situation, during the life of the contract, it must be restored or let recover or another pasture designated and rested for 12 months following the emergency utilization.
- Water must be made available for the wildlife species of concern designated in the grazing plan in the refuge area or nearby where the refuge provides needed cover for water access.

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

- ☐ Prior to implementation, review NRCS Conservation Practice Standards Prescribed Grazing (Code 528) and Upland Wildlife Habitat Management (Code 645), including any state approved job sheets or work sheets.
- ☐ Prior to implementation, work with NRCS to complete an assessment of the site using the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).
- ☐ Prior to implementation, provide locations of water access.
- ☐ Prior to implementation, obtain grazing/wildlife habitat management plan specifying what species the enhancement is targeting and how grazing management is being modified to benefit that species. The written grazing plan must describe the management and harvest of vegetation with grazing and/or browsing animals, what conditions create the need to implement a contingency plan, and what monitoring method(s) will be used.
    - o The grazing plan will include a minimum of a 12-month rest period on 15% of enrolled acres incorporated into grazing strategy. Supporting documentation identifying baseline conditions will be based on state NRCS Conservation Practice Standard Prescribed Grazing (Code 528) specifications.
- ☐ During implementation, keep actual use records (dates, time, and number of head).
- ☐ During implementation, maintain water in the refuge area or nearby where the refuge provides needed cover for water access.
- ☐ During implementation, collect monitoring data used to determine contingency activation such as precipitation, drought, fire, and flooding or forage availability.
- ☐ During implementation, consult with NRCS to adjust and adapt the plan to current conditions to verify the changes meet enhancement criteria. Changes to the plan will be documented in writing.
- ☐ After implementation, make the follow items available for review by NRCS to verify implementation of the enhancement:
    - o Grazing/wildlife habitat management plan.
    - o Monitoring data and actual use records.

CONSERVATION STEWARDSHIP PROGRAM

- Any documented changes to the plan as result of contingency or monitoring data.

NRCS will:

- ☐ As needed, provide technical additional assistance to the participant as requested.

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standards Prescribed Grazing (Code 528) and Upland Wildlife Habitat Management (Code 645) as they relate to implementing this enhancement, including any state approved job sheets or work sheets.

- ☐ Prior to implementation, complete an assessment of the site with the participant using the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).
  Species of Concern: _____
  WHEG score before implementation: _____
  WHEG score after implementation: _____

- ☐ Prior to implementation, assist the participant with development of a grazing plan, if requested. If NRCS does not assist with plan development, the plan(s) will be reviewed by NRCS for approval prior to implementation to confirm the written objectives meet the criteria of the enhancement.

- ☐ After implementation, review actual use and monitoring data used to implement grazing strategy and provide recommendations for adjustments, or additional practices to facilitate future improvements in wildlife habitat.

- ☐ During implementation, as requested, assist the participant with adapting the grazing strategy and plan to current conditions.

- ☐ After implementation, review grazing plan, records, and documentation to verify the enhancement was implemented to meet the criteria.

- ☐ After implementation, complete an assessment of the site with the participant using the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).
  WHEG score after implementation: _____

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528C

Incorporating wildlife refuge areas in contingency plans for wildlife

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture; Range

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Work with a wildlife biologist, as needed, to identify the target wildlife species and to design the grazing management plan to provide beneficial wildlife habitat for the selected species. It is recommended to select species which are listed in the Nebraska Natural Legacy Plan or a species of national or regional interest (i.e. Northern bobwhite quail). Document the target wildlife species and the actions needed to provide benefits on the formerly known as NE-CPA-14), 645 NE IR Upland Wildlife Habitat Management 2007 Plan.

The minimum area to be treated is 15% of all enrolled grazing acres (pasture and range) or at least 10 acres – whichever is larger. Payment is applied to the deferred "refuge" acres.

The most suitable WHEW may be the Rangeland Habitat Evaluation Worksheet 2006 or one of the species-specific Habitat Evaluation Tools (i.e. Greater Prairie Chicken). The planned score must equal or exceed 0.50 on the habitat evaluation for the area to be deferred as well as the remainder of the rangeland.

Use the Nebraska 528 NE IR Prescribed Grazing Design Tool, or equivalent to document the grazing plan. Use form NE-CPA-64 Actual Use Report which is found in the Nebraska 528 NE IR Prescribed Grazing Design Tool, or equivalent, to document annual grazing management and forage utilization. The grazing plan must address grazing intensity (forage balance) at the targeted utilization level and also a grazing schedule to accommodate the necessary rest and regrowth potential.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E528D

CONSERVATION STEWARDSHIP PROGRAM

Grazing management for improving quantity and quality of food or cover and shelter for wildlife

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture, Range, Forest

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Grazing management employed will provide the plant structure, density and diversity needed for improving the quantity and quality of cover, shelter and food for the desired wildlife species of concern.

Criteria

- Must follow a written plan for matching the forage quantity and quality produced with the grazing and/or browsing demand by livestock and wildlife.
- Enhance diversity of rangeland plants, generally found on the Ecological Site Description or otherwise documented by measurement protocol, to optimize delivery of nutrients to the animals by incorporating the intensity, frequency, timing and duration of grazing and/or browsing needed as determined by a planning process that includes:
  - Clear objectives
  - Resource inventory with ecological site description or reference sheet and structural improvements and existing resource conditions,
  - Grazing plan, and

CONSERVATION STEWARDSHIP PROGRAM

  - A contingency plan.

- Supplemental feed and/or minerals will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.
- Identify species of concern in the objectives of the prescribed grazing plan.
- Plan intensity, frequency, timing and duration of grazing and/or browsing to provide for the development and maintenance of the plant structure, density and diversity needed for the identified wildlife species.
- Evaluate wildlife habitat with the state NRCS Wildlife Habitat Evaluation Guide (WHEG) and manage for a WHEG value of 0.60 or greater.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, obtain a written grazing plan (NRCS can provide assistance as needed). Plan must include:

- Clear goals and objectives of the plan, including identification of the specie(s) of concern and the plant functional groups providing structure and composition.
- Contingency plan for events that trigger adverse results.
- Forage/Animal Balance.
- A grazing plan narrative describing the basis for when livestock movement or rotation will occur, including deferment plans.
- Contingency plans for forage shortfalls.
- Monitoring locations, key species, and monitoring techniques.
- Map identifying all permanent pastures, water sources, and any riparian area or watershed drainage locations improved or maintained by this management.

☐ Prior to implementation, work with NRCS to complete an assessment of the site using the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).

☐ During implementation, keep the following documentation:

- Livestock herd management records with seasonally important phenological stages of plant growth relative to species of concern.
- Annually complete a forage utilization worksheet, such as NRCS Conservation Practice Standard Prescribed Grazing (Code 528) job sheet.
- Grazing intensity records for all key grazing areas that accommodate the criteria.

☐ During implementation, consult with NRCS to adjust and adapt the grazing plan to current conditions to verify the changes meet enhancement criteria. Changes to the grazing plan will be documented in writing.

☐ After implementation, make all records available for review by NRCS to verify implementation of the enhancement.

☐ After implementation, complete an assessment of the site with NRCS using the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).

NRCS will:

☐ As needed, provide technical additional assistance to the participant as requested.

☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Prescribed Grazing (Code 528) as it relates to implementing this enhancement, including any state approved job sheets or work sheets.

☐ Prior to implementation, complete an assessment of the site with the participant using the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).
Species of Concern:_____
WHEG score before implementation:_____
WHEG score after implementation:_____

☐ Prior to implementation, assist the participant with development of a grazing plan, if requested. If NRCS does not assist with plan development, the plan(s) will be reviewed by NRCS for approval prior to implementation to confirm the written objectives meet the criteria of the enhancement.

☐ During implementation, as requested, assist the participant with adapting the grazing strategy and plan to current conditions.

☐ After implementation, review grazing plan, records, and documentation to verify the enhancement was implemented to meet the criteria.

☐ After implementation, complete an assessment of the site with the participant using the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).
WHEG score after implementation:_____

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528D

Grazing management for improving quantity and quality of food or cover and shelter for wildlife

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Range; Pasture; Forest

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Work with a wildlife biologist, as needed, to identify the target wildlife species and to design the grazing management plan to provide beneficial wildlife habitat for the selected species. It is recommended to select species which are listed in the Nebraska Natural Legacy Plan or a species of national or regional interest (i.e. Northern bobwhite quail). Document the target wildlife species and the actions needed to provide benefits on the (formerly known as NE-CPA-14), 645 NE IR Upland Wildlife Habitat Management 2007 Plan.

The minimum area to be treated with this enhancement is one management unit (i.e. pasture).

The most suitable WHEW may be the Pastureland Habitat Evaluation Worksheet 2006 or Rangeland Habitat Evaluation Worksheet 2006; or one of the species-specific Habitat Evaluation Tools (i.e. Northern Bobwhite). The planned score must equal or exceed 0.6 on the habitat evaluation. Key aspects of the assessment should address grazing intensity and management strategies to allow residual cover to persist and provide food, etc.

Use the 528 NE IR Prescribed Grazing Design Tool , or equivalent to document the grazing plan. Use form NE-CPA-64 Actual Use Report which is found in the 528 NE IR Prescribed Grazing Design Tool, or equivalent, to document annual grazing management and forage utilization. The grazing plan must address grazing intensity (forage balance) at the targeted utilization level and also a grazing schedule to accommodate the necessary rest and regrowth potential.

United States Department of Agriculture

Conservation Enhancement Activity

E528E

CONSERVATION STEWARDSHIP PROGRAM

Improved grazing management for enhanced plant structure and composition for wildlife

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture; Range; Forest; Associated Ag Land

RESOURCE CONCERN: Plants

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Managing the harvest of vegetation with grazing and/or browsing animals for the purpose of improving the quantity and quality of the structure and composition of the plant community that is available for wildlife.

Criteria

- Must follow a written plan for matching the forage quantity and quality produced with the grazing and/or browsing demand.
- Removal of herbage will be in accordance with site production limitations, rate of plant growth, the physiological needs of forage plants, and the nutritional needs of the animals.
- Deferment (non-grazing period less than one year) and/or rest (non-grazing period equal or greater than one year) will be planned for critical periods of plant needs (such as post-planting or renovation, severe drought, etc.).
- Manage grazing and/or browsing animals to maintain adequate cover on sensitive areas (such as riparian areas, wetlands, habitats of concern, karst areas, etc.)

CONSERVATION STEWARDSHIP PROGRAM

- Manage livestock movements based on rate of plant growth, available forage, and allowable utilization target. Develop and follow contingency plans to deal with episodic disturbance events.
- Both the specie(s) of concern and the plant functional groups providing structure and composition will be identified in the objectives of the prescribed grazing plan.
- Plan the intensity, frequency, timing and duration of grazing and/or browsing to provide for the development and maintenance of the plant structure, density and diversity needed for the desired fish and wildlife species of concern.
- Manage the afore-mentioned aspects of grazing events to maintain a minimum score of 0.60 when evaluated with the state NRCS Wildlife Habitat Evaluation Guide (WHEG).

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

☐ Prior to implementation, obtain a written grazing plan (NRCS can provide assistance as needed). Plan must include:

- Clear goals and objectives of the plan, including identification of the specie(s) of concern and the plant functional groups providing structure and composition.
- Contingency plan for events that trigger adverse results.
- Forage/Animal Balance.
- A grazing plan narrative describing the basis for when livestock movement or rotation will occur, including deferment plans.
- Contingency plans for forage shortfalls.
- Monitoring locations, key species, and monitoring techniques.
- Map identifying all permanent pastures, water sources, and any riparian area or watershed drainage locations improved or maintained by this management.

☐ Prior to implementation, work with NRCS to complete an assessment of the site using the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).

☐ During implementation, keep the following documentation:

- Livestock herd management records with seasonally important phenological stages of plant growth relative to species of concern.
- Annually complete a forage utilization worksheet, such as NRCS Conservation Practice Standard Prescribed Grazing (Code 528) job sheet.
- Grazing intensity records for all key grazing areas that accommodate the criteria.

☐ During implementation, consult with NRCS to adjust and adapt the grazing plan to current conditions to verify the changes meet enhancement criteria. Changes to the grazing plan will be documented in writing.

CONSERVATION STEWARDSHIP PROGRAM

☐ After implementation, make all records available for review by NRCS to verify implementation of the enhancement.

☐ After implementation, complete an assessment of the site with NRCS using the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).

NRCS will:

☐ As needed, provide technical additional assistance to the participant as requested.

☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Prescribed Grazing (Code 528) as it relates to implementing this enhancement, including any state approved job sheets or work sheets.

☐ Prior to implementation, complete an assessment of the site with the participant using the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).
Species of Concern: _____
WHEG score before implementation: _____
WHEG score after implementation: _____

☐ Prior to implementation, assist the participant with development of a grazing plan, if requested. If NRCS does not assist with plan development, the plan(s) will be reviewed by NRCS for approval prior to implementation to confirm the written objectives meet the criteria of the enhancement.

☐ Prior to implementation, explain the functionality of this enhancement with Enhancement E314A, if sequentially applicable.

☐ During implementation, as requested, assist the participant with adapting the grazing strategy and plan to current conditions.

☐ After implementation, review grazing plan, records, and documentation to verify the enhancement was implemented to meet the criteria.

☐ After implementation, complete an assessment of the site with the participant using the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG).
WHEG score after implementation: _____

NRCS Documentation Review:

CONSERVATION STEWARDSHIP PROGRAM

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528E

Improved grazing management for enhanced plant structure and composition for wildlife

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture; Range; Forest; Associated Ag Land

RESOURCE CONCERN: Plants

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Work with a wildlife biologist, as needed, to identify the target wildlife species and to design the grazing management plan to provide beneficial wildlife habitat for the selected species. It is recommended to select species which are listed in the Nebraska Natural Legacy Plan or a species of national or regional interest (i.e. Northern bobwhite quail). Document the target wildlife species and the actions needed to provide benefits on the (formerly known as NE-CPA-14), 645 NE IR Upland Wildlife Habitat Management 2007.

The minimum area to be treated with this enhancement is one management unit (i.e. pasture).

The most suitable WHEW may be the Pastureland Habitat Evaluation Worksheet 2006 or one of the species-specific Habitat Evaluation Tools (i.e. Northern Bobwhite). The planned score must equal or exceed 0.60 on the habitat evaluation. Key aspects of the assessment should address grazing intensity and management strategies to allow residual cover to persist and provide nesting cover, etc.

Use the 528 NE IR Prescribed Grazing Design Tool , or equivalent to document the grazing plan. Use form NE-CPA-64 Actual Use Report which is found in the 528 NE IR Prescribed Grazing Design Tool , or equivalent, to document annual grazing management and forage utilization. The grazing plan must address grazing intensity (forage balance) at the targeted utilization level and also a grazing schedule to accommodate the necessary rest and regrowth potential.

United States Department of Agriculture

Conservation Enhancement Activity

E528F

CONSERVATION STEWARDSHIP PROGRAM

Stockpiling cool season forage to improve structure and composition or plant productivity and health

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture; Associated Agricultural Land; Crop (Perennial); Crop (Annual and Mixed)

RESOURCE CONCERN: Plants

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Grazing management employed will stop grazing events of selected paddock(s) to allow pasture forages to grow to maximum vegetative biomass accumulation before the end of the growing season.

Criteria

Additions to the current Prescribed Grazing Plan must include:

- A record of designated paddocks and acreages to exclude grazing for a stated specified time period.
- The acreage needed for stockpiled forage will be predetermined.
- Stockpiled acreage will be supplied nutrients according to a land grant university approved soil test to achieve adequate forage growth at the beginning of the stockpiling period.
- Stockpile will be grazed in a manner that maintains specified minimum forage heights in the grazing plan to avoid damage to soil or forage.

CONSERVATION STEWARDSHIP PROGRAM

- Do not allow livestock to access previously grazed stockpiled areas when spring regrowth begins until recommended forage heights exist.
- The NRCS Conservation Practice Standard Prescribed Grazing (Code 528) must be followed on all pasture each year this enhancement is in effect. Note - leaving recommended residual forage heights, even though plants are dormant, are needed for erosion control and wildlife.
- Certification recorded that practice requirements have been met after grazing of stockpiled forages is complete before the new growing season begins.

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, develop a prescribed grazing plan including a plan map that delineates where forage stockpiling will occur. Make these materials available to NRCS for review.
- ☐ After implementation, make grazing records and photo documentation of stockpiling and level of use available to NRCS.

NRCS will:

- ☐ Prior to implementation, review grazing plan and maps provided by participant.
- ☐ During implementation, as requested, assist the participant with adapting the grazing strategy and plan to current conditions.
- ☐ After implementation, review records and photos provide to confirm adequate stockpiling and acceptable levels of grazing use.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528F

Stockpiling cool season forage to improve structure and composition or plant productivity and health

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture; Associated Agricultural Land; Crop (perennial0; Crop (Annual and Mixed)

RESOURCE CONCERN: Plants

ENHANCEMENT LIFE SPAN: 1 year

Documentation and Implementation Requirements

Participant will:

- Use the Nebraska Prescribed Grazing Design Tool September 2021 or equivalent to document the grazing plan.
- Fertilize according to UN-L soil test recommendations.
- Provide copies of soil test reports and documentation of actual fertilizer applied (what, when, how and amount applied).

NRCS will:

- If requested by the participant, assist the participant with development of the prescribed grazing plan using the Nebraska Prescribed Grazing Design Tool 2021 .
- Assist the participant in developing a map which designates the specific areas to be stockpiled.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E528G

CONSERVATION STEWARDSHIP PROGRAM

Improved grazing management on pasture for plant productivity and health with monitoring activities

CONSERVATION PRACTICE: 528 - Prescribed Grazing

APPLICABLE LAND USE: Pasture

RESOURCE CONCERN: Plants

ENHANCEMENT LIFE SPAN: 1 years

Enhancement Description

Managing the harvest of vegetation with grazing and/or browsing animals as adjusted when following recommendations of a qualifying professional, as detailed in the enhancement criteria, generated through Pasture Condition Scoring (PCS).

Criteria

- A written plan for matching the forage quantity and quality produced with the grazing and/or browsing demand will be followed.
- Removal of herbage will be in accordance with site production limitations, rate of plant growth, the physiological needs of forage plants, and the nutritional needs of the animals.
- Adjust intensity, frequency, timing, and duration of grazing and/or browsing (providing sufficient recovery time to meet planned, written objectives) to meet the desired objectives for the plant communities and associated resources.
- Deferment (non-grazing period less than one year) and/or rest (non-grazing period equal or greater than one year) will be planned for critical periods of plant needs (such as post-planting or renovation, severe drought, etc.).
- Manage grazing and/or browsing animals to maintain adequate cover on sensitive areas (such as riparian areas, wetlands, habitats of concern, karst areas, etc.)

- Manage livestock movements based on rate of plant growth, available forage, and allowable utilization target. Develop and follow contingency plans to deal with episodic disturbance events.

- The narrative management recommendations and implementation for duration and intensity of grazing and/or browsing will be based on the desired plant health and productivity objectives.

- Perform a soils test on the applicable acres for organic matter and nutrient analysis through a land grant university or accredited lab.

- Apply fertilizer and/or soil amendments according to a current soil test when plant vigor needs improvement.

- Follow guidelines provided by a Certified Forage and Grassland Professional, Certified Range Management Consultant, or Certified Professional in Range Management, NRCS Technical Service Provider approved for a DIA 159, or a non-affiliated consultant with a bachelor or higher level degree in agronomy, range science or other closely-related plant science discipline and a minimum of five years' experience in pastureland conservation planning, monitoring, and consulting regarding use of pastureland improvement practices generated through the Pasture Condition Scoring (PCS) assessment tool.

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, acquire a Grazing Management Plan with all the following components (provide plan to NRCS for review and approval):
  - Producer goals, objectives, and resource concerns
  - Location and condition of structural improvements
  - Watering sites with availability, quantity, and quality
  - Forage inventory
  - Forage-animal balance sheet
  - Grazing plan for livestock movement
  - Contingency plan
  - Monitoring plan

☐ During implementation, perform a soil test on the applicable acres.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ During implementation, secure a Certified Forage and Grassland Professional, Certified Range Management Consultant, Certified Professional in Range Management, NRCS Technical Service Provider approved for DIA 159, or a non-affiliated consultant with a bachelor or higher level degree in agronomy, range science or other closely-related plant science discipline and a minimum of five years' experience in pastureland conservation planning, monitoring, and consulting regarding use of pastureland improvement practices to:
    1) Select a monitoring site in each forage type or forage mixture on the enrolled acreage to assess with the Pasture Condition Scoring tool.
    2) Conduct assessments on those sites using the Pasture Condition Scoring tool and document the location.
    3) Develop a written recommendation including duration and intensity of grazing and/or browsing based on desired health and productivity objectives while addressing adequate cover, litter, and canopy to maintain or improve infiltration, soil health and reduce soil compaction and other resource concerns identified during the Pasture Condition Score (PCS) assessment.

- ☐ During implementation, identify key grazing areas and key forage species and monitor pastures for grazing utilization.

- ☐ During implementation, keep pasture/herd in/out records.

- ☐ During implementation, complete forage utilization job sheet at the end of the grazing season for NRCS Conservation Practice Standard Prescribed Grazing (528).

- ☐ During implementation, document adjustments needed to maintain feed and forage balance.

- ☐ After implementation, provide the following items for review by NRCS:
    - Pasture Condition Score Sheets with all field notes and locations.
    - Soil test analysis.
    - Written documentation from professional with recommendations and follow up actions.
    - Pasture/herd in/out dates.
    - Completed forage utilization job sheet.
    - Animal/forage balance sheet.
    - Written modifications to the grazing management and monitoring plan which address the resource concerns identified from the assessment.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ As needed, provide technical additional assistance to participant as requested.
- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Prescribed Grazing (CPS 528) as it relates to implementing this enhancement, including forage utilization job sheet.
- ☐ Prior to implementation, provide soils information and/ or Forage Suitability Groups as requested.
- ☐ After implementation, review all Pasture Condition Score sheets and written recommendations made by professional.
- ☐ After implementation, review soil test analysis.
- ☐ After implementation, verify implementation of the grazing management plan by reviewing grazing/herd in/out records, forage utilization job sheet, animal/forage balance records and changes made to the plan to address resource concerns identified during the Pasture Condition Scoring assessments.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528G

Improved grazing management on pasture for plant productivity and health with monitoring activities

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture

RESOURCE CONCERN: Plants

ENHANCEMENT LIFE SPAN: 1 year

State Criteria:

The consultant must meet the criteria listed in the National Conservation Enhancement Activity Sheet for E528G. If the consultant is not a certified Forage and Grassland Professional, SRM certified or a Technical Service Provider for DIA 159, the consultant will provide documentation (resume or CV) showing that the consultant meets the criteria and has had appropriate training or experience in completing Pasture Condition Score assessments. The documentation will be submitted to the NRCS State Rangeland Management Specialist for approval before the PCS are completed.

ocumentation and Implementation Requirements

Participant will:

- Hire a consultant who meets the criteria listed above. The consultant will:
  - Complete Pasture Condition Score evaluations on a minimum of 3 locations with the number needed being based upon conditions and number of significant forage suitability groups in the pastures. Use the NRCS Guide to Pasture Condition Scoring (2020) as basis for the evaluations using Pasture Condition Score Worksheet (NE-ECS-13) to record the scores.

- Develop the prescribed grazing plan or assist the participant with development of the using the Nebraska Prescribed Grazing Tool or equivalent.
- Tailor the monitoring plan toward addressing any departures from the reference found during the Pasture Condition Scoring.

- Provide to NRCS the Pasture Condition Score Worksheets which were completed by range consultant as well as maps showing locations of the key areas where the pastures were scored.
- Provide to NRCS a copy of prescribed grazing plan.
- At the mid-point of the contract, hire a consultant, who meets the above criteria, to evaluate progress toward meeting goals and objectives, to re-evaluate and modify the grazing plan.

NRCS will:

- Identify the Forage Suitability Groups (FSG) present in the pastures and develop a forage suitability group map delineating these sites.
- Provide Forage Suitability Group descriptions (found in Section II of eFOTG).

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E528H

CONSERVATION STEWARDSHIP PROGRAM

Prescribed grazing to improve/maintain riparian and watershed function-elevated water temperature

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Range, Pasture, Forest

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Grazing management employed will provide cover and density needed in the watershed in order to reduce runoff, improve infiltration, provide for above ground water filtration and sustain applicable fish and wildlife species habitat.

Criteria

- A written plan for matching the forage quantity and quality produced with the grazing and/or browsing demand by livestock and wildlife will be followed.
- Enhance diversity of rangeland plants to optimize delivery of nutrients to the animals by incorporating the intensity, frequency, timing and duration of grazing and/or browsing needed as determined by a planning process that includes:
    - Clear objectives,
    - A resource inventory with ecological site description or reference sheet and structural improvements and existing resource conditions,
    - Grazing plan, and
    - A contingency plan.

- Supplemental feed and/or minerals will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.
- Minimize concentrated livestock areas to enhance nutrient distribution and improve or maintain ground cover and riparian/floodplain plant community structure and functions.
- Manage grazing and/or browsing so as to provide adequate ground cover and plant density to maintain or improve infiltration capacity and reduce runoff.
- Provide adequate ground cover and plant density to maintain or improve filtering capacity of the vegetation by moving livestock appropriately.
- Graze and rest pastures appropriately and with the right numbers, class, and kind of livestock so as to maintain adequate riparian community structure and function to sustain associated riparian, wetland, floodplain and stream species.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- Prior to implementation, obtain a written grazing plan with guidelines and recommendations for matching the forage quantity and quality produced with the grazing and/or browsing demand.
- During implementation, keep pasture/herd in/out records and grazing utilization records for key grazing areas.
- After implementation, make the follow items available for review by NRCS to verify implementation of the enhancement:
  - Written grazing plan
  - Pasture/herd in/out records.
  - Documented forage utilization levels

NRCS will:

- As needed, provide technical additional assistance to the participant as requested.
- Prior to implementation, provide and explain NRCS Conservation Practice Standard Prescribed Grazing (Code 528) as it relates to implementing this enhancement.
- Prior to implementation, verify a grazing plan has been developed, which includes written objectives.
- After implementation, verify implementation of the written grazing plan by reviewing plan, pasture/herd in/out records, and utilization records kept during enhancement implementation.

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name_____Contract Number _____

Total Amount Applied_____Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528H

Prescribed grazing that improve/maintain riparian and watershed function-elevated water temperature

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Range

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 year

State Criteria:

When streams and/or other water bodies that have elevated water temperatures are located within pastures:

- The grazing plan will include measures to (minimum grazing heights, lower utilization levels) improve the riparian and streambank vegetation.
- When the plant community does not provide adequate shading to prevent elevated water temperatures, riparian plantings may be needed to achieve adequate shading. Use the site appropriate Conservation Practice Standard: CPS 390 - Riparian Herbaceous Cover or CPS 391-Riparian Forest Buffer.
- See Nebraska DEQ Surface Water Quality Integrated Report for listing of impaired (high temperature) waters.

Documentation and Implementation Requirements

Participant will:

- Use Nebraska 528 IR Prescribed Grazing Design Tool or equivalent to document the grazing plan.
- Work with NRCS to identify riparian areas, streams or watershed drainage locations and develop an map delineating these areas.

CONSERVATION STEWARDSHIP PROGRAM

- As appropriate, work with NRCS to develop a planting plan to restore riparian vegetation.
- Use Utilization Documentation-Landscape Appearance Worksheet, which is found in the 528 NE OTH Prescribed Grazing Monitoring Tool **October 2020**, to document utilization levels in key grazing areas located within high water table areas, near wetlands and/or other critical areas
- Annually provide a written description of adjustments that will be made to the grazing plan.

NRCS will:

- Work with participant to identify riparian areas, streams or watershed drainage locations being improved or maintained and develop an map delineating these areas.
- If requested by the participant, work with the participant to develop the grazing management plan using the Nebraska 528 IR Prescribed Grazing Design Tool.
- When needed work with participant to develop grass, shrub and/or tree planting plans to restore the riparian cover.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E528I

CONSERVATION STEWARDSHIP PROGRAM

Grazing management that protects sensitive areas-surface or ground water from nutrients

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture, Range

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Grazing management employed will provide cover and density needed in the watershed in order to protect sensitive areas such as sinkholes, streams, highly erodible areas, or locations with plants that cannot tolerate defoliation.

Criteria

- A written plan for matching the forage quantity and quality produced with the grazing and/or browsing demand by livestock and wildlife will be followed.
- Enhance diversity of plants to optimize delivery of nutrients to the animals by incorporating the intensity, frequency, timing and duration of grazing and/or browsing needed as determined by a planning process that includes: 1) Clear objectives, 2) A resource inventory including a forage inventory, structural improvements, and existing resource conditions, 3) Grazing plan, and 4) A contingency plan.
- Supplemental feed and/or minerals will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.

- Minimize concentrated livestock areas to enhance nutrient distribution and improve or maintain ground cover.
- Plan the intensity, frequency, timing and duration of grazing and/or browsing that will:
    - Minimize deposition or flow of animal wastes into water bodies or sinkholes,
    - Minimize animal impacts on stream bank or shoreline stability,
    - Provide adequate ground cover and plant density to maintain or improve infiltration capacity and reduce runoff, and
    - Provide adequate ground cover and plant density to maintain or improve filtering capacity of the vegetation.
- Livestock feeding and watering facilities will be located and designed/installed in a manner to improve livestock distribution and avoid overland flow to sensitive areas.
- When nutrients are applied on pastureland, soil testing and nutrient application will be done according to local land grant university guidance or the equivalent there of.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, obtain a written grazing plan that identifies the following:
  - The goals and objectives of the plan
  - Forage/Animal Balance
  - A grazing plan narrative describing the basis for when livestock movement or rotation will occur.
  - Contingency plans for forage shortfalls.
  - Monitoring locations, key species, and monitoring techniques.
  - A map identifying all permanent pastures, water sources, and any riparian area or other sensitive areas improved or maintained by this management.

- ☐ Prior to implementation, a nutrient management plan will be developed if nutrients will be applied. The nutrient management plan will detail appropriate soil testing protocol and acceptable nutrient application amounts.

- ☐ Prior to implementation, a copy of the competed grazing plan will be submitted to NRCS for review and approval.

- ☐ During implementation, consult with NRCS or a qualified grazing professional to adjust and adapt the grazing plan to current conditions. Changes to the grazing plan will be documented in writing.

- ☐ After implementation, make all records available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- ☐ Prior to implementation, assist the participant with development of a grazing plan and/or nutrient management plan, as requested.

- ☐ Prior to implementation, review the plan(s) if not developed by NRCS.

- ☐ Prior to implementation, review soil test analysis

- ☐ During implementation, as requested, assist the participant with adapting the grazing strategy and plan to current conditions.
- ☐ After implementation, review written grazing records provided by the participant to determine if the grazing plan was adequately followed to protect or enhance riparian areas, wetland areas, or other sensitive areas.
- ☐ After implementation, review the nutrient management plan and application record to ensure nutrients were applied according to the plan.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528I

Grazing managment that protects sensitive areas-surface or ground water from nutrients

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture, Range

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 year

State Criteria:

When impaired lakes or streams are located within the pasture or if runoff from riparian area, drainageways or streams enters directly (within 2000') into impaired lakes and/or streams. The grazing plan will include measures to reduce livestock access to these areas. Actions that could be taken include, but are not limited to:

- Moving water locations, feeding areas, salt and mineral locations outside of the areas which runoff into impaired areas.
- Fencing and grazing these areas as a separate pasture.
- Grazing these areas to achieve a lower utilization rate.
- Implement a rest rotation which Idles a portion of these acres for several years.
- In areas where the stream is impaired due to E. Coli contamination, additional measures will be needed to prevent further contamination.

See Nebraska DEQ Surface Water Quality Integrated Report for listing of impaired waters and individual Natural Resource District (NRD) Ground Water Management Plans for areas with groundwater contamination. Prescribed grazing plans will include any management actions outlined in these plans as well as general actions outlined in the Conservation Enhancement Activity Worksheet.

Refer to the Nebraska Groundwater Quality Monitoring Report for groundwater sampling locations with high nitrate concentrations. These areas will be included as sensitive areas.

Participant will:

- Work with NRCS to identify sensitive areas (wetlands, areas with high water tables, riparian areas and areas with high water tables present in the grazed areas.
- Use the Nebraska 528 NE IR Prescribed Grazing Design Tool or equivalent to document the grazing plan.
- Use Utilization Documentation-Landscape Appearance Worksheet, which is found in the Nebraska 528 NE OTH Prescribed Grazing Monitoring Tool 2019, to document utilization levels in key grazing areas located within riparian and other sensitive areas.

NRCS will:

- Work with participant to identify sensitive areas (wetlands, areas with high water tables, riparian areas and areas with high water tables present in the grazed areas.
- If requested by the participant, assist the participant with development of the prescribed grazing plan using the Nebraska 528 NE IR Prescribed Grazing Design Tool 2016.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E528J

CONSERVATION STEWARDSHIP PROGRAM

Prescribed grazing on pastureland that improves riparian and watershed function

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Grazing management employed will provide cover and density needed in the watershed in order to reduce runoff, improve infiltration, provide for above ground water filtration and sustain applicable fish and wildlife species habitat.

Criteria

- Must follow a written plan for matching the forage quantity and quality produced with the grazing and/or browsing demand by livestock and wildlife.
- Enhance diversity of plants to optimize delivery of nutrients to the animals by incorporating the intensity, frequency, timing and duration of grazing and/or browsing needed as determined by a planning process that includes: 1) Clear objectives, 2) A resource inventory including a forage inventory, structural improvements, and existing resource conditions, 3) Grazing plan, and 4) A contingency plan.
- Supplemental feed and/or minerals will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.

- Minimize concentrated livestock areas to enhance nutrient distribution and improve or maintain ground cover and riparian/floodplain plant community structure and functions.
- Manage grazing and/or browsing to provide adequate ground cover and plant density to maintain or improve infiltration capacity and reduce runoff.
- Provide adequate ground cover and plant density to maintain or improve filtering capacity of the vegetation by moving livestock appropriately.
- Graze and rest pastures appropriately and with the right numbers, class, and kind of livestock to maintain adequate riparian community structure and function to sustain associated riparian, wetland, floodplain and stream species.
- If nutrients are applied, soil testing and nutrient application will be done according to local land grant university guidance or equivalent.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, obtain a written grazing plan that identifies the following:
  - Goals and objectives of the plan
  - Forage/Animal Balance
  - A grazing plan narrative describing the basis for when livestock movement or rotation will occur.
  - Contingency plans for forage shortfalls.
  - Monitoring locations, key species, and monitoring techniques.
  - Map identifying all permanent pastures, water sources, and any riparian area or watershed drainage locations improved or maintained by this management.

- ☐ Prior to implementation, a nutrient management plan will be developed if nutrients will be applied. The nutrient management plan will detail appropriate soil testing protocol and acceptable nutrient application tolerances.

- ☐ Prior to implementation, a copy of the developed grazing plan will be submitted to NRCS for review and approval.

- ☐ During implementation, consult with NRCS or a qualified grazing professional to adjust and adapt the grazing plan to current conditions. Changes to the grazing plan will be documented in writing.

- ☐ After implementation, make all records available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- ☐ Prior to implementation, assist the participant with development of a grazing plan and nutrient management plan if requested to do so. If NRCS does not assist with plan development, the plan(s) will be reviewed by NRCS for approval prior to implementation.

- ☐ During implementation, as requested, assist the participant with adapting the grazing strategy and plan to current conditions.
- ☐ After implementation, review written grazing records provided by the participant to determine if the grazing plan was adequately followed to protect or enhance riparian areas, wetland areas, or overall watershed function.
- ☐ After implementation, if nutrients have been applied, soil testing and application records will be reviewed to determine if nutrients have been applied responsibly.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528J

Prescribed grazing on pastureland that improves riparian and watershed function

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 year

State Criteria:

If non-composted manure is mechanically applied to pastures, and is not incorporated, a 35 foot vegetative setback from riparian areas and streams will be implemented.

When impaired lakes or streams are located within the pasture or if runoff from riparian area, drainageways or streams enters directly (within 2000') into impaired lakes and/or streams:

- Manure (mechanically applied) will not be used as fertilizer.
- The grazing plan will include measures to reduce livestock access to these areas. Actions that could be taken include, but are not limited to:
  - Moving water locations, feeding areas, salt and mineral locations outside of the areas which runoff into impaired areas.
  - Fencing and grazing these areas as a separate pasture.
  - Grazing these areas to achieve a lower utilization rate.
  - Implement a rest rotation which Idles a portion of these acres for several years.
  - Additional site specific measures.

See Nebraska DEQ Surface Water Quality Integrated Report for listing of impaired (nutrients) waters.

Nutrient application will be based upon soil sampling and analysis. Sampling will be performed, and nutrients applied based on the following:

- Soils shall be sampled and analyzed in accordance with CPS 590 Practice Specification for Nutrient Management or NebGuide G1740 "Guidelines for Soil Sampling".
- All soil samples must be taken prior to applying fertilizer.
- Nutrient application rates will be within UNL recommendations based on soil tests and established yield goals (see appropriate Forage Suitability Group Description(s) for realistic forage yield goals) considering all nutrient sources (refer Documentation Requirements

Documentation and Implementation Requirements

Participant will:

- Work with NRCS to identify riparian areas, streams or watershed drainage locations present in the pastures.
  - Develop a nutrient management plan when fertilizer, including compost or animal waste is applied and submit plan to NRCS before application of these nutrients. The plan will include planned nutrient budget (N-P-K), yield goal and planned nutrient applications. As needed complete the nutrient budget and planned fertilizer application tables on page 3 of this document.
- Use Nebraska 528 NE IR Prescribed Grazing Design Tool or equivalent to document the grazing plan.
- Document nutrient application (what is applied, when applied, how applied and how much) when compost or animal waste is applied. The records will include:
  - Copies of all soil, compost, and irrigation water analysis test reports.
  - Documentation of actual nutrient application(s) (N-P-K). Include type of forage and actual AUM's removed.
  - As needed complete the nutrient applied table on page 4. Equivalent forms can be used provided all required information has been reported.
- Use Utilization Documentation-Landscape Appearance Worksheet, which is found in the Nebraska 528 NE OTH Prescribed Grazing Monitoring Tool 2019, to document utilization levels in key grazing areas located within riparian and other critical areas.

NRCS will:

- Work with the participant to develop a map delineating riparian areas and streams areas.
- If requested by the participant, assist the participant with development of the prescribed grazing plan using Nebraska 528 NE IR Prescribed Grazing Design Tool .
- Review and approve nutrient management plan (if applicable) prior to application of fertilizer or compost.

Nutrient Budget & Cropping Inventory Sheet

1) Field Information – Attach Field Map with boundaries and management zones

Producer		**Crop Year**	
Field Name		**Prior Crop**	
Tract No. / Field No.		**Planned Crop**	
Management Zone		**Yield Goal**	
Acres		**Planting Date**	

2) Soil Sampling Results – Include copy of soil test report

	Nitrogen (N) (ppm)			P (ppm)	K (ppm)	[1]OM (%)	pH
	Layer 1	Layer 2	Layer 3				
Soil Test Values							
Bottom Layer (in.)							

3) Nutrient Budget

	Nutrients			Calculations/Comments
RECOMMENDATIONS	N	P_2O_5	K_2O	
Requirements (lb./a) NEEDS				
CREDITS (lb./a)				
Soil Test N Residual				
Organic Matter ([1]OM) N				[1]OM% is capped at 3.0%
Irrigation Water N (____ inches)				80% of average. application
Legume (type:_____)				
Cover Crop (type:_____)				Grazed/cut?
Organic N Value for Prior Manure				
Date Applied / Type / Rate Applied				
Total Credits (from above)				
Nutrient Recommendations				(Needs minus Total Credits)

4) Planned / Recommended Nutrient Application for Planned Crop

Source	Form	Timing (mo/d/yr)	Method – Also Include Days to Incorp & Depth if inject/incorp	Total Rate Applied /A	Actual Nutrients (lb./a)		
					N	P	K
				TOTAL NUTRIENTS APPLIED (lb./A)			

Inhibitor or Enhanced Efficiency Fertilizer Planned? (If yes, name)?: _____

5) Other Test Information

Test Type	Test Date (mo/d/yr)

6) Actual Applied Nutrients

Source	Form	Timing (mo/d/yr)	Method –Also include Days to Incorp & Depth if inject/incorp	Total Rate Applied /a	Actual Nutrients (lb./a)		
					N	P	K
				TOTAL NUTRIENTS APPLIED (lb./A)			

Inhibitor or Enhanced Efficiency Fertilizer Planned? (if yes, name)?: _____

7) Application Equipment Calibration

Equipment Type	Date

Certified by:_____ Date: _____

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E528L

CONSERVATION STEWARDSHIP PROGRAM

Prescribed grazing that improves or maintains riparian and watershed function-erosion

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture, Range, Forest

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Grazing management employed will provide cover and density needed in the watershed in order to reduce runoff, improve infiltration, provide for above ground water filtration and sustain applicable fish and wildlife species habitat.

Criteria

- Must follow a written grazing plan for matching the forage quantity and quality produced with the grazing and/or browsing demand by livestock and wildlife.
- Enhance diversity of plants to optimize delivery of nutrients to the animals by incorporating the intensity, frequency, timing and duration of grazing and/or browsing needed as determined by a planning process that includes:
    - Clear objectives,
    - A resource inventory of structural improvements, existing resource conditions, and forage.
    - A monitoring plan
    - A contingency plan

- Supplemental feed or minerals will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.
- Minimize concentrated livestock areas to enhance nutrient distribution and improve or maintain ground cover and riparian/floodplain plant community structure and functions.
- Manage grazing or browsing so as to provide adequate ground cover and plant density to maintain or improve infiltration capacity and reduce runoff.
- Maintain adequate ground cover and plant density through monitoring to retain or improve filtering capacity of the vegetation by moving livestock appropriately.
- Adjust grazing strategy and rest as needed with the right numbers, class, and kind of livestock to maintain adequate riparian community structure and function to sustain associated riparian, wetland, floodplain and stream species.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, obtain a written grazing plan with:
  - o Inventory of structural improvements, existing resource conditions and forage
  - o Guidelines and recommendations for matching the forage quantity and quality produced with the grazing and/or browsing demand of livestock
  - o A contingency plan and
  - o A monitoring plan
- ☐ During implementation, keep pasture/herd in/out records and forage-animal balance sheet.
- ☐ During implementation, monitor riparian vegetation for use
- ☐ After implementation, make the follow items available for review by NRCS to verify implementation of the enhancement:
  - o Written grazing plan
  - o Pasture/herd in/out records
  - o Documented utilization records
  - o Monitoring plan

NRCS will:

- ☐ As needed, provide technical additional assistance to the participant as requested.
- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Prescribed Grazing (Code 528) as it relates to implementing this enhancement.

- ☐ After implementation, verify implementation of the written grazing plan, by reviewing plan and pasture/herd in/out records and forage-animal balance sheets kept during enhancement implementation.
- ☐ After implementation, review the monitoring plan

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____

Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528L

Prescribed grazing that improves or maintains riparian and watershed function-erosion

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Range, Pasture, Forest

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

Documentation and Implementation Requirements

Participant will:

- Use the Nebraska 528 NE IR Prescribed Grazing Design Tool or equivalent to document the grazing plan.

NRCS will:

- If requested by the participant, assist the participant with development of the prescribed grazing plan using the Nebraska 528 NE IR Prescribed Grazing Design Tool .

United States Department of Agriculture

Conservation Enhancement Activity

E528M

CONSERVATION STEWARDSHIP PROGRAM

Grazing management that protects sensitive areas from gully erosion

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture, Range

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Grazing management employed will provide vegetative cover and density needed in the watershed in order to protect sensitive areas such as sinkholes, streams, highly erodible areas, or locations that cannot tolerate plant defoliation.

Criteria

- Must follow a grazing written plan matching the forage quantity and quality produced with the grazing and/or browsing demand by livestock and wildlife.
- Supplemental feed and/or minerals will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.
- Enhance diversity of rangeland plants to optimize delivery of nutrients to the animals by incorporating the intensity, frequency, timing and duration of grazing and/or browsing needed as determined by an erosion control planning process that includes:
    - Clear objectives,
    - A resource inventory of structural improvements, existing resource conditions, and forage.

  - A monitoring plan
  - A contingency plan

- Minimize concentrated livestock areas to enhance nutrient distribution and improve or maintain ground cover.
- Minimize deposition or flow of animal wastes into water bodies or sinkholes,
- Minimize animal impacts on stream bank or shoreline stability,
- Maintain adequate ground cover and plant density to maintain or improve infiltration capacity and reduce runoff, and
- Maintain adequate ground cover and plant density to maintain or improve filtering capacity of the vegetation.
- Livestock feeding and watering facilities will be located and designed/installed in a manner to improve livestock distribution and avoid overland flow to sensitive areas.

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

- ☐ Prior to implementation, obtain a written grazing plan with guidelines and recommendations for matching the forage quantity and quality produced with the grazing and/or browsing demand. Plan will include a contingency plan for potential events that trigger adverse results, such as concentrated flow and gully erosion.
- ☐ Prior to implementation, develop a map delineating potential sensitive areas to be protected.
- ☐ During implementation, keep livestock herd management records during seasonally important periods of soil erosion potential.
- ☐ During implementation, keep grazing utilization records for key grazing areas that accommodate the criteria above, indicating the protective nature of the grazing system to the sensitive areas.
- ☐ After implementation, make the follow items available for review by NRCS to verify implementation of the enhancement:
    - o Written grazing plan.
    - o Pasture/herd in/out records
    - o Documented utilization records.

NRCS will:

- ☐ As needed, provide technical additional assistance to the participant as requested.
- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Prescribed Grazing (Code 528) as it relates to implementing this enhancement.
- ☐ Prior to implementation, as needed, assist participant with the development of map delineating potential sensitive areas to be protected.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ Prior to implementation, verify a grazing plan has been developed, which includes written objectives.
- ☐ After implementation, verify implementation of the written grazing plan, by reviewing plan and records and utilization records kept during kept during enhancement implementation.
- ☐ After implementation, verify the protection and condition of the sensitive areas.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528M

Grazing management that protects sensitive areas from gully erosion

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Range; Pasture

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

Documentation and Implementation Requirements

Participant will:

- Use the Nebraska 528 NE IR Prescribed Grazing Design Tool or equivalent to document the grazing plan.

NRCS will:

- If requested by the participant, assist the participant with development of the prescribed grazing plan using the Nebraska 528 NE IR Prescribed Grazing Design Tool

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E528N

CONSERVATION STEWARDSHIP PROGRAM

Improved grazing management through monitoring activities

CONSERVATION PRACTICE: 528 - Prescribed Grazing

APPLICABLE LAND USE: Range

RESOURCE CONCERN: Soil, Water, Plants

ENHANCEMENT LIFE SPAN: 1 years

Enhancement Description

Three predominant key grazing areas are evaluated utilizing the Rangeland Health Assessment (where reference material is developed) or Describing Indicators of Rangeland Health protocols (where reference material is not developed) to determine how well the ecological processes of the site(s) are functioning. Utilizing knowledge learned from this as a part of the ranch resource assessment, a qualifying professional, as detailed in the enhancement criteria, will provide recommendations or follow-up evaluations toward mitigating some of the degradation risks that are initially identified.

Criteria

- A written plan for matching the forage quantity and quality produced with the grazing and/or browsing demand will be followed.
- Maintain diversity of rangeland plants to optimize delivery of nutrients to the animals by incorporating the intensity, frequency, timing and duration of grazing and/or browsing needed as determined by a planning process that includes: 1) Clear objectives, 2) A resource inventory including forage inventory, structural improvements and existing resource conditions, 3) Grazing plan, and 4) All potential contingency plans.
- Supplemental feed and/or minerals will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.
- Secure the services of an experienced, knowledgeable Certified Range Management Consultant, Certified Professional in Range Management, NRCS Technical Service Provider

approved for a DIA 159, or a non-affiliated consultant with a bachelor or higher-level degree in range science or other closely-related plant science discipline and a minimum of five years' experience in rangeland conservation planning, monitoring, and consulting regarding use of rangeland improvement practices to:

1) Select monitoring sites needed (three are required for this enhancement activity)
2) Assess rangeland conditions using Rangeland Health Assessment (RHA) or Describing Indicators of Rangeland Health (DIRH) at these locations
3) Provide all measured data collected
4) Assist in determining any areas that are potentially at risk of degradation
5) Develop a written recommendation identifying strategies for mitigating some of the degradation risks identified during the assessments

- RHA is used, departure from reference categories will be determined, justified, and ratings described for soil and site stability, hydrologic function, and biotic integrity in Interpreting Indicators of Rangeland Health (IIRH) Version 5 (Technical Reference 1734-6).

- DIRH is used, guidance must be followed in the procedure of Appendix 7 of Interpreting Indicators of Rangeland Health (IIRH) Version 5 (Technical Reference 1734-6) and the information and data will be compared to established NRCS state criteria guidance.

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, acquire a Grazing Management Plan with all the following components (provide plan to NRCS for review and approval):
  - Producer goals, objectives, and resource concerns
  - Location and condition of structural improvements
  - Watering sites with availability, quantity, and quality
  - Forage inventory
  - Forage-animal balance sheet
  - Grazing plan for livestock movement
  - Contingency plan
  - Monitoring plan

☐ During implementation, secure a Certified Range Management Consultant, Certified Professional in Range Management, NRCS Technical Service Provider approved for DIA 159, or a non-affiliated consultant with a bachelor or higher-level degree in range science or other closely- related plant science discipline and a minimum of five years' experience in

CONSERVATION STEWARDSHIP PROGRAM

rangeland conservation planning, monitoring, and consulting regarding use of rangeland improvement practices to:

1) Select 3 monitoring sites to assess rangeland health.
2) Conduct Rangeland Health Assessments (RHA) on these sites using the Interpreting Indicators of Rangeland Health Version 5. (Technical Reference 1734-6) or
3) Conduct Describing Indicators of Rangeland Health (DIRH), on these sites using Appendix 7 of the Interpreting Indicators of Rangeland Health Version 5. (Technical Reference 1734-6).
4) Develop a written recommendation identifying strategies for mitigating degradation risks identified during the assessment.

☐ During implementation, identify key grazing areas, key forage species, and monitor pastures for grazing utilization.

☐ During implementation, keep pasture/herd in/out records.

☐ During implementation, complete NRCS Conservation Practice Standard Prescribed Grazing (528) Trend worksheet.

☐ During implementation, complete forage utilization job sheet at the end of the grazing season for NRCS Conservation Practice Standard Prescribed Grazing (528).

☐ After implementation, provide the following items for review by NRCS:

- o Assessment Sheets with all field notes and locations.
- o Written documentation of range professional's follow-up actions and recommendations.
- o Records of pasture/herd in/out dates.
- o Completed Trend worksheet.
- o Completed forage utilization job sheet.
- o Written modifications to the grazing management and monitoring plan which address the resource concerns identified during the assessments.

NRCS will:

☐ As needed, provide technical assistance to participant as requested.

☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Prescribed Grazing (Code 528) as it relates to implementing this enhancement, including Trend worksheet and forage utilization job sheet.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ Prior to implementation, provide Ecological Site Descriptions and the ESD map and soil- ecological site correlation as requested for the Range Health Assessment (RHA) or NRCS state criteria guidance for Describing Indicators of Range Health (DIRH).

- ☐ After implementation, review assessment evaluation sheets and written recommendations made by range professional.

- ☐ After implementation, verify implementation of the grazing management plan by reviewing grazing/herd in/out records, forage utilization job sheet, trend worksheet, and changes made to the plan to address resource concerns identified during the RHA or DIRH assessments.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528N

Improved grazing management through monitoring activities

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Range

RESOURCE CONCERN: Soil, Water, Plants

ENHANCEMENT LIFE SPAN: 1 year

State Criteria:

The consultant must meet the criteria listed in the National Conservation Enhancement Activity Sheet for E528N. If the consultant is not SRM certified or a Nebraska Technical Service Provider for DIA 159, the consultant will provide documentation (resume or CV) showing that the consultant meets the criteria and has had appropriate training or experience with Interpreting Indicators of Rangeland Health. The documentation will be submitted to the NRCS State Rangeland Management Specialist for approval before Interpreting Indicators of Rangeland Health evaluations are completed.

Documentation and Implementation Requirements

Participant will:

- Hire a consultant who meets the criteria listed above. The consultant will:
  - Complete Rangeland Health Assessments on a minimum of 3 locations with the number needed being based upon conditions and number of significant ecological sites in the pastures.
  - Develop the prescribed grazing plan or assist the participant with development of the using the Nebraska 528 NE IR Prescribed Grazing Design Tool or equivalent.
  - Tailor the monitoring plan toward addressing any departures from the reference found during the Rangeland Health Assessment.

- Provide form NE-ECS-11 Rangeland Health Worksheet or Interpreting Indicators of Rangeland Health Evaluation Forms from Interpreting Indicators of Rangeland Health Technical Reference 1734-6 completed by range consultant.
- Provide a map which shows the locations of the key areas where rangeland health assessments were completed.
- Provide copy of prescribed grazing plan.
- At the mid-point of the contract, hire a consultant, who meets the above criteria, to evaluate progress toward meeting goals and objectives, to re-evaluate and modify the grazing plan.

NRCS will:

- Identify the Ecological Sites (ES) present in the pastures and develop an ecological sitemap delineating these sites.
- Provide information about the ecological sites present (Ecological Site Quick Reference or complete ecological site description for the appropriate sites).

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528N

Improved grazing management through monitoring activities

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Range

RESOURCE CONCERN: Soil, Water, Plants

ENHANCEMENT LIFE SPAN: 1 year

State Criteria:

The consultant must meet the criteria listed in the National Conservation Enhancement Activity Sheet for E528N. If the consultant is not SRM certified or a Nebraska Technical Service Provider for DIA 159, the consultant will provide documentation (resume or CV) showing that the consultant meets the criteria and has had appropriate training or experience with Interpreting Indicators of Rangeland Health. The documentation will be submitted to the NRCS State Rangeland Management Specialist for approval before Interpreting Indicators of Rangeland Health evaluations are completed.

Documentation and Implementation Requirements

Participant will:

- Hire a consultant who meets the criteria listed above. The consultant will:
  - Complete Rangeland Health Assessments on a minimum of 3 locations with the number needed being based upon conditions and number of significant ecological sites in the pastures.
  - Develop the prescribed grazing plan or assist the participant with development of the using the Nebraska 528 NE IR Prescribed Grazing Design Tool or equivalent.
  - Tailor the monitoring plan toward addressing any departures from the reference found during the Rangeland Health Assessment.

- Provide form NE-ECS-11 Rangeland Health Worksheet or Interpreting Indicators of Rangeland Health Evaluation Forms from Interpreting Indicators of Rangeland Health Technical Reference 1734-6 completed by range consultant.
- Provide a map which shows the locations of the key areas where rangeland health assessments were completed.
- Provide copy of prescribed grazing plan.
- At the mid-point of the contract, hire a consultant, who meets the above criteria, to evaluate progress toward meeting goals and objectives, to re-evaluate and modify the grazing plan.

NRCS will:

- Identify the Ecological Sites (ES) present in the pastures and develop an ecological sitemap delineating these sites.
- Provide information about the ecological sites present (Ecological Site Quick Reference or complete ecological site description for the appropriate sites).

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E528O

CONSERVATION STEWARDSHIP PROGRAM

Clipping mature forages to set back vegetative growth for improved forage quality

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture

RESOURCE CONCERN: Animals, Plants

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Timely clipping of mature forages through mowing, swathing or some other mechanical cutting will occur to increase forage palatability by setting plants back to a vegetative state for improved grazing management and forage quality

Criteria

- A written plan for matching the forage quantity and quality produced with the grazing and/or browsing demand will be followed.
- Maintain diversity of forage plants to optimize delivery of nutrients to the animals by incorporating the intensity, frequency, timing and duration of grazing and/or browsing needed as determined by a planning process that includes: 1) Clear objectives, 2) A resource inventory including forage inventory, structural improvements and existing resource conditions, 3) Grazing plan, and 4) All potential contingency plans.
- Supplemental feed and/or minerals will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.

CONSERVATION STEWARDSHIP PROGRAM

- Timely clipping of mature forage species through mowing, swathing or some other mechanical cutting will occur to set back the vegetative state of the forage species.
- Excessive stems shall be removed during the cutting process to allow sunlight to reach the lower plant canopy.
- Cut forage species to a stubble height that will promote the vigor and health of the species and maintain stem bases that store food reserves for full vigorous recovery. Follow NRCS state conservation practice standard recommendations.
- Clipping should be avoided when forage is entering dormancy. Cutting heights should maintain insulation for extreme heat or cold. Use NRCS and local Cooperative Extension Service recommendations on dates and stages to avoid winterkill in cold climates.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- Prior to implementation, acquire a Grazing Management Plan with all the following components: (provide plan to NRCS for review and approval)
  - Producer goals, objectives and resource concerns
  - Location and condition of structural improvements
  - Watering sites with availability, quantity and quality
  - Forage inventory
  - Forage-animal balance sheet
  - Grazing plan for livestock movement
  - Contingency plan
  - Monitoring plan
- Prior to implementation, identify grazing areas and locations where clipping mature forages will occur
- Prior to implementation, provide a plan for mechanical clipping and livestock movement activities to NRCS
- During implementation keep a record of clipping activities and livestock movement
- During implementation, monitor forage maturity stages and livestock condition
- During implementation, keep record of clipping heights
- During implementation, take photos of areas immediately before and after clipping

- After implementation, provide the following items for review by NRCS:
  - Map and records showing clipping areas
  - Forage-animal balance sheet
  - Records of livestock movement through clipping areas
  - Documentation of clipping heights
  - Written modifications to grazing management plan based on results of clipping forages
  - Photos of fields before and after clipping activities
  - Notify NRCS immediately after clipping

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- As needed, provide technical assistance to participant as requested
- Prior to implementation, provide and explain NRCS Conservation Practice Standard Prescribed Grazing (CPS 528) as it relates to implementing this enhancement
- Prior to implementation, provide and explain NRCS Conservation Practice Standard Forage Harvest Management (CPS 511)
- Prior to implementation, review the plan provided for livestock movement and mechanical clipping
- After implementation, review the map, record of livestock movement, clipping activities and heights and photos.
- After implementation, review the modifications to the grazing management plan based on results of clipping forages

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name_____Contract Number _____

Total Amount Applied_____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528O

Clipping mature forages to set back vegetative growth for improved forage quality

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture

RESOURCE CONCERN: Animal, Plants

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

End of season clipping of cool season pastures should be no later than three weeks before the date of the average killing frost for the location of the pasture(s). End of season for clipping of warm season pastures should be no later than September 1st. End of season grazing may occur after the fall clipping if regrowth is adequate. Utilization of the forage should be at a rate to allow adequate stubble height before the first killing frost.

Documentation and Implementation Requirements

Participant will:

- In addition to recording height of forage after clipping, keep record of forage height before clipping.
- Use the Nebraska Forage Harvest Management Jobsheet 2018 or equivalent to document clipping activities.
- Use the Nebraska 528 IR Prescribed Grazing Design Tool September 2021 or equivalent to document the grazing plan.

NRCS will:

- If requested by the participant, assist the participant with development of the forage harvest managment plan or equivalent to document forage harvest (clipping).
- If requested by the participant, assist the participant with development of the prescribed grazing plan using the Nebraska 528 IR Prescribed Grazing Design Tool September 2021.

United States Department of Agriculture

Conservation Enhancement Activity

E528P

CONSERVATION STEWARDSHIP PROGRAM

Implementing Bale or Swath Grazing to increase organic matter and reduce nutrients in surface water.

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture, Crop (Annual & Mixed), Crop (Perennial), Range

RESOURCE CONCERN: Soil, Water

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Improve organic matter, aggregate stability and soil organism habitat in the soil by leaving the biomass harvested from the field on site for animal use, or supplementing organic matter needs with off-field forages. Grazing harvested forages in this manner, will help to incorporate organic matter, feed and diversify the soil microbiome, build better aggregation and increase soil health and critical functions such as infiltration, nutrient cycling, and weather resilience. Forages should be placed evenly throughout the field, but can be concentrated in areas where particular concerns, such as bare ground, need to be remedied. Decisions of forage placement must take into account areas that would be sensitive to such activity such as protecting surface waters from nutrients or steep slopes from erosion.

Criteria

- A written plan for matching the forage quantity and quality produced with the grazing and/or browsing demand will be followed.
- Graze harvested forages to help incorporate organic matter into the soil and to optimize delivery of nutrients to the animals by incorporating the intensity, frequency, timing and duration of grazing and/or browsing needed as determined by

CONSERVATION STEWARDSHIP PROGRAM

a planning process that includes: 1) Clear objectives, 2) A resource inventory including a forage inventory, structural improvements and existing resource conditions, 3) Grazing plan, and 4) All potential contingency plans.

- Supplemental feed and/or minerals will be provided as needed to meet the nutritional requirements of the kind and class of grazing and/or browsing livestock.
- Forage access should be designed to meet the objective of the identified resource concern(s) of the field and may be concentrated in areas where concerns, such as bare ground, need to be remedied. Decisions of forage placement must consider areas that would be sensitive to such activity such as protecting surface waters from nutrients or steep slopes from erosion. Bales may be unrolled if this design more effectively addresses the resource concern.
- Baling and swathing on fields where this enhancement is applied should meet stubble heights found in NRCS Conservation Practice Standard Forage Harvest Management (Code 511).
- Off-field forages used should not contain noxious or invasive weeds.
- Test soil annually to monitor build-up of excessive nutrient levels. Select sites with low to moderate soils test to supplement organic matter and provide nutrients. Avoid sites with already high nutrient levels. Consideration soil texture constraints for bale locations.
- All non-degradable bale material must be removed from the field when bales are gone.
- Use electric fencing or separate paddocks to control livestock access to bales or swaths to ensure forages are used efficiently.

Considerations:

- Bales with plastic twine should be placed on their ends to facilitate removal of twine prior to feeding. Net wrap may be left on to assist with controlled feeding.

- Design the size of area or number of bales or swaths to provide enough feed for the livestock for the desired period. (usually 2-5 days). Example:

  Average weight of round bale: 900 #
  Dry Matter (% dry × bale weight): 900# × 85% = 765#
  Loss for storage and feeding waste (765# × 75%) = 574# DM/Bale

  574# DM ÷ 30# DM/Cow/Day = 19 cows would use one round bale per day

  100 cows ÷ 19 cows/round bale/day = 5.2 bales per day to feed the herd
  5.2 bales per day × 90 days= 468 bales
  468 bales ÷ 25 bales per acre = 19 acres needed to bale graze.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- Prior to implementation, acquire a Grazing Management Plan on field(s) where swath or bale grazing is planned and provide to NRCS for review and approval. Plans must include all the following components:
  - Producer goals, objectives and resource concerns
  - Location and condition of structural improvements
  - Watering sites with availability, quantity and quality
  - Forage inventory
  - Forage-animal balance sheet
  - Grazing plan for livestock movement
  - Contingency plan
  - Monitoring plan
  - Calculations for determining number of bales or swath rows needed:
    1. Herd size: _____
    2. Average bale weight or swath production (pounds per acre): _____
    3. Average forage Dry Matter (DM)%_____
    4. Average DM # Intake/Cow/Day_____
    5. Number of bales or swath row area needed per day: _____
    6. Spacing of bales (if applicable) based on local criteria_____
    7. Duration of bale or swath grazing (days)_____
    8. Acres needed for bale or swath grazing period: _____

- Prior to implementation, identify location(s) where bale or swath grazing will occur and proximity to sensitive areas such as surface water and soil and drainage limitations.
- Prior to implementation, provide current soil test results (no older than 2 years) in identified areas for bales or swaths to NRCS.
- During implementation record location(s) of bale placement or swathing.
- During implementation, keep records of livestock movement through bale or swathing areas.
- During implementation, monitor livestock condition and feed quality.
- During implementation, record swathing or mowing heights.
- After implementation, provide the following items for review by NRCS:
  - A map showing bale or swath grazing areas.
  - Forage-animal balance sheet
  - Records of livestock movement through bale or swathing areas.

- Records of swathing or mowing heights.
- Written modifications to grazing management plan based on results of prior bale/swath grazing season and soil test results

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- As needed, provide technical assistance to participant as requested
- Prior to implementation, provide and explain NRCS Conservation Practice Standard Prescribed Grazing (Code 528) and supporting documents that are needed to implement this enhancement, such as forage-animal balance forms
- Prior to implementation, provide and explain NRCS Conservation Practice Standard Forage Harvest Management (Code 511) stubble height requirements
- Prior to implementation, provide assistance with bale spacing recommendations and calculations for determining number of bales or swath rows needed
- Prior to implementation, review soils test results for identified on bale/swath grazing areas
- After implementation, review map and locations of bale/swath grazing areas
- After implementation, review records of livestock movement through bale/swath grazing areas
- After implementation, review forage-animal balance sheet
- After implementation, review records of mowing/swathing heights
- After implementation, review modifications made to the grazing management plan

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name_____Contract Number _____

Total Amount Applied_____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

E528P

CONSERVATION STEWARDSHIP PROGRAM

Implementing Bale or Swath Grazing to increase organic matter and reduce nutrients in surface water

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture, Crop (Annual & Mixed), Crop (Perennial),

RESOURCE CONCERN: Soil, Water

ENHANCEMENT LIFE SPAN: 1 year

State Criteria:

Enhancement will only be scheduled on acres where bale/swath grazing occurs. (Example: Planning unit is 100 acres, but bales will only cover 20 acres of the unit. Schedule the enhancement for 20 acres).

If rangeland is hayed, upland rangeland will be hayed no more frequently than every other year.

If non-composted manure is mechanically applied to pastures, and is not incorporated, a 35 foot vegetative setback from riparian areas and streams will be implemented.

When impaired lakes or streams are located within the pasture or crop field or if runoff from riparian area, drainageways or streams enters directly (within 2000') into impaired lakes and/or streams:

- Manure (mechanically applied) will not be used as fertilizer.
- The grazing plan will include measures to reduce livestock access to these areas. Actions that could be taken include, but are not limited to:
  - Moving water locations, feeding areas, salt and mineral locations outside of the areas which runoff into impaired areas.
  - Additional site specific measures.

Nutrient application will be based upon soil sampling and analysis. Sampling will be performed, and nutrients applied based on the following:

- Soils shall be sampled and analyzed in accordance with CPS 590 Practice Specification for Nutrient Management or NebGuide G1740 "Guidelines for Soil Sampling".

- All soil samples must be taken prior to applying fertilizer.
    - Nutrient application rates will be within UNL recommendations based on soil tests and established yield goals and will consider all nutrient sources.

Criteria for bale grazing:

- Bale spacing should be no more than 40 feet apart for adequate nutrient deposition.
- Select sites that are level to gently sloping; avoid steep areas that are subject to high surface runoff.
- Alter bale placement from year to year to limit residue accumulation.
- Avoid bale grazing during wet soil conditions to limit compaction.
- When bale grazing on native rangeland, ensure that bales contain no weed seeds or species that if introduced into the grazing unit could result in a detrimental change in the plant community.
- Consider implementing bale grazing in areas with shortgrass sod, areas dominated by species such as Kentucky bluegrass, and areas with high amounts of bare ground.
-

Criteria for swath grazing:

- Cut forages between late milk and hard dough stages. When plants are in the hard dough stage, forage quality and quantity will be most balanced.
- Limit the feed allowance by using an electric fence and locate fences perpendicular to the swath to minimize trampling of forages and aid in livestock grazing when the swath is under snow.
- Fence to limit feed to that needed for 2-5 days.
-

Criteria for pasture or range land use:

- For rangeland the maximum percent utilization when grazing during the growing season is 50 percent and during the dormant season is 60 percent. For pastureland, the maximum percent utilization is 60 percent. If grazing prescriptions are designed to alter the plant community through targeted grazing, the desired utilization may be higher and should be documented in the grazing plan.
- Adequate plant recovery periods must be provided. See the Nebraska Prescribed Grazing Guidance Document (528 NE GD Prescribed Grazing 2019) for recommended plant heights before re-entry into the grazing unit.
- Alter the timing of grazing in each pasture by at least 3 weeks from year to year when grazing occurs during the growing season.

Documentation and Implementation Requirements

Participant will:

- Work with NRCS to identify riparian areas, streams or watershed drainage locations present in the pastures.
    - Develop a nutrient management plan when fertilizer, including compost or animal waste is applied and submit plan to NRCS before application of these nutrients. The plan will include planned nutrient budget (N-P-K), yield goal and planned nutrient applications. As needed complete the nutrient budget and planned fertilizer application tables on page 3 of this document.
- Use Nebraska 528 IR Prescribed Grazing Design Tool or equivalent to document the grazing plan.
- Document nutrient application (what is applied, when applied, how applied and how much) when compost or animal waste is applied. The records will include:
    - Copies of all soil, compost, and irrigation water analysis test reports.
    - Documentation of actual nutrient application(s) (N-P-K). Include type of forage and actual AUM's removed.
    - As needed complete the nutrient applied table on page 4. Equivalent forms can be used provided all required information has been reported.
- Use Utilization Documentation-Landscape Appearance Worksheet, which is found in the Nebraska Prescribed Grazing Inventory and Monitoring Workbook 2019, to document utilization levels in key grazing areas located within riparian and other critical areas.

NRCS will:

- Work with the participant to develop a map delineating riparian areas and streams areas.
- If requested by the participant, assist the participant with development of the prescribed grazing plan using Nebraska 528 IR Prescribed Grazing Design Tool.
- Review and approve nutrient management plan (if applicable) prior to application of fertilizer or compost.

Nutrient Budget & Cropping Inventory Sheet

1) Field Information – Attach Field Map with boundaries and management zones

Producer		**Crop Year**	
Field Name		**Prior Crop**	
Tract No. / Field No.		**Planned Crop**	
Management Zone		**Yield Goal**	
Acres		**Planting Date**	

2) Soil Sampling Results – Include copy of soil test report

	Nitrogen (N) (ppm)			P (ppm)	K (ppm)	[1]OM (%)	pH
	Layer 1	Layer 2	Layer 3				
Soil Test Values							
Bottom Layer (in.)							

3) Nutrient Budget

	Nutrients			Calculations/Comments
RECOMMENDATIONS	N	P_2O_5	K_2O	
Requirements (lb./a) NEEDS				
CREDITS (lb./a)				
Soil Test N Residual				
Organic Matter ([1]OM) N				[1]OM% is capped at 3.0%
Irrigation Water N (____ inches)				80% of average. application
Legume (type:_____)				
Cover Crop (type:_____)				Grazed/cut?
Organic N Value for Prior Manure				
Date Applied / Type / Rate Applied				
Total Credits (from above)				
Nutrient Recommendations				(Needs minus Total Credits)

4) Planned / Recommended Nutrient Application for Planned Crop

Source	Form	Timing (mo/d/yr)	Method – Also Include Days to Incorp & Depth if inject/incorp	Total Rate Applied /A	Actual Nutrients (lb./a)		
					N	P	K
				TOTAL NUTRIENTS APPLIED (lb./A)			

Inhibitor or Enhanced Efficiency Fertilizer Planned? (If yes, name)?: _____

5) Other Test Information

Test Type	Test Date (mo/d/yr)

6) Actual Applied Nutrients

Source	Form	Timing (mo/d/yr)	Method –Also include Days to Incorp & Depth if inject/incorp	Total Rate Applied /a	Actual Nutrients (lb./a)		
					N	P	K
				TOTAL NUTRIENTS APPLIED (lb./A)			

Inhibitor or Enhanced Efficiency Fertilizer Planned? (if yes, name)?: _____

7) Application Equipment Calibration

Equipment Type	Date

Certified by:_____ Date: _____

United States Department of Agriculture

Conservation Enhancement Activity

E528Q

CONSERVATION STEWARDSHIP PROGRAM

Use of body condition scoring for livestock on a monthly basis to keep track of herd health

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Crop (Annual and Mixed), Crop (Perennial), Pasture, Range, Forest, Associated Ag Land, Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Body condition scoring (BCS) serves as a useful management tool to monitor livestock performance with respect to current and recent feeding or grazing programs. Body condition scoring is a numeric scoring system, producers can use to consistently evaluate animals' estimated body energy reserves through degree of fatness. This information can be used to adjust nutritional strategies to reach optimal BCS. Since body condition is closely associated with reproductive performance as well as feed efficiency, monitoring body condition can help producers reach production goals and increase the operation's bottom line. Knowledge and understanding of BCS will assist producers to adjust a supplemental feeding program to maintain animal health and nutrition on a-monthly-basis.

Criteria

- A written plan for matching the forage quantity and quality produced with the grazing and/or browsing demand will be followed.
- A written plan for maintaining diversity of forage plants to optimize delivery of nutrients to the animals by incorporating the intensity, frequency, timing and duration

of grazing and/or browsing needed as determined through the planning process with: 1) Clear objectives, 2) A resource inventory including forage inventory, structural improvements and existing resource conditions, 3) Grazing schedule, and 4) All potential contingency plans.

- A written plan to monitor and document Body Condition Scores monthly using Land Grant University Scoring Guidelines.
- Supplemental feed and/or mineral will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.
- Animals must maintain ideal/Land Grant University recommended BCS for their breed, phase of production, or livestock type. (animals should not be emaciated to thin, or fat to obese).

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, acquire a Grazing Management Plan with all the following components: (provide plan to NRCS for review and approval)
  - o Producer goals and objectives
  - o Location and condition of structural improvements
  - o Watering sites with availability, quantity and quantity
  - o Forage inventory
  - o Forage-animal balance sheet
  - o Grazing plan for livestock movement
  - o Contingency plan
  - o Monitoring plan
- ☐ Prior to implementation, develop a written BCS monitoring plan
- ☐ During implementation keep a record of livestock movement and BCS of livestock type, breed and phase of production
- ☐ During implementation, keep a record of supplemental feeding
- ☐ During implementation, take photos of livestock from several representative animals. Photos should be taken of the side with the entire animal in the picture frame

- ☐ After implementation, provide the following items for review by NRCS:
  - o Map of paddocks used
  - o Forage-animal balance sheet
  - o Records of livestock movement through paddocks
  - o BCS monitoring plan with livestock photos
  - o Supplemental feeding plan
  - o Written modifications to grazing management plan based on results of BCS monitoring and supplemental feeding program

NRCS will:

- ☐ As needed, provide technical assistance to participant as requested
- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Prescribed Grazing (CPS 528) as it relates to implementing this enhancement

- ☐ Prior to implementation, review the plan provided for livestock movement, BCS monitoring and supplemental feed plan
- ☐ After implementation, review the livestock movement plan, BCS monitoring data, and supplemental feed contingency plan (if implemented)
- ☐ After implementation, review the modifications to the grazing management plan based on results of BCS monitoring and the supplemental feeding program

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

- _____ _____
  NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528Q

Use of body condition scoring for livestock on a monthly basis to keep track of herd health

APPLICABLE LAND USE: Crop (Annual & Mixed), Crop (Perennial), Pasture, Range, Forest, Asociated Ag Land, Farmstead

Conservation Practice 528: Prescribed Grazing

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Refer to Nebraska Extension publication "Body Condition Scoring Beef Cows: A Tool for Managing the Nutrition Program for Beef Herds for information about body condition scoring and photos illustrating BCS 3-7. Additional BCS photos can be found in "A Practical Guide to Body Condition Scoring". Several body condition score mobile app is available. Search for "Beef Cow BCS".

Documentation and Implementation Requirements

Participant will:

- Use the Nebraska 528 NE IR Prescribed Grazing Design Tool or equivalent to document the grazing plan.

NRCS will:

- If requested by participant, work with participant to develop grazing plan using the Nebraska 528 NE IR Prescribed Grazing Design Tool.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E528R

CONSERVATION STEWARDSHIP PROGRAM

Management Intensive Rotational Grazing

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture, Range

RESOURCE CONCERN ADDRESSED: PLANTS

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Management intensive, multi-paddock grazing system where livestock are regularly and systematically moved to fresh forage to optimize quantity and quality of forage growth, improve manure distribution, improve wildlife cover, and improve soil health.

Criteria

- Management-intensive rotational grazing increases harvest efficiency of vegetation with grazing and/or browsing animals through smaller paddock sizes, higher stock density while maintaining plant residue with enough energy reserves to recover quickly when adequate soil moisture is available for regrowth.
- Must develop and implement a written grazing plan that:
  - increases stock density
  - shortens grazing periods
  - enhances plant recovery
  - matches the forage quantity and quality produced with the grazing and / or browsing animal, and

  - increases harvest efficiency and manure distribution by significantly increasing the existing stock density per herd.

- Removal of forage will be in accordance with site production limitations, rate of plant growth, the physiological needs of forage plants and the nutritional needs of the livestock.

- Deferment (non-grazing period less than one year) and / or rest (non-grazing period equal to or greater than one year) will be planned for critical periods of plant needs.

- Manage livestock rotation based on rate of plant growth, available forage, and allowable utilization target.

- Manage livestock rotation to provide adequate ground cover and plant density to decrease soil erosion, reduce runoff and improve infiltration and water holding capacity.

- Minimize concentrated livestock areas to enhance nutrient distribution and improve or maintain ground cover.

- Utilize higher stock density and shorter grazing periods in riparian areas to minimize impact to stream bank or shoreline stability and ensure other sensitive areas such as wetlands, habitats of concern, karst areas do not become degraded.

- Implement and maintain a rotational grazing system using a combination of permanent or temporary division fences and water facilities to serve the management needs of operation.

- Develop and follow contingency plans to deal with drought or flooding or other episodic disturbance events.

Develop and implement a monitoring plan that at a minimum evaluates livestock performance, plant community composition and density, and soil function components such as ground cover, infiltration and aggregate stability.

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

- ☐ Prior to implementing, obtain a grazing plan map delineating the existing paddock system, along with a livestock inventory (type, class, average weight, and number) to document the current stocking density and current stocking rate.
- ☐ Prior to implementation, acquire a prescribed grazing plan, with a plan narrative delineating the following:
    - The goals and objectives of the plan
    - Map showing the number of paddock subdivisions with water sources, proposed stock densities per paddock associated with different herds in the system.
    - Forage Inventory
    - Forage / Animal Balance
    - A grazing plan narrative describing the basis for when livestock movement or rotation will occur
    - A contingency plan
    - A monitoring plan
- ☐ During implementation, keep pasture/ herd in/out records, stock density records and photos of paddock condition and photos of high stock density grazing implementation.
- ☐ After implementation, provide the following items for review by NRCS:
    - Written grazing plan with maps showing fencing and water layout and managed stock densities for each herd.
    - Paddock / herd in / out records with actual stock densities documentation.
    - Photos of paddock(s) condition and improved forage utilization and photos of high stock density grazing.
    - Changes made to the grazing management plan.

NRCS will:

- ☐ As needed, provide technical assistance to participant as requested.
- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Prescribed Grazing (Code 528) and supporting documents that are needed to implement this enhancement, such as forage-animal balance forms.
- ☐ Prior to implementation, review the existing grazing plan, maps and livestock inventory provided by the participant.
- ☐ Review the newly proposed grazing plan fencing and watering layout, associated maps and stock density numbers for each herd.
- ☐ After implementation, review the following:
  - Written grazing plan with maps showing fencing and water layout and managed stock densities for each herd.
  - Paddock / herd in / out records with actual stock densities documentation.
  - Photos of paddock(s) condition and improved forage utilization and photos of high stock density grazing.
  - Changes made to the grazing management plan

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY E528R

CONSERVATION STEWARDSHIP PROGRAM

Management Intensive Rotational Grazing

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture, Range

ENHANCEMENT LIFE SPAN: 1 year

RESOURCE CONCERN: Plants

State Criteria:

Management intensive grazing, for the purposes of this enhancement, will be a rotational grazing system that increases harvest efficiency, rest period length through shorter grazing periods, or matches forage quantity or quality with nutrient demand of the livestock present.

Consult a technical specialist, (Natural Resources Conservation Service-NRCS, technical service provider, or other qualified range consultant) to assist with development of a management intensive grazing plan.

Maximum utilization is 60 percent (%) on rangeland and 70% on pastureland. Utilization measurement methods such as landscape appearance or utilization of key species should be used to calibrate field estimates. Exceptions: Grazing prescriptions for targeted grazing on rangelands designed to alter the existing plant community by suppression of invasive species such as cheatgrass, reed canarygrass, or Kentucky bluegrass. In these cases, higher utilization of the **target** species should be documented in the grazing managment plan.

Adequate growing season recovery must be provided before re-entry into the paddocks. See Nebraska Prescribed Grazing Guidance Document for minimum grass heights for beginning and ending grazing.

Documentation and Implementation Requirements

Participant will:

- Use the Nebraska 528 NE IR Prescribed Grazing Design Tool or equivalent to document the grazing management plan.

NRCS will:

- If requested by the participant, assist the participant with development of the prescribed grazing plan using the Nebraska 528 NE IR Prescribed Grazing Design Tool

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CONSERVATION ENHANCEMENT ACTIVITY

E528S

Soil Health Improvements on Pasture

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture

RESOURCE CONCERN ADDRESSED: Soil

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Use of soil health assessment to evaluate impact of planned grazing in addressing organic matter depletion, soil organism habitat and aggregate instability. Laboratory soil health tests will be completed in year 1 and year 4 of the contract. Planned modifications to the pasture forages and/or management system will be made to the benchmark grazing system to address concerns from the assessments. During sample collection, Pasture Condition Score (PCS) or Determining Indicators of Pasture Health (DIPH) assessment will be completed for the sample area.

Criteria

- Utilizing the benchmark PCS or DIPH, the participant will plan improvements to at least one of the indicators. The benchmark PCS or DIPH will be less than one year old.
- A primary assessment will be completed in Year 1 that includes completing the PCS or DIPH and sampling soil that will be analyzed by a soil health testing laboratory. Follow guidance from Technical Note No. 450-03 to select indicators (soil organic carbon, aggregation, bioavailable nitrogen, respiration, and/or active carbon) and for sampling procedure. Record weather factors and most recent grazing event on the PCS or DIPH. Soil sample collection and PCS or DIPH will be completed on the same day and in the same location.

- During Year 4, a follow-up assessment will be completed using the same methods that were utilized in year 1. The assessment will be in the same season, comparable conditions and key area as completed in year 1.

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation:

- Provide NRCS with the benchmark grazing information.
- Develop a prescribed grazing plan.
- Select the laboratory soil health test and provider based on your soil health objectives.

☐ During implementation:

- Complete PCS or DIPH or work with someone qualified to complete the pasture assessment when soil samples are collected.
- Collect soil samples and georeferenced sampling locations in years 1 and 4 of the contract and send them to a reputable soil testing lab that completes soil health testing. Year 1 and year 4 soil samples will be tested by the same laboratory.
- Make changes to the grazing management plan based on results of PCS or DIPH and soil health test to benefit organic matter depletion, soil organism habitat and/or aggregate instability.

☐ After implementation provide the following items for review by NRCS:

- PCS or DIPH score sheets with all field notes and locations.
- Both Soil Health Assessment results to NRCS.
- Changes made to the grazing management plan for the year.

NRCS will:

☐ As needed, provide any technical assistance to participant as requested.

☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Prescribed Grazing (CPS 528) as it relates to implementing this enhancement.

☐ Prior to implementation, and as requested from the participant, develop a Prescribed Grazing plan for each year of this enhancement.

- ☐ During implementation, assist the producer with locating the key area for the PCS or DIPH and soil samples to be collected.
- ☐ During implementation, as requested work with the producer to complete PCS or DIPH and collect the soil samples.
- ☐ After implementation, review all PCS or DIPH and all soil health laboratory testing results.
- ☐ After implementation, verify implementation of changes made to the grazing management plan to address organic matter depletion, soil organism habitat and/or aggregate instability and other identified indicators from the PCS or DIPH by reviewing grazing herd in and out records or implementation of additional activities.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528S

Soil Health Improvements on Pasture

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Pasture

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Soil Health Testing Requirements

- Complete a soil health assessment for the key area of the pasture where a PCS or DIPH was completed.
- Samples should be taken following a protocol similar to that recommended by Cornell University http://www.css.cornell.edu/extension/soil-health/sampling.pdf. All samples should be collected from 0-6 inches only.
- Test soil for indicators referenced in Soil Health Technical Note No. 450-03 "Recommended Soil Health Indicators and Associated Laboratory Procedures."

- The basic soil health test includes all five of the following indicators by the methods below:
  - Soil organic carbon content measured by dry combustion
  - Wet macro-aggregate stability measured using ARS or NRCS methods or by sprinkle infiltrometer
  - Respiration using 1, 2, 3 or 4-day incubation
  - Active carbon measured by permanganate oxidation
  - Bioavailable nitrogen measured by ACE Protein method

- Optional soil tests can be conducted including: Bulk Density and Standard Chemical analysis.

Grazing Management Requirements

A management intensive grazing plan should be established and implemented to improve soil health and the productivity of the pasture involved. Management intensive grazing, for the purposes of this enhancement, will be a rotational grazing system that increases harvest efficiency, rest period length through shorter grazing periods, or matches forage quantity or quality with nutrient demand of the livestock present.

Consult a technical specialist, (Natural Resources Conservation Service-NRCS, technical service provider, or other qualified range consultant) to assist with development of a management intensive grazing plan.

Maximum utilization is 60 percent (%) on rangeland and 70% on pastureland. Utilization measurement methods such as landscape appearance or utilization of key species should be used to calibrate field estimates.

Adequate growing season recovery must be provided before re-entry into the paddocks. See Nebraska Prescribed Grazing Guidance Document for minimum grass heights for beginning and ending grazing.

Documentation and Implementation Requirements

Participant will:

- Use the Prescribed Grazing Design Tool or equivalent to document the grazing management plan. The Prescribed Grazing Design Tool located in Section 4 of the Nebraska Field Office Technical Guide in the Conservation Practice Standards & Support Documents folder under Prescribed Grazing.

NRCS will:

- If requested by the participant, assist the participant with development of the prescribed grazing plan using the Prescribed Grazing Design Tool.

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E528T

CONSERVATION STEWARDSHIP PROGRAM

Grazing to Reduce Wildfire Risks on Forests

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Forest; Associated Ag Land

RESOURCE CONCERN: Plants

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Managing the harvest of vegetation with grazing and/or browsing animals for the purpose of balancing forage with maintaining ecological site condition and while reducing the risk of wildfire hazard on Western conifer forested ecological sites.

Criteria

Y Must follow a written prescribed grazing plan for matching the forage quantity and quality produced with the grazing and/or browsing demand.

Y Develop or update a forest management plan in consultation with a forester or Natural Resources professional to include grazing as part of the wildfire hazard reduction strategy.

Y This enhancement can only be applied to forest stands where the trees are already properly spaced to meet the requirements of wildfire hazard risk reduction. See NRCS State stand density guidance.

Y Grazing can be used as maintenance after an initial treatment of understory fuels or as the initial treatment when fine fuels are the dominating ground fuelload.

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CONSERVATION STEWARDSHIP PROGRAM

Y This enhancement will be applied to forested ecological sites which have had their historical wildfire return intervals and fire regimes disrupted.

Y Removal of herbage will be in accordance with site production limitations, rate of plant growth, the physiological needs of forage plants, and the nutritional needs of the animals.

Y Deferment (non-grazing period less than one year) and/or rest (non-grazing period equal or greater than one year) will be planned for critical periods of plant needs (such as post-planting or renovation, severe drought, etc.).

Y Manage grazing and/or browsing animals to maintain adequate cover on sensitive areas (such as riparian areas, wetlands, habitats of concern, karst areas,etc.)

Y Manage livestock movements based on rate of plant growth, available forage, and allowable utilization target. Develop and follow contingency plans to deal with episodic disturbance events.

Y An approach to grazing management will target the identified level of fine fuel removal while compensating the physiological needs of key forage species with post treatment deferments and timing of repeat treatments.

Y Plant functional groups providing structure and composition will be identified in the objectives of the prescribed grazing plan.

Y Plan the intensity, frequency, timing and duration of grazing and/or browsing to treat understory vegetation to maintain and protect targeted native plant health and desired composition but also treat fuel loading during the fire season.

Y Pruning the lower tree branches and treating the current slash on the ground is compatible with the both wildfire hazard reduction and grazing efficiency. To conduct these activities see the Conservation Practice Standards for 660 Tree and Shrub Pruning and 384 Woody residue treatment

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

YPrior to implementation, obtain a written grazing plan (NRCS can provide assistance as needed). Plan must include:

- Clear goals and objectives of the plan, including identification of any specie(s) of concern and the plant functional groups providingforage.
- Contingency plan for events that trigger adverse results.
- Forage/Animal Balance.
- A grazing plan narrative describing the basis for when livestock movement or rotation will occur, including deferment plans.
- Contingency plans for forage shortfalls.
- Monitoring locations, key species, and monitoring techniques.
- Map identifying all grazing units including the targeted forest stands, water sources, and any riparian area or watershed drainage locations improved or maintained by this management.

Y Prior to implementation, obtain or update the Forest Management Plan that identifies the stands who's trees have been (or will be prior to implementing this enhancement)properly spaced for wildfire hazard reduction to include grazing as part of their wildfire hazard reduction strategy.

Y During implementation, keep the following documentation:

- Livestock herd management records with seasonally important phenological stages of plant growth relative to species of concern.
- Annually complete a forage utilization worksheet, such as NRCS Conservation Practice Standard Prescribed Grazing (Code 528) job sheet.
- Grazing intensity records for all key grazing areas that accommodate thecriteria.

Y During implementation, consult with NRCS to adjust and adapt the grazing plan to current conditions to verify the changes meet enhancement criteria. Changes to the grazing plan will be documented in writing.

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Y After implementation, make all records available for review by NRCS to verify implementation of the enhancement.

Y After implementation, complete an assessment of the site with NRCS to determine effectiveness of the prescribed grazing plan for wildfire hazard reduction.

NRCS will:

Y As needed, provide technical additional assistance to the participant as requested.

Y Prior to implementation, provide and explain NRCS Conservation Practice Standard Prescribed Grazing (Code 528) as it relates to implementing this enhancement, including any state approved job sheets or work sheets.

Y Prior to implementation, assist the participant with development or update of a grazing plan and Forest Management Plan, if requested. If NRCS does not assist with plan development or update, the plan(s) will be reviewed by NRCS for approval prior to implementation to confirm the written objectives meet the criteria of the enhancement.

Y Prior to implementation, explain the functionality of this enhancement with Enhancement E666E, if sequentially applicable.

Y During implementation, as requested, assist the participant with adapting the grazing strategy and plan to current conditions.

Y After implementation, review grazing plan, records, and documentation to verify the enhancement was implemented to meet the criteria.

YAfter implementation, complete an assessment of the site with the participant to determine effectiveness of the prescribed grazing plan for wildfire hazard reduction

NRCS Documentation Review:

CONSERVATION STEWARDSHIP PROGRAM

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name_____Contract Number _____

Total Amount Applied_____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528T

Grazing to Reduce Wildfire Risks on Forests

Conservation Practice 528: PRESCRIBED GRAZING

APPLICABLE LAND USE: Forest, Associated Ag land

RESOURCE CONCERN ADDRESSED: Plants

ENHANCEMENT LIFE SPAN: 1 year

Documentation and Implementation Requirements

The participant will:

- Provide map of project areas
- Develop or provide current forest management plan in consultation with a qualified forester to NRCS. Present condition must already be at NRCS guidelines for tree stand density and woody fuel reduction, Forest Stand Improvement (666)
- Follow prescribed grazing plan that balances forage supply with forage demand by livestock and/or wildlife. Timing of grazing events shall coincide with planned fine fuel reduction levels, while maintaining the health and vigor of desirable vegetation for the ecological site. Provide grazing records to NRCS that include number and class of livestock, dates of grazing, contingency plan, and monitoring plan.

NRCS will:

- Ensure Forest Stand Improvement (666) plan is in place and has been executed prior to applying for this activity. Assist participant to update as needed.
- Assist participant in developing prescribed grazing plan that meets the objectives of fuels reduction to mitigate the risks of wildfire. Utilize NRCS Prescribed Grazing Design Tool or equivalent to ensure all components of a prescribed grazing (528) plan are included.
- Review annual grazing records to determine if objectives of the plan are being met.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E528U

CONSERVATION STEWARDSHIP PROGRAM

Contingency Planning for Resiliency

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Crop (Annual and Mixed), Crop (Perennial), Pasture, Range, Forest

RESOURCE CONCERN: Plants, Soil

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Develop and implement detailed contingency plans that address major disturbances (drought, fire, flooding, insect infestations, etc) for grazing lands on the operation. Incorporate drought or other weather forecasting tools and agency approved climate projections within the contingency plans. Incorporate resilience building techniques in the grazing plan to mitigate effects of major disturbances.

Criteria

- Develop a written plan that matches forage quality and quantity to grazing and/or browsing animal demands for **the entire year** (both growing and non-growing season). This would include both grazed, stored and fed feed, and other grazing resources. (Not all acres may need to be contracted, but this would cover the entire season when animals are on-farm). Recommended strategies could be:
    - Incorporate longer rest periods to increase recovery of grazing resources and improve resiliency after drought events or other major disturbances.
    - Utilize non-traditional grazing resources such as annual forages, crop residues, perennial cropland (hayland), etc. when developing a year-round grazing plan.

  - Maintain conservative stocking rates as a drought contingency strategy to minimize detrimental consequences during drought on economic and ecological sustainability (when applicable).
  - Incorporate other technologies such as bale grazing on hayland, degraded rangeland, or cropland to improve resiliency by increasing organic matter etc.
  - Incorporate other strategies as recommended by local NRCS or other grazing experts from the region.

- Enhance diversity of rangeland plants to optimize grazing unit resiliency by managing the intensity, frequency, timing, and duration of grazing and/or browsing needed as determined by a planning process that includes:
  - Clear objectives,
  - Resource inventory of structural improvements, existing resource conditions, forage inventory including all grazable acres on operation,
  - Grazing plan,
  - Contingency plan, and
  - Monitoring plan.
- Develop a written contingency plan that includes the following:
  - Type of contingency planned for (drought, fire, flood, insect infestation, etc.),
  - Trigger points (or dates) for making stocking rate decisions,
  - Types, locations, and information for available additional forage resources (purchased or stockpiled hay, grazing cropland resources, off-farm forage resources, etc.),
  - Culling procedures (if any) (including all stages of animals in animal inventory, i.e., cow/calf, stockers, yearlings, bulls, ewe/lambs, rams, etc.; and time frame when to market during what conditions etc.),
  - Judicious use of local or national drought forecasting tools to inform trigger date decisions (GrassCast, SD Drought Tool, etc.), and

- Use of drought forecasting tools and soil water forecasts where available to promote the accuracy of forage production projections. See supplemental information for local resources (if any).

- Implement contingency plan (when needed) and develop new updated contingency plan as conditions change (this is an ongoing process).

- Develop a monitoring plan that helps measure resiliency on the operation. This should include each of the following subcategories:

  - Soil monitoring techniques such as soil tests for organic matter, PLFAs, Haney test, etc.
  - Includes monitoring techniques to determine soil cover.
    - Soil cover should be compared to an Ecological Site Description or Rangeland Health Evaluation matrix to determine if the amounts present are appropriate for the site.
  - Plant species diversity monitoring techniques.
  - Any other appropriate monitoring techniques to help determine positive changes in site resiliency.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

- ☐ Prior to implementation, review NRCS Conservation Practice Standards Prescribed Grazing (Code 528), including any state approved job sheets or worksheets.
- ☐ Prior to implementation work with NRCS to complete a forage inventory of operational resources.
- ☐ Prior to implementation provide locations of fence, watering facilities and infrastructure, additional non-traditional grazing resources, etc.
- ☐ During implementation, keep records of actual use (dates, grazing/browsing period, number of head).
- ☐ During implementation, collect monitoring data for use to determine trigger dates, such as precipitation data, fire occurrences, flooding occurrences, forage availability, etc.
- ☐ During implementation, consult with NRCS to adjust and adapt the plan to current conditions to verify changes needed to meet enhancement criteria. Changes to the plan will be documented in writing.
- ☐ After implementation, make the following items available for review by NRCS to verify implementation of the enhancement:
    - Grazing management plan,
    - Contingency plan,
    - Monitoring data and actual use records, and
    - Any documented changes to the plan as result of drought contingency plan or monitoring data.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ As needed, provide technical assistance to the participant as requested.
- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standards Prescribed Grazing (Code 528) as they relate to implementing this enhancement, including any state approved job sheets or work sheets.
- ☐ Prior to implementation, assist the participant with development of a grazing plan, if requested. If NRCS does not assist with plan development, the plan(s) will be reviewed by NRCS for approval prior to implementation to confirm the written objectives meet the criteria of the enhancement.
- ☐ After implementation, review actual use and monitoring data used to implement grazing strategy and provide recommendations for adjustments, or additional practices to facilitate future improvements in contingency planning and resilience.
- ☐ During implementation, as requested, assist the participant with adapting the grazing strategy and plan to current conditions.
- ☐ After implementation, review grazing plan, records, and documentation to verify the enhancement was implemented to meet the criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E528U
Contingency Planning for Resiliency

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial), Pasture, Range, Forest

RESOURCE CONCERN: Plants, Soil

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E533B

CONSERVATION STEWARDSHIP PROGRAM

Complete pumping plant evaluation for energy savings

CONSERVATION PRACTICE: 533 - Pumping Plant

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Associated Ag Land; Farmstead

RESOURCE CONCERN: Energy

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Evaluation of all pumping plants to determine the potential to rehabilitate/replace/reconfigure pump performance to reduce energy use. Evaluate to determine if a Variable Frequency Drive motor controller(s) will reduce energy use and is feasible.

Criteria

- Pump test evaluation will include all irrigation pumps on the on fields where the activity is implemented. There could be multiple pumps that are used on single or multiple fields.

- Minimum data necessary to complete the pumping evaluation:
  - Flow rate, instantaneous and for the season.
  - Pressure at different flow rates based on partial or complete irrigations.
  - Power usage to compute efficiency of the drive unit.
  - Area and fields irrigated.
  - Estimate of friction loss in pipelines based on pressure drop in lines during test.

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

Prior to implementation:

- ☐ Provide NRCS with a map showing the location of all fields and pumps connected to the irrigation system.
- ☐ Arrange for pump test evaluations of all irrigation pumps on fields where activity is implemented.

During implementation

- ☐ Have a pump test evaluation performed on all irrigation pumps that service the fields where activity is implemented.

After implementation

- ☐ Make the following items available for review by NRCS to verify implementation of the enhancement:
  - Pump test evaluation report(s).
  - Provide a list of any adjustments to improve system efficiency made as a result of the evaluation. Calculate the reduction of energy use based on before and after conditions. Energy savings can be reported as the average annual or seasonal energy reduction compared to previous operating conditions.

NRCS will:

Prior to implementation

- ☐ Provide and explain Pumping Plant (Code 533) to participant as it relates to implementing this enhancement.
- ☐ As needed, provide additional technical assistance to the participant as requested.

After implementation

- ☐ Verify pump test evaluation, by reviewing evaluation report.
- ☐ Verify energy savings based on system efficiency before and after implementation of the enhancement.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

CONSERVATION STEWARDSHIP PROGRAM

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY E533B

Complete pumping plant evaluation for energy savings

Conservation Practice 533: Pump Plant

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Associated Ag Land; Farmstead

RESOURCE CONCERN: Energy

PRACTICE LIFE SPAN: 1 year

State Criteria

The intent is to evaluate irrigation pumping plants to determine the potential to rehabilitate/replace/reconfigure the pump to reduce energy use, and to determine if a Variable Frequency Drive (VFD) will reduce energy use and is feasible. Pumping plants that were evaluated under CSP in previous years are not eligible.

The Enhancement indicates that an evaluation is to be conducted for all irrigation pumps on fields where the activity is implemented, however, do not confuse "fields" with the CLU. Under this Enhancement, a field is defined by the irrigation system that serves it and the pumping plant evaluation is to be conducted on the pump(s) that support that irrigation system. Also, as the Enhancement points out, there could be multiple pumps that are used on single or multiple fields, which means this Enhancement and accompanying financial assistance is to be applied per irrigation system, not on the number of individual pumps that support that irrigation system.

It is noteworthy that not all local vendors have the capability of satisfying the requirements of this evaluation. Accordingly, advise the program participant to provide the requirements of the evaluation to a proposed vendor prior or contracting for it to ensure the vendor has the capability to complete it.

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

The program participant is to arrange for a pump test evaluation(s) by a local vendor capable of performing such an evaluation. To conduct this evaluation the vendor shall complete the "Pumping Plant Detailed Evaluation Worksheet" taken from the NRCS National Engineering Handbook (NEH). A fillable .pdf version of this worksheet can be found in Section IV of the FOTG under Code 533 "Pumping Plant".

To determine if a VFD will reduce energy use and is feasible, the vendor must also address the following information via commentary and /or detailed calculations within the"Recommendations" section of the Pumping Plant Detailed Evaluation Worksheet:

- Does installation of a VFD meet the local power provider's standards regarding potential harmonics (e.g., the Institute of Electrical and Electronics Engineers (IEEE) Standard 519) and other interference issues?
- How the VFD would be protected against overheating?
- Would the VFD's control panel have a readout display of flow rate or pressure?
- Separation between VFD frequency (Hz) at low flow and high flow points must be greater than one hertz (>1 Hz).
- VFD frequency (Hz) at the high flow point must not exceed the base frequency (60Hz) by more than 10% (≤10%), i.e. VFD frequency must not exceed 66Hz.
- Reduction of energy use is to be a minimum of 10% (≥10%) as estimated in terms of the annual difference in energy use on an after-practice minus before-practice basis considering the same operating conditions.
- Pump is to be designed with a goal of maintaining pump efficiency at or above 80% (≥80%), but must not be less than 70% (≥70%) at any of the defined flow points for more than 20% (≤20%) of the total operating hours.
- Estimated payback period with the goal of being no more than 15 years (≤15 yrs).

Upon receiving the completed Pumping Plant Detailed Evaluation Worksheet, attached it to the Enhancement's completed Documentation and Implementation Requirements. Once the documentation requirements under this Enhancement are satisfied, regardless of what the evaluation recommends, no follow-on action by the program participant is required.

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CONSERVATION ENHANCEMENT ACTIVITY

E533C

CONSERVATION STEWARDSHIP PROGRAM

Install VFDs on pumping plants

CONSERVATION PRACTICE: 533 - Pumping Plant

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Associated Ag Land; Farmstead

RESOURCE CONCERN: Energy

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Install Variable Frequency Drive(s) (VFD) on Pumping Plant with the correct sensors, on all pumps as indicated in the evaluation.

Criteria

- Implement recommendations for components from a pumping plant evaluation where the FVD is feasible, reduces energy use, and the existing or new electric drive unit will support the VFD.
- The replacement or retrofit system and related components or devices meet or exceed currently applicable federal, state, and local standards and guidelines.
- Components of this enhancement will meet the NRCS Conservation Practice Standard Pumping Plant (Code 533).

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

Prior to implementation:

- ☐ Review pumping plant evaluation, season of use, existing pump motor needs, and current operation.
- ☐ Evaluate site specific energy alternatives and net benefit of the Variable Frequency Drive(s).
- ☐ Ensure that energy utility provider has reviewed and approved location of installation on pump motor, including needs for electrical harmonic filter.
- ☐ Obtain written documentation of utility approval for site with requirements for installation.

During implementation

- ☐ Ensure installation meets federal National Electrical Code and any local or state codes.

After implementation

- ☐ Provide documentation of installation including first season energy use for comparison to prior years to NRCS for review to verify implementation of the enhancement.
- ☐ Monitor and maintain system for the life span of the practice (10 years).

NRCS will:

Prior to implementation

- ☐ Provide and explain NRCS Conservation Practice Standard Pumping Plant (Code 533) as it relates to implementing this enhancement.
- ☐ As needed, provide additional technical assistance to the participant as requested.
- ☐ Review with the participant the costs and benefits of the installation of Variable Frequency Drive(s).
- ☐ Develop written specifications describing site specific details of installation, including:
    - The replacement or retrofit system and/or related components or devices.
    - Baseline system energy usage and potential energy savings from the implementation of this enhancement.
    - Plan view showing the location of the measures in relation to other structures or natural features, where appropriate.
    - Electrical wiring that meets the requirements of the National Electrical Code.
    - Operation and maintenance plan that is consistent with the purpose(s) of this practice, its intended life, and safety requirements.

CONSERVATION STEWARDSHIP PROGRAM

After implementation

- ☐ Verify energy savings based on system efficiency before and after implementation of the enhancement

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

CONSERVATION STEWARDSHIP PROGRAM

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY E533C

Install VFDs on pumping plants

Conservation Practice 533: Pump Plant

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Associated Ag Land; Farmstead

RESOURCE CONCERN: Energy

PRACTICE LIFE SPAN: 1 year

State Criteria

Under this Enhancement a Variable Frequency Drive (VFD) is to be installed on a pump(s) for which an evaluation has determined that a VFD is feasible, reduces energy use, and the existing or new electric drive unit will support it.

An evaluation in support of this Enhancement may be initiated as part of implementing this Enhancement or may be a prior evaluation initiated under the CStP Program. One such prior evaluation may come from implementing E533B. The intent of E533B is, in part, to determine if a VFD will reduce energy use and is feasible. Coupling E533B and E533C in a CStP contract would provide the evaluation under E533B in one year and then the follow-on action to install the VFD in a subsequent year under E533C. However, if the evaluation under E533B does not yield a recommendation for a VFD, then this Enhancement (E533C) would not be applicable.

Any evaluation to determine if a VFD will reduce energy use and is feasible, whether from a previous action or is part of implementing this Enhancement, must satisfy the following general criteria, technical requirements, and considerations:

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

Conservation Practice Standard (CPS) 533 General Criteria Applicable to VFDs:

- Prior to installation, the owner / operator shall inform the electric power provider of the proposed VFD installation and ensure that the power provider's standards are met regarding potential harmonics (e.g., the Institute of Electrical and Electronics Engineers (IEEE) Standard 519) and other interference issues.
- The Variable Frequency Drive shall be protected against overheating.
- The Variable Frequency Drive control panel shall provide the readout display of flow rate or pressure.

Technical Requirements:

- Separation between VFD frequency (Hz) at low flow and high flow points must be greater than one hertz (>1 Hz).
- VFD frequency (Hz) at the high flow point must not exceed the base frequency (60Hz) by more than 10% (≤10%), i.e. VFD frequency must not exceed 66Hz.
- Reduction of energy use is to be a minimum of 10% (≥10%) as estimated in terms of the annual difference in energy use on an after-practice minus before-practice basis considering the same operating conditions.

Considerations:

- Pump is to be designed with a goal of maintaining pump efficiency at or above 80% (≥80%), but must not be less than 70% (≥70%) at any of the defined flow points for more than 20% (≤20%) of the total operating hours.
- Estimated payback period is to be no more than 15 years (≤15 yrs), otherwise, the participant must be informed of the lengthy payback period and a decision made whether or not to continue.

If the CPS 533 general criteria applicable to VFDs are satisfied and the evaluation indicates the proposed installation of a VFD meets the technical requirements set forth above, a VFD may be installed under this Enhancement. The evaluation must also place a significant emphasis on the "considerations" as this will help identify a pump with the capacity to maintain an acceptable efficiency throughout all flow points and serve to support the

program participant in making associated financial decisions.

The general criteria, technical requirements, and considerations presented above are consistent with 533_NE_IR_VFD. An in-house evaluation using 533_NE_IR_VFD will also serve to support implementation of this Enhancement.

Again, if the evaluation regardless of how, when, or why an it is/was accomplished does not yield a recommendation for a VFD, then this Enhancement (E533C) would not be applicable.

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CONSERVATION ENHANCEMENT ACTIVITY

E550A

CONSERVATION STEWARDSHIP PROGRAM

Range planting for increasing/maintaining organic matter

Conservation Practice 550: RANGE PLANTING

APPLICABLE LAND USE: Range, Forest, Crop (Annual & Mixed), Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 5 years

Enhancement Description

Establishment of adapted perennial or self-sustaining vegetation such as grasses, forbs, legumes, shrubs and trees for the purpose of increasing or maintaining organic matter levels in the soil.

Criteria

- Specified species and cultivars or varieties, planting rates, dates, and methods shall be consistent with PMC, research institution, or agency demonstration trials, local laws and/or regulations, management objectives, and adapted to the site. Plant materials/seed selected will be compatible with desired ecological site descriptions steady states (or their substitutive documentation from the NRCS Field Office Technical Guide).

- Seedbed preparation and planting methods will be suitable to meet any special needs for obtaining an acceptable establishment of planted materials, and provide adequate cover for erosion control within an acceptable time frame.

- Recommended planting depths, hydrologic conditions, dates, rates, soil amendments at planting, seed quality requirements, and management during establishment (weed control and/or deferment) shall be followed in order to enhance establishment success.

- The plant species, cultivars or varieties selected will be deep rooted, perennial plants that will increase productive plant biomass on the site.
- Reduce the temporal frequency of carbon release caused by non-historical repetition of fire.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

Prior to implementation

☐ Prepare a range planting plan that details seedbed preparation techniques, planting method, planting dates, and seeding rates. (NRCS will provide technical assistance, as needed.)

Planting Date(s)	
Seedbed Preparation	
Planting Method	
Seeding rates	

During implementation

☐ Notify NRCS if there are any changes to the range planting plan.

After implementation

☐ Provide documentation for review by NRCS of actual seedbed preparation technique, planting method, planting date, seeding rates, and percentage success of the plantings.

NRCS will:

Prior to implementation

☐ Provide the Ecological Site Description(s) or other reference documents (if the ecological site description is not available) that outlines the best approximation of the desired plant community composition, structure, and function.

☐ As needed, assist the participant with development of a range planting plan which details seedbed preparation, planting method, planting dates, and seeding rates.

During implementation

CONSERVATION STEWARDSHIP PROGRAM

☐ Evaluate any changes to the range planting plan to verify they meet the enhancement criteria.

After implementation

☐ Review actual planting date and seeding rates to determine if the enhancement was implemented to meet criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY E550A

CONSERVATION STEWARDSHIP PROGRAM

Range planting for increasing/maintaining organic matter

Conservation Practice 550: Range Planting

APPLICABLE LAND USE: Range, Forest, Crop (Annual & Mixed), Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 5 years

Documentation and Implementation Requirements

The producer will:

- ☐ Work with NRCS to develop maps which show the locations and acres of planned seedings.
- ☐ Use Herbaceous Vegetation Seeding Design Worksheet 2020, formerly the Job Sheet for Grass Seeding, or equivalent to document seeding plan and specifications.
- ☐ When chemical treatment is needed to establish plantings, work with NRCS to complete a WinPST run.
- ☐ If the area(s) will be grazed, work with NRCS to develop a grazing management plan.

NRCS will:

- ☐ Work with participant to develop maps showing the locations and acres to be seeded.
- ☐ As requested by the participant, assist the participant with development of Herbaceous_Vegetation_Seeding_Design_Worksheet_2020, JoJob Sheet for Grass Seeding.
- ☐ If chemical weed control is needed to establish the seeding, complete a WinPST Run prior to implementation and provide mitigation recommendations. NRCS will not make chemical treatment recommendations.
- ☐ As requested by the participant, assist the participant to develop the grazing management plan, if seeded areas will be grazed, once the stand is established using the Nebraska 528 NE IR Prescribed Grazing Design Tool.

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Conservation Enhancement Activity

E550B

CONSERVATION STEWARDSHIP PROGRAM

Range planting for improving forage, browse, or cover for wildlife

Conservation Practice: 550 - Range Planting

APPLICABLE LAND USE: Range; Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 years

Enhancement Description

Establishment of adapted perennial or self-sustaining vegetation such as grasses, forbs, legumes, shrubs and trees for the purpose of improving forage, browse, or cover for wildlife on areas that have been degraded beyond recovery via ecological principles, or old crop fields and pastures devoid of desirable, native rangeland species that fit within an ecological site description steady state.

Criteria

- Specified species and cultivars or varieties, planting rates, dates, and methods must be consistent with Plant Materials Center, research institution, or agency demonstration trials, local laws and/or regulations, management objectives, and adapted to the site. Plant materials/seed selected will be compatible with desired ecological site descriptions steady states (or their substitutive documentation from the NRCS Field Office Technical Guide).

- Seedbed preparation and planting methods will be suitable to meet any special needs for obtaining an acceptable establishment of planted materials, and provide adequate cover for erosion control within an acceptable time frame.

- Recommended planting depths, hydrologic conditions, dates, rates, soil amendments at planting, seed quality requirements, and management during establishment (weed

CONSERVATION STEWARDSHIP PROGRAM

control and/or deferment) must be followed in order to enhance establishment success.

- The plant species, cultivars or varieties selected will be deep rooted, perennial plants that meet the cover, forage, browse, nectar, and palatability requirements for the intended wildlife species (this may include such target species as rangeland birds, ungulates, pollinator insects and non-pollinator insects such as Monarch butterfly as geographically and ecologically relevant).

- Plant species will be selected and planted in a designed manner that will meet some of the life history requirements of the wildlife species of concern.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, prepare a range planting plan that details seedbed preparation techniques, planting method, planting dates, and seeding rates. (NRCS will provide technical assistance, as needed.)

Planting Date(s)	
Seedbed Preparation	
Planting Method and Depth	
Seeding rates	

- ☐ During implementation, notify NRCS if there are any changes to the range planting plan.
- ☐ After implementation, provide documentation for review by NRCS of actual seedbed preparation technique, planting method, planting date, seeding rates, and percentage success of the plantings.

NRCS will:

- ☐ Prior to implementation, provide the ecological site description(s) or other reference documents (if the ecological site description is not available) that outlines the best approximation of the desired plant community composition, structure, and function.
- ☐ As needed, assist the participant with development of a range planting plan which details seedbed preparation, planting method, planting dates, and seeding rates.
- ☐ During implementation, evaluate any changes to the range planting plan to verify they meet the enhancement criteria.
- ☐ After implementation, review actual planting date and seeding rates to determine if the enhancement was implemented to meet criteria.

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NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E550B

Range planting for improving forage, browse, or cover for wildlife

Conservation Practice 550: Range Planting

APPLICABLE LAND USE: Range; Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 years

State Criteria

This enhancement is applied to areas which were previously cropped OR sites where the plant community is degraded to the extent that it must be completely suppressed/eliminated and a new seeding installed to establish a suitable range plant community. Any wildlife species may be selected as a target species for this enhancement. Work with a wildlife biologist, as needed, to identify the target wildlife species and also to design the seeding mixture to provide beneficial wildlife habitat. The minimum size area to apply this enhancement is 15 acres.

The seeding must include native forbs at a minimum seeding rate of 25% of the grass seeding rate (i.e. 5 PLS/ft^2 when grass is seeded at 20 PLS/ft^2). Document the target wildlife species and the actions needed to provide benefits on the formerly know as NE-CPA-14), 645 NE IR Upland Wildlife Habitat Management 2007 Plan. Document recommended site preparation, planting method, seed mixture, seeding rates and other pertinent information on the Herbaceous_Vegetation_Seeding_Design_Worksheet_2020.

If chemical weed control is needed to establish the seeding, complete a WinPST run prior to implementation and provide mitigation recommendations. Assist the participant with development of the Grazing Management plan (if grazed) once the stand is established using the Nebraska 528 NE IR Prescribed Grazing Design Tool. The site will be deferred from grazing one entire year and may be considered for flash grazing the following year to allow for adequate establishment.

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CONSERVATION ENHANCEMENT ACTIVITY

E570A

Enhanced Rain Gardens for Wildlife

Conservation Practice 570: Stormwater Runoff Control

APPLICABLE LAND USE: Crop (Annual & Mixed), Crop (Perrennial), Associated Ag Land & Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Seed or plug nectar and pollen producing plants into rain gardens to provide wildlife habitat.

Criteria

Establish habitat for Monarchs, pollinators and beneficial insects as described below:

Monarch butterflies

- Lists of larval host plants and nectar plants suitable for Monarch butterfly habitat are provided in the NRCS Field Office Technical Guide (FOTG).
- A grass component to a Monarch habitat planting is commonly needed for ecological stability, weed control, and fuel for prescribed burning. The FOTG provides information on the grass/forb ratio for Monarch habitat plantings.
- To provide food (nectar and pollen) for adult Monarch butterflies, at least 60% of the forb seeds (pure live seed) in the mix shall be from the Monarch butterfly planting list (FOTG). Milkweed seeds are included in meeting the 60% minimum because milkweeds are excellent nectar plants. The FOTG provides information on the required number of forb species per bloom period (early, mid, or late season) for Monarch habitat plantings. Bloom periods are to coincide with Monarch presence in the area.

- To provide food for Monarch butterfly larvae, plantings shall include at least one species of milkweed (*Asclepias* spp.) from the FOTG Monarch butterfly planting list. All milkweed species used in the mix must be from this list and shall represent at least 1.5% of the total seeds in the mix. The total seeds include pure live seed from both grass and forbs. Tropical milkweed (*Asclepias curassavica*) shall not be planted.

  Waiver: In some regions, a commercial source of native Asclepias species is limited or not available. In these situations, the NRCS State Conservationist may apply for a waiver, and only require that plantings include Monarch nectaring species. In this situation, milkweed seed or plugs are still encouraged to be planted, if possible. If such a waiver is granted, the mix will result in at least 80% of the seed being from the state's Monarch nectaring plant list.

- If a Monarch Butterfly Wildlife Habitat Evaluation Guide (WHEG) is available for use in the state, a minimum planned Monarch WHEG score of 0.60 will be obtained for the planted area.

Planting criteria for Monarch butterfly habitat

- Site selection should consider existing weed pressures and available methods of control. Delay planting and conduct an additional growing season of weed control if high weed pressure requires aggressive treatment.

- Successful establishment is when the planting is providing at least 80 percent soil cover, visually estimated, and that the resultant cover consists of at least 1 milkweed plant per 100-sq. ft., and successful establishment of at least two targeted nectar plants per bloom period when Monarchs are present in the state. A milkweed plant is defined as a single stem emerging from the ground.

- Insecticides should not be used in the rain garden or immediately adjacent area.

- Herbicides are allowed during site preparation (prior to planting) when it is necessary to eliminate competing weeds from a planting area in order for nectar and pollen producing plants to establish. After a Monarch habitat enhancement has been planted, herbicides may be spot-sprayed to remove broad-leaf weeds, or grass-selective herbicides may be applied to larger areas to eliminate persistent weedy grasses. Similarly, in the first year post-planting, the entire site may be mowed 8 to 10 inches high to reduce annual or biennial weeds that persist (site should be mowed just before dominant annual weeds flower).

Operation and maintenance for Monarch butterfly habitat

- Management and/or maintenance activities such as mowing, haying, burning, or grazing shall be conducted outside of the season when Monarch larvae or adults are present.

- Insecticides will not be used in the habitat planting area.
- The planted habitat areas must be regularly inspected for invasive and/or noxious plants or other plants that may compromise the purpose of this enhancement. Undesirable species should be controlled using the least damaging method, for example, spot-spraying with herbicide or physical removal of individual plants.

Documentation and Implementation Requirements

Participant will:

- ☐ Take before and after photos of the rain garden.
- ☐ During implementation, purchase specified seed mix or plant materials that meet planting requirements provided by NRCS. Provide seed tags to NRCS.
- ☐ During implementation, follow habitat establishment guidance provided by NRCS.
- ☐ After implementation, provide a list of management and/or maintenance activities carried out to manage the habitat areas and the dates on which those activities occurred.

NRCS will:

- ☐ Prior to implementation, assess habitat condition using a monarch Wildlife Habitat Evaluation Guide (WHEG) to calculate current WHEG score and anticipated WHEG score after implementation of Enhancement.
    - **Benchmark WHEG score = _____ Planned Post Implementation WHEG score = _____**
- ☐ Prior to implementation, confirm installation of NRCS Conservation Practice Standard Strom Water Runoff Control (Code 570) State specifications have been met and installation of E5701A enhancement is feasible.
- ☐ Prior to implementation, provide participant with guidance to establish the planting and a site specific mix. Provide mix designs with plants suitable for pollinator and beneficial insect habitat, including larval host and nectar plants, with as many native species as practical.
- ☐ Prior to implementation, provide and explain State specifications for NRCS Conservation Practice Standard Conservation Cover (Code 420).
- ☐ Prior to implementation, provide participant with a recommended seed mix and planting specifications per above criteria (grass/forb ratio; number of forb species per bloom period for Monarch habitat plantings)
- ☐ After implementation, verify successful establishment (per planting criteria above) and collect supporting documentation (seed tags, pictures) from participant.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E570A

Enhanced Rain Gardens for Wildlife

Conservation Practice 570: Stormwater Runoff Control

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Ag Land; Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Consider other enhancements in crop land.

Sites proposed for rain garden sites must be evaluated by a wildlife biologist. Complete the Monarch Butterfly Wildlife Habitat Evaluation Guide: Northern Plains edition for benchmark and planned scores.

Rain gardens from 1/2 to 1/10 of an acre are appropriate, several smaller rain gardens on Associated Ag Land and Farmsteads may be more beneficial and feasible than single large rain gardens. Appropriate sizes and locations for rain gardens will be approved by a wildlife biologist.

This enhancement requires the use of wildflowers and native grass species found in the region. Non-native and regionally native species are not allowed in this enhancement. Seedings must incorporate 30 flowering species, with at least 5 blooming species in bloom periods 2 and 3, and at least 3 blooming species in bloom period 1. No single species should compromise more than 10% of the planting.

The total pure live seeds per square feet should be at a minimum 20 PLS, but higher rates are expected. The grass component of any planting should not exceed 33 % of the mix. At least two milkweed species will be included in every mixture at 1.5% of the total seeds in the mix. At least 60% of the **forb** species will be from the Monarch Planting List: Northern Plains Edition – Nebraska supplement. Use the Pollinator Plants of Nebraska plant list to aid in additional species selection for each seed mixture. Use the Herbaceous_Vegetation_Seeding_Design_Worksheet_2020, Grass Seeding Jobsheet to document the seed mix to be planted.

Broadcast seeding method is recommended for rain garden plantings.

In addition to a seed mix, difficult-to-establish native species will be plugged at a rate of 1 plug for every 50 ft^2 of the planned enhancement area. Plugged species should be a mix of native, moisture tolerant sedges and native spring blooming wildflowers. Work with a wildlife biologist to select species and configure plug plantings.

Many rain gardens will require some dirt work to create a depression. This depression is meant to collect rainwater to allow water to soak into the ground. Work with NRCS staff to determine if and how much dirt work is necessary. More information on rain gardens can be found at https://water.unl.edu/article/stormwater-management/rain-gardens.

Insecticides are not permitted to be used within the planting or within 100 feet of the habitat site. If spot spraying noxious weeds that also serve as a pollinator plants (any blooming noxious weed may be visited by pollinators) spray when plants are not in bloom, or during the evening to avoid spraying herbicide directly on pollinators.

To maintain quality habitat for pollinators and beneficial insects, an annual disturbance regime is strongly recommended after establishment. Burning, mowing, or other disturbance management on 1/3-1/5 of the raingarden yearly will help with undesirable vegetation encroachment. Disturb a different section (1/3-1/5) of the site every year, do not disturb more than 1/3 of the site in any given year. Use the, formerly known as NE-CPA-14, 645 NE IR Upland Wildlife Habitat Management 2007 Plan to document. If possible, avoid disturbance from May 1 until July 31 unless approved by NRCS as part of a management plan intended to maintain and enhance plant diversity and vigor. Document continued management/maintenance on the 645 NE IR Upland Wildlife Habitat Management 2007, formerly known as NE-CPA-14).

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Conservation Enhancement Activity

E578A

CONSERVATION STEWARDSHIP PROGRAM

Stream crossing elimination

Conservation Practice 578: Stream Crossing

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Farmstead; Associated Ag Land

RESOURCE CONCERN: Animals

PRACTICE LIFE SPAN: 10 years

Enhancement Description

Existing stream crossings on an operation are consolidated into fewer crossings in order to reduce impacts to stream habitat.

Criteria

- Minimize the number of stream crossings through evaluation of alternative trail or travel-way locations. Assess land user operations to consolidate and reduce the number of crossings in order to minimize habitat fragmentation and to minimize barriers to aquatic organism movement.
- Evaluate proposed crossing removal sites for variations in stage and discharge, tidal influence, hydraulics, fluvial geomorphic impacts, sediment transport and flow continuity, groundwater conditions, and movement of woody and organic material. Assess the effects of removal upon the channel with respect to local site conditions and stream geomorphology, to the extent possible.
- Road crossing removal can affect wetlands, flooding potential, existing infrastructure, and social and cultural practices and resources. Evaluate and address the full range of impacts when planning or designing removal projects.
- Replacing or removing an existing instream structure may trigger channel adjustments upstream and/or downstream of the crossing. Mitigate undesirable channel plan or profile shifts resulting from the removal of crossing.

CONSERVATION STEWARDSHIP PROGRAM

- Return the stream to a condition to provide passage for as many different aquatic species and age classes as possible.
- Incorporate natural streambed substrates throughout the removed crossing length. Natural streambeds provide numerous passage and habitat benefits to many life stage requirements for fish and other aquatic organisms.
- Retain as much riparian and streambank vegetation as possible during crossing removal to maintain shade, riparian continuity, and sources of nutrient and structural inputs for aquatic ecosystems. Plant all areas to be revegetated as soon as practical after crossing structure removal.
- Where appropriate, consider removing associated access roads or trails and restoring native vegetation representative of the site.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, develop a written plan detailing proposed stream crossing removal and associated actions using Conservation Practice Standards Stream Crossing (Code 578), Aquatic Organism Passage (Code 396), and Streambank and Shoreline Protection (Code 580). (NRCS will provide technical assistance, as needed.)

- ☐ Prior to implementation, obtain all necessary Clean Water Act, Section 404 permits, and other federal, state or local permits, as required.

- ☐ During implementation, use erosion control methods based upon specifications developed for the site.

- ☐ Where necessary, prior to crossing structure removal, remove upstream accumulation of sediment from behind the structure.

- ☐ Remove the structure (culvert, bridge) and associated embankment materials as much as possible from the bank with as little encroachment into the stream as possible.

- ☐ Where necessary, replace natural streambed rock, cobble, and gravel throughout the removed crossing length.

- ☐ After structure removal, blend the stream bank at the former crossing into existing site topography. Use streambank soil revegetation and stabilization measures that are appropriate to maintain bank stability and prevent erosion.

- ☐ Where appropriate, remove crossing-associated access roads or trails and restore native vegetation representative of the site.

- ☐ During implementation, notify NRCS of any planned changes to verify the planned system meets the enhancement criteria.

- ☐ After implementation, conduct inspections after high flows and undertake prompt actions if there is excessive streambank or streambed instability or erosion.

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement, including NRCS engineering oversight where required.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standards Stream Crossing (Code 578), Aquatic Organism Passage (Code 396), and Streambank and Shoreline Protection (Code 580) as it relates to implementing this enhancement.
- ☐ Prior to implementation, ensure that stream will not be actively incising or down cutting after the crossing removal.
- ☐ Prior to implementation, ensure that all necessary Clean Water Act, Section 404, and other federal, state, or local permits have been acquired.
- ☐ Prior to implementation, as needed, develop a written plan detailing proposed stream crossing removal and associated actions using Conservation Practice Standards Stream Crossing (Code 578), Aquatic Organism Passage (Code 396), and Streambank and Shoreline Protection (Code 580).
- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ During implementation, verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.
- ☐ After implementation, verify that the stream crossing removal and follow-up channel and streambank actions, and removal of crossing-associated access roads or trails was implemented according to the plan and specifications developed for the site.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E578A

Stream crossing elimination

Conservation Practice 578: Stream Crossing

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Farmstead; Associated Ag Land

RESOURCE CONCERN: Animals

PRACTICE LIFE SPAN: 10 years

State Criteria

Sites proposed for stream crossing elimination must occur on a stream channel with a defined bed and bank. All crossing types that restrict the capacity of the channel or cause a barrier to aquatic species movement are eligible. This includes culverts, bridges with in-channel structures/abutments, and in-stream crossings that are armored (i.e. concrete/rock) and experience frequent disturbance by vehicles or livestock; or any structure that creates a hydrologic disconnect (fall) on the downstream side. Work with a wildlife biologist to identify appropriate locations for stream cross eliminations**.** Only stream crossings that are on lands under the control of the producer (and not public right-of-way's) can be addressed with this enhancement.

Develop plans and specifications for stream crossing elimination that address proper disposal of material removed, suitable side slopes, channel stabilization (if needed), re-vegetation recommendations with suitable plant materials and installation/establishment methods. Address any grade control issues that may exist with features that allow for aquatic organism passage.

Required actions to be implemented should be commensurate with payment rates and adequate to address the need associated with the resource concerns at each site.

Photo documentation is required before and after implementing this enhancement.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E580A

CONSERVATION STEWARDSHIP PROGRAM

Stream corridor bank stability improvement

Conservation Practice 580: Streambank and shoreline protection

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Farmstead; Associated Ag Land

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 20 years

Enhancement Description:

Stream corridor bank vegetation components are established to provide additional stream corridor bank stability.

Criteria:

- This enhancement can be applied to streambanks and adjacent floodplain/riparian area of natural channels where the channel is susceptible to erosion and migration.
- Stream corridor vegetative components must be established as necessary for ecosystem functioning and stability. The appropriate composition of vegetative components is a key element in preventing excess long-term channel migration in re-established stream corridors.
- Dominant vegetation will consist of existing, naturally-regenerated, or seeded/planted trees and shrubs suited to the soil and hydrology of the site. Vegetation established on channel banks and adjoining areas must be in accordance with NRCS Conservation Practice Standard Critical Area Planting (Code 342).
- Vegetation cover that promotes sediment deposition should be used to help floodplain development and growth. Overland flow should be maintained as sheet flow through the adjacent floodplain/riparian area to prevent erosion and promote sediment deposition.

- Utilize vegetative species that are native and/or compatible with local ecosystems. Avoid introduced, invasive, noxious or exotic species that could become nuisances. Where possible, select plant materials that also provide habitat requirements for desirable wildlife and pollinators.
- Treatments should meet aesthetic and recreational objectives as determined by a site-specific assessment or management plan. Aesthetic objectives should be based on human needs, including visual quality, noise control, and microclimate control. Treatments should be designed to achieve recreation objectives as determined by a site-specific assessment or management plan. Safety requirements shall be based on type of human use and recreation objectives.
- Construction materials, grading practices, and other site development elements must be selected and designed to be compatible with adjacent land uses.
- Livestock exclusion must be considered during establishment of vegetative treatments and appropriate grazing practices applied after establishment to maintain plant community integrity. Wildlife may also need to be controlled during establishment of vegetative treatments. Temporary and local population control methods should be used with caution and within state and local regulations.
- Design the stream corridor and bank vegetation enhancement for an expected life of at least 20 years. Protective treatments must be self-sustaining or require minimum maintenance.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, prepare the planned acres for tree or shrub establishment. Refer to NRCS Conservation Practice Standards Streambank and Shoreline Protection (Code 580) and Critical Area Planting (Code 342). (NRCS will provide technical assistance, as needed.)

☐ Prior to implementation, select a combination of deep-rooted trees and shrubs appropriate for preventing bank erosion, promoting sedimentation, and limiting long-term channel migration. If possible, select plant materials that also provide habitat for desirable wildlife and pollinators (NRCS will provide technical assistance, as needed.)

Species / Type	Number	Wildlife habitat characteristic(s), if any

☐ Prior to implementation, select arrangement and spacing design to maximize erosion control and planting techniques and timing appropriate for the site and soil conditions. (NRCS will provide technical assistance, as needed.)

TASKS	Species/Type _____	Species/Type _____	Species/Type _____	Species/Type _____	Species/Type _____
Planting Date					
Planting Technique					
Arrangement/Spacing					

☐ During implementation, use erosion control methods based upon specifications developed for the site.

☐ After implementation, protect the area from livestock until vegetation is well-established, and, if necessary, control wildlife access within state and local regulations.

☐ After implementation, conduct inspections after high flows and undertake prompt actions if there is excessive streambank or streambed instability or erosion.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ Prior to implementation, verify the enhancement is planned for acres that have been appropriately graded and prepared for tree and shrub establishment. Refer to NRCS Conservation Practice Standards Streambank and Shoreline Protection (Code 580) and Critical Area Planting (Code 342).
- ☐ Prior to implementation, verify no plants on the Federal or state noxious weeds list are included.
- ☐ As needed, prior to implementation, NRCS will provide technical assistance for:
  - Selecting a combination of appropriate, deep-rooted tree and shrub species for preventing bank erosion, promoting sedimentation, and limiting long-term channel migration.
  - Selecting appropriate arrangement and spacing design to maximize erosion control and planting techniques and timing appropriate for the site and soil conditions.
  - Planning the use of additional erosion control, as needed for the site.
  - Preparing specifications for applying this enhancement using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
- ☐ During implementation, verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.
- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ After implementation, verify the planned trees and shrub species were established to specifications developed for the site.
- ☐ After implementation, verify the planting is protected from livestock and, as necessary, from wildlife.
- ☐ After implementation, verify planned erosion control provided by the site is functioning and is maintained to specifications developed for the site.

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E580A

Stream corridor bank stability improvement

Conservation Practice 580: Streambank and Shoreline Protection

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Farmstead; Associated Ag Land

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 20 years

State Criteria

Sites proposed for stream corridor bank stability improvement must occur on a stream channel with a defined bed and bank. Sites must currently be actively eroding (and possibly lacking adequate bank vegetation). Proposed sites must be evaluated by a wildlife biologist, and engineering staff where necessary, to determine if localized actions are likely to result in the successful establishment of vegetation on the streambank.

Note: Site must be evaluated to determine if improved bank stability is appropriate for the stream segment. In some cases, active movement of stream channel is desired as an appropriate ecological function to provide a diverse stream morphology and suitable habitats. Streams that are actively down-cutting are not suitable to be addressed by this enhancement.

The segment to be treated must have a properly functioning filter strip, riparian forest buffer, or riparian herbaceous cover present adjacent to be sides of the stream. See associated enhancements or other conservation programs for those practices (393 Filter Strip; 391 Riparian Forest Buffer; or 390 Riparian Herbaceous Cover).

Required actions to be implemented should be commensurate with payment rates and adequate to address the need associated with the resource concerns at each site.

Calculate the total acreage to be treated by this enhancement and eligible for payment by multiplying the average top width of the stream channel by the total length of channel treated for bank stability.

The minimum area to be treated includes all portions of a stream segment contained within one management unit (i.e. field) or one acre of stream channel – whichever is greater.

Document the pre-treatment and post-treatment condition (including shaping, re-vegetation, etc.) using digital images/photos.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E580B

CONSERVATION STEWARDSHIP PROGRAM

Stream corridor bank vegetation improvement

Conservation Practice 580: Streambank and shoreline protection

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Farmstead; Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 20 years

Enhancement Description

Stream corridor bank vegetation components are established to improve ecosystem functioning and stability.

Criteria

- This enhancement can be applied to streambanks and adjacent floodplain/riparian area of natural channels where the channel is susceptible to erosion.
- Stream corridor vegetative components shall be established as necessary for ecosystem functioning and stability. The appropriate composition of vegetative components is a key element in preventing excess long-term channel migration in re-established stream corridors.
- Establishment of vegetation on channel banks and associated areas shall also be in accordance with NRCS Conservation Practice Standard Critical Area Planting (Code 342).
- Utilize vegetative species that are native and/or compatible with local ecosystems. Avoid introduced, invasive, noxious or exotic species that could become nuisances.
- Select plant materials that provide habitat requirements for desirable wildlife and pollinators.

- Treatments shall be designed to achieve habitat and population objectives for fish and wildlife species or communities of concern as determined by a site-specific assessment or management plan. Objectives shall be based on the survival and reproductive needs of populations and communities, which include habitat diversity, habitat linkages, daily and seasonal habitat ranges, limiting factors and native plant communities.
- The type, amount, and distribution of vegetation shall be based on the requirements of the fish and wildlife species or communities of concern to the extent possible.
- Treatments shall be designed to meet aesthetic objectives as determined by a site-specific assessment or management plan. Aesthetic objectives shall be based on human needs, including visual quality, noise control, and microclimate control.
- Construction materials, grading practices, and other site development elements shall be selected and designed to be compatible with adjacent land uses.
- Treatments shall be designed to achieve recreation objectives as determined by a site-specific assessment or management plan. Safety requirements shall be based on type of human use and recreation objectives.
- Livestock exclusion shall be considered during establishment of vegetative treatments and appropriate grazing practices applied after establishment to maintain plant community integrity. Wildlife may also need to be controlled during establishment of vegetative treatments. Temporary and local population control methods should be used with caution and within state and local regulations.
- Design the stream corridor and bank vegetation enhancement for an expected life of at least 20 years.

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

- ☐ Prior to implementation, prepare the planned acres for tree or shrub establishment. Refer to NRCS Conservation Practice Standards Streambank and Shoreline Protection (Code 580) and Critical Area Planting (Code 342). (NRCS will provide technical assistance, as needed.)
- ☐ Prior to implementation, select a combination of deep-rooted trees and shrubs appropriate for preventing bank erosion, promoting sedimentation, and limiting long-term channel migration. These plant materials should also provide habitat for wildlife, pollinators, and fish species as determined by a site-specific assessment or management plan (NRCS will provide technical assistance, as needed.)

Plant Species / Type	Number	Planted for what wildlife, pollinators, fish:

- ☐ Prior to implementation, select arrangement and spacing design to maximize erosion control and planting techniques and timing appropriate for the site and soil conditions. (NRCS will provide technical assistance, as needed.)

TASKS	Species/Type _____	Species/Type _____	Species/Type _____	Species/Type _____	Species/Type _____
Planting Date					
Planting Technique					
Arrangement/Spacing					

- ☐ During implementation, use erosion control methods based upon specifications developed for the site.
- ☐ After implementation, protect the area from livestock until vegetation is well-established, and, if necessary, control wildlife access within state and local regulations.
- ☐ After implementation, conduct inspections after high flows and undertake prompt actions if there is excessive streambank or streambed instability or erosion.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ Prior to implementation, verify the enhancement is planned for acres that have been appropriately graded and prepared for tree and shrub establishment. Refer to NRCS Conservation Practice Standard Critical Area Planting (Code 342).
- ☐ Prior to implementation, verify no plants on the Federal or state noxious weeds list are included.
- ☐ As needed, prior to implementation, NRCS will provide technical assistance:
  - ○ Developing a Wildlife Habitat Management Plan for targeted suite of species.
  - ○ Meeting with participant to review the Wildlife Habitat Management Plan and plan and specifications.
  - ○ Selecting a combination of appropriate, deep-rooted tree and shrub species for preventing bank erosion, promoting sedimentation, and limiting long-term channel migration and achieving habitat and species objectives.
  - ○ Selecting appropriate arrangement and spacing design to maximize erosion control and planting techniques and timing appropriate for the site and soil conditions.
  - ○ Planning the use of additional erosion control, as needed for the site.
  - ○ Preparing specifications for applying this enhancement using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
- ☐ During implementation, verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.
- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ After implementation, verify the planned trees and shrub species were established to specifications developed for the site.
- ☐ After implementation, verify the planting is protected from livestock and, as necessary, from wildlife.
- ☐ After implementation, verify planned erosion control provided by the site is functioning and is maintained to specifications developed for the site.

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E580B

Stream corridor bank vegetation improvement

Conservation Practice 580: Streambank and Shoreline Protection

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Farmstead; Associated Ag Land

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 20 years

State Criteria

Sites proposed for stream corridor bank vegetation improvement must occur on a stream channel with a defined bed and bank. Sites must currently be actively eroding and lacking adequate bank vegetation. Proposed sites must be evaluated by a wildlife biologist, and engineering staff where necessary, to determine if localized actions are likely to result in the successful establishment of vegetation on the streambank.

Note: Site must be evaluated to determine if improved bank stability is appropriate for the stream segment. In some cases, active movement of stream channel is desired as an appropriate ecological function to provide a diverse stream morphology and suitable habitats. Streams that are actively down-cutting are not suitable to be addressed by this enhancement.

The segment to be treated must have a properly functioning filter strip, riparian forest buffer, or riparian herbaceous cover present adjacent to be sides of the stream. See associated enhancements or other conservation programs for those practices (393 Filter Strip; 391 Riparian Forest Buffer; or 390 Riparian Herbaceous Cover).

Required actions to be implemented should be commensurate with payment rates and adequate to address the need associated with the resource concerns at each site.

Calculate the total acreage to be treated by this enhancement and eligible for payment by multiplying the average top width of the stream channel by the total length of channel treated for bank stability.

The minimum area to be treated includes all portions of a stream segment contained within one management unit (i.e. field) or one acre of stream channel – whichever is greater.

Document the pre-treatment and post-treatment condition (including shaping, re-vegetation, etc.) using digital images/photos.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E590A

CONSERVATION STEWARDSHIP PROGRAM

Improving nutrient uptake efficiency and reducing risk of nutrient losses

Conservation Practice 590: Nutrient Management

APPLICABLE LAND USE: Crop (Annual and Mixed), Crop (Perennial)

RESOURCE CONCERN: Water, Air

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Nutrient management encompasses managing the amount, source, placement, and timing of the application of plant nutrients and soil amendments. Nutrients are currently being applied on the farm based on the 4R nutrient stewardship principles. Enhanced nutrient use efficiency strategies or technologies are utilized to improve nutrient use efficiency and reduce risk of nutrient losses to surface and groundwater and reduce risks to air quality by reducing emissions of greenhouse gases (GHGs).

The wide variability of soils, rainfall, fertilizer rates, products, placement, and timing will all influence the actual crop yield. Enhanced fertilizer products are not a yield enhancement guarantee. Products that claim yield enhancement benefits may not be applicable to this enhancement.

Note: Some technologies in this enhancement apply to use of commercial fertilizer only.

Criteria

- Documentation of producer's record of nutrient management meeting all NRCS Conservation Practice Standard Nutrient Management (CPS 590) general criteria and additional criteria to minimize agricultural nonpoint source pollution of surface and groundwater.

Select two or more (not already utilized) strategies for nutrient use efficiency:

CONSERVATION STEWARDSHIP PROGRAM

Strategy 1: Enhanced Efficiency Fertilizers (EEF) which contain **nitrification inhibitor** products resulting in delayed nitrification processes, by eliminating the bacteria *Nitrosomonas* in the area where ammonium is to be present.

- Materials must be defined by the Association of American Plant Food Control Officials (AAPFCO) and be accepted for use by the State fertilizer control official, or similar authority, with responsibility for verification of product guarantees, ingredients (by AAPFCO definition) and label claims.

- Application timing, method, N source, soil texture, and tillage regime are all factors that should be evaluated to determine where nitrification inhibitors should be used. Before buying an inhibitor make sure scientific evidence backs up all claims. Producers and/or consultants should be wary of any product that does not have solid scientific data demonstrating that the inhibitor activity matches the advertised benefit.

- EEF products must be recommended by state Land Grant University (LGU) and concurred with by NRCS on all treatment acres to supply at least 50% of the pre-emergent and early post emergent LGU recommended nitrogen budget requirements for the crop(s) grown. Common chemical products used to interrupt the nitrification process include, Dicyandiamide (DCD), and 2-chloro-6 (trichloromethyl) pyridine.

Strategy 2: Enhanced Efficiency Fertilizer (EEF) products which contain **urease inhibitor** products to temporarily reduce the activity of the urease enzyme and slow the rate at which urea is hydrolyzed.

- Materials must be defined by the Association of American Plant Food Control Officials (AAPFCO) and be accepted for use by the State fertilizer control official, or similar authority, with responsibility for verification of product guarantees, ingredients (by AAPFCO definition) and label claims.

- Application timing, method, N source, soil texture, and tillage regime are all factors that should be evaluated to determine where urease inhibitors should be used. Before buying an inhibitor make sure scientific evidence backs up all claims. Producers and/or consultants should be wary of any product that does not have solid scientific data demonstrating that the inhibitor activity matches the advertised benefit.

- EEF products must be recommended by state Land Grant University (LGU) and concurred with by NRCS on all treatment acres to supply at least 50% of the pre-emergent and early post emergent LGU recommended nitrogen requirements for the crop(s) grown.

- Common chemical products that are known to affect urease formation are N-(n-butyl) thiophosphoric triamide (NBPT) and ammonium thiosulfate (ATS).

Strategy 3: Slow-release or controlled release formulations of nitrogen fertilizer for at least 50% of the pre-plant and/or post emergent applications.

- Use of slow-release or controlled-release nitrogen fertilizer products to improve nutrient use efficiency.

  Uncoated Nitrogen Fertilizers include: Ureaformaldehyde (UF) reaction products, Ureaform and Methylene ureas**.**

  Coated Nitrogen Fertilizers include**:** Sulfur-coated fertilizers, Polymer-coated fertilizers and Polymer/sulfur coated fertilizers.

Strategy 4: Nature-based fertilizer and Soil Amendments

- Use of Nature-based Fertilizer and Soil Amendments such as bio-stimulants and bio-fertilizers to:
  - Enhance uptake and efficient use of nutrients, both applied and existing.
  - Improve soil health by enhancing beneficial soil microorganisms.
  - Stimulate root growth to increase water use efficiency.

Strategy 5: In-season soil nitrate sampling.

- Use pre-sidedress soil nitrate test (PSNT) to determine the need and/or amount of additional nitrogen to be applied during sidedress/topdress N application. Conduct a PSNT for the selected crop (e.g. corn) to determine if additional N fertilizer is needed.

- The use of PSNT is not recommended for all soil types and field situations. Consult your local state LGU for guidance.

Strategy 6: Use in-season plant tissue sampling and analysis as a complement to soil testing.

- Follow local LGU and/or laboratory guidelines for interpretations of the results and appropriate adjustments in the application of N and other nutrients. *End of season stalk*

nitrate testing is not applicable if the enhancement is only contracted for one year, as results must be used to evaluate and adjust nutrient management in the following year, as needed.

CONSERVATION STEWARDSHIP PROGRAM

Strategy 7: Split nutrient applications.

- Apply no more than 50% of total crop nitrogen needs within 30 days prior to planting (or in the case of hay or pasture after green up of dormant grasses). Apply the remaining nitrogen after crop emergence (or green up).
- Post emergent nitrogen may be reduced based on crop scouting, in-season soil sampling/analysis, or plant tissue sampling/analysis. Nutrient availability should be timed to crop uptake.

Strategy 8: Time nutrient application timing to match nutrient uptake timing.

- Apply nutrients no more than 30 days prior to planting date of annual crops. Nutrient availability should be timed to crop uptake.

Strategy 9: Nutrient placement below soil surface.

- Nutrients are injected or incorporated into the soil as soon as possible, no more than 24 hrs. of being applied.

Strategy 10: Use EEF technology for **phosphorous** fertilizer applications.

- EEF products must be recommended by state Land Grant University (LGU) and concurred with by NRCS.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

- ☐ Prior to implementation, provide documentation for review by NRCS showing a record of implementing nutrient management meeting all applicable NRCS Conservation Practice Standard Nutrient Management (CPS 590) general criteria and additional criteria to minimize agricultural nonpoint source pollution of surface and groundwater, including existing 590A strategies. List EEF strategies or materials that have been implemented:_____
- ☐ Prior to implementation, develop and document a planned nutrient budget, yield goal, and applications (pounds/acre active ingredient, nutrients must include at a minimum N-P-K).
- ☐ Prior to implementation, select two or more new nutrient use efficiency strategies or technologies not already used. **Selections:**_____
- ☐ During implementation, keep records to document actual nutrient applications (pounds/acre active ingredient, nutrients must include at a minimum N-P-K).
- ☐ During implementation, minimize soil surface disturbance during nutrient placement.
- ☐ During implementation, notify NRCS of any planned changes to verify the planned system meets the enhancement criteria.
- ☐ During implementation, additional record keeping requirements for specific strategy or technology:
    - In-season soil nitrate sampling. Records and documentation must include results (including reference strips) and adjustments in nutrient management based on results.
    - In-season plant tissue sampling and analysis. Records and documentation must include type of test used (stalk, leaf, chlorophyll, infrared, or other plant tissue), results (including reference strips), and adjustments in nutrient management based on results.
    - Nutrient placement below soil surface. Records and documentation must include method of injection or incorporation time and depth.
- ☐ After implementation, make documentation and records available for review by NRCS to verify implementation of the enhancement.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Nutrient Management (CPS 590) as it relates to implementing this enhancement.
- ☐ Prior to implementation, review documentation to verify a record of implementing nutrient management meeting all NRCS Conservation Practice Standard Nutrient Management (CPS 590) general criteria and additional criteria to minimize agricultural nonpoint source pollution of surface and groundwater.
- ☐ Prior to implementation, verify the development of a planned nutrient budget, yield goal, and planned nutrient applications.
- ☐ Prior to implementation, verify the selection of two or more nutrient use efficiency strategies or technologies.
- ☐ During implementation, evaluate any planned changes to verify the planned system meets the enhancement criteria.
- ☐ After implementation, review documentation and records to verify implementation of the enhancement.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E590A

Improving nutrient uptake efficiency and reducing risk of nutrient losses

Conservation Practice 590: Nutrient Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Water, Air

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

This enhancement requires a current soil test and the use of two or more nutrient use efficiency strategies in addition to any currently being used. Since most of the strategies are related to nitrogen management this enhancement is only applicable on acres where nitrogen is applied.

Soil Sampling and Analysis

1. Soils shall be sampled and analyzed in accordance with Practice Specification for Nutrient Management (590 NE PS Nutrient Management 2020) or NebGuide (G1740) "Guidelines for Soil Sampling".
2. All soil samples must be taken prior to applying fertilizer.
3. Nutrient application rates will follow UNL recommendations based on soil tests and established yield goals (refer to Practice Standard (590 NE CPS Nutrient Management 2020) and Practice Specification (590 NE PS Nutrient Management 2020) for Nutrient Management).

Nutrient Use Efficiency Strategies or Technologies (Use 2 or more)

1. **Use Enhanced Efficiency Fertilizers (EEF) products that contain a nitrification inhibitor to supply at least 50% of the pre-plant and early post emergent nitrogen requirements.**
   a. Nitrification inhibitors recognized by the Association of American Plant Food Control Officials (AAPFCO) and recommended by the University of Nebraska include 2-chloro-6-(trichloromethyl) pyridine (Nitrapyrin), dicyandiamide (DCD), and Pronitridine.
2. **Use Enhanced Efficiency Fertilizers (EEF) products that contain a urease inhibitor to supply at least 50% of the pre-plant and early post emergent nitrogen requirements when urea-based products are surface applied.**
   a. Urease inhibitors recognized by the Association of American Plant Food Control Officials (AAPFCO) and recommended by the University of Nebraska include N-(n-butyl) thiophosphoric triamide (NBPT) and ammonium thiosulfate (ATS).

3. **Use slow-release or controlled release formulations of nitrogen fertilizer for at least 50% of the pre-plant and/or post emergent applications.**
   a. Controlled release fertilizers are generally polymer coated fertilizer materials such as polymer coated urea.
   b. Slow-release fertilizers include Urea-formaldehyde (UF) reaction products, and methylene urea.
4. **Use in-season soil nitrate sampling such as the Late Spring Nitrate Test (LSNT) (also known as the pre-sidedress nitrate test (PSNT). This strategy is only applicable for corn.**
   a. Soil samples for the LSNT should be taken to a depth of 12 inches when the corn is 6 to 12 inches tall.
   b. Collect a minimum of 15 cores for each sample according to the following. If the field has had manure applied, 20-25 cores should be collected.
      i. Samples should be collected for each management zone and should never represent an area greater than 40 acres. Guidance for establishing management zones can be found in the Practice Specification for Nutrient Management (590-PS) or NebGuide (G1740) "Guidelines for Soil Sampling".
   c. Immediately send samples to laboratory for nitrate analysis. Analyses should be conducted by laboratories that have successfully met the requirements and performance standards of the Soil Science Society of America.
   d. Refer to Iowa State University Extension Publication CROP 3140 "*Use of the Late Spring Soil Nitrate Test in Iowa Corn Production*" for background information and nitrogen recommendations based on results**.**
5. **Use in-season plant tissue sampling and analysis as a complement to soil testing.**
   a. Plant Tissue Testing & Analysis –Plant tissue analysis can be an important tool in diagnosing crop growth problems and, when coupled with soil testing, useful in refining nutrient inputs. The primary limitation with this method is the lag time from submitting the sample to the lab and getting the results.

      Sampling Procedures & Analysis:

      1. Plant tissue analysis can be used to inform supplemental applications of nitrogen on a variety of crops including corn, grain sorghum, and small grains.
      2. Collecting and appropriate, representative plant sample is essential for accurate lab analysis. Multiple sub-samples should be collected at random from representative areas in the field and combined into a single sample for analysis (follow the same protocol you would for collecting soil samples). If sample size is too large, cut plant parts into smaller sections, mix thoroughly, and collect a sub-sample to send in for analysis.
      3. Dirty or dusty samples should be lightly rinsed to remove soil particles from the tissue surface. Do not over-rinse as soluble nutrients may be leached out.
      4. Samples should be air dried or placed in a paper bag for shipping.
      5. Contact the laboratory doing the analysis for additional information on sampling and analysis.

      Interpretation:

      1. Plant tissue test results are generally reported as being "deficient, sufficient, or excess." When tissue tests show a deficiency for nitrogen most labs recommend applying an additional 30 pounds of nitrogen followed by re-sampling.

b. Cornstalk Nitrate Testing and Analysis

Sampling Procedures & Analysis:

1. Stalks should be sampled between one and three weeks after black layers have formed on 80% of the kernels.
2. Each sample will consist of fifteen 8-inch stalk segments taken from 6 inches above the soil surface:
   i. Samples should be collected for each management zone and should never represent an area greater than 40 acres. Guidance for establishing management zones can be found in NRCS (590-PS) or NebGuide (G1740) "Guidelines for Soil Sampling".
3. Wrap samples in paper, rather than plastic, to avoid mold growth.
4. Immediately send samples to laboratory for nitrate analysis. Analyses should be conducted by laboratories that have successfully met the requirements and performance standards of the Soil Science Society of America.

Interpretation of the Test Results:

1. For information on interpreting test results refer to Iowa State University Extension Publication CROP 3154 *"Use of the End-of-Season Cornstalk Nitrate Test."*

Note: Use of this option requires that the enhancement be contracted for more than one year.

6. **Split nutrient applications – refer to National Criteria.**

7. **Time nutrient application timing to match nutrient uptake timing – refer to National Criteria.**

8. **Nutrient placement below soil surface – refer to National Criteria.**

9. **Use EEF technology for phosphorous fertilizer applications.**
   a. The University of Nebraska does not currently recommend any EEF product for phosphorus fertilizer.

Additional Documentation Requirements

Participant will:

1. Provide copies of soil test results for each field prior to fertilizer application to facilitate developing a nutrient budget. At a minimum, results for N-P-K and organic matter will be provided.
2. As applicable, provide records of prior manure application, irrigation water analysis, etc.
3. Provide a nutrient budget for N-P-K for each management zone.
4. Provide records for actual nutrient applications (N-P-K). Include planting date and actual yield. Complete the nutrient application table below or provide equivalent documentation.
5. Indicate which strategies and/or technologies will be used for this enhancement for each field. Include additional records for specific technologies:
   a. In-season nitrate sampling - include test results and adjustments in nutrient management based on results.
   b. In-season plant tissue sampling and analysis - include type of test used and adjustments made in nutrient management based on results.
   c. Nutrient application placement below soil surface - include method of injection or incorporation and depth.

NRCS will:

1. Develop a nutrient budget for each field or group of fields if management and soil test values are the same using the Nutrient Management Job Sheet (590 NE IR Nutrient Management September 2021 – revised).
2. Verify that the as applied rates meet 590 requirements.

NUTRIENT APPLICATION RECORDS

Field Information				Commercial Fertilizer and Manure Information							
Tract, Field, Management Zone	Acres	Previous Crop, Planned Crop, Planting Date	Yield Goal, Actual Yield	Type of Fertilizer or Manure Applied	Application Date	Application Rate	Application Method	If Manure, Days to Incorp.	Available N (lbs/ac)	Available P_2O_5 (lbs/ac)	Available K_2O (lbs/ac)
Example: T123 Field 1, Zone 1	*40*	Prev. Crop: *Soybeans*	Yield Goal	*32-0-0*	*4/1/2017*	*15 gals/ac*	*broadcast*		*53*	*0*	*0*
		Crop: *Corn*	*150* Actual Yield	*10-34-0*	*4/25/2017*	*5 gals/ac*	*In furrow*		*5.7*	*19.4*	*0*
		Planting Date: *4/25/2017*	*145* Actual Yield	*32-0-0*	*5/15/2017*	*15 gals/ac*	*surface banded*		*53*	*0*	*0*
		Prev. Crop	Yield Goal								
		Crop									
		Planting Date	Actual Yield								
		Prev. Crop	Yield Goal								
		Crop									
		Planting Date	Actual Yield								
		Prev. Crop	Yield Goal								
		Crop									
		Yield Goal	Actual Yield								
		Prev. Crop	Yield Goal								
		Crop									
		Planting Date	Actual Yield								

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E590B

CONSERVATION STEWARDSHIP PROGRAM

Reduce risks of nutrient loss to surface water by utilizing precision agriculture technologies

CONSERVATION PRACTICE: 590 - NUTRIENT Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Precision application technology and techniques are utilized to plan and apply nutrients to improve nutrient use efficiency and reduce risk of nutrient losses.

Criteria

- Documentation of producer's record of nutrient management meeting all NRCS Conservation Practice Standard Nutrient Management (CPS 590) general criteria and additional criteria to minimize agricultural nonpoint source pollution of surface and groundwater.
- Minimize soil surface disturbance during fertilizer placement.
- Development of site-specific geo-referenced maps using soils data, current soil test results, and a precision agriculture system recommended by the Land Grant University or industry. Data is used to diagnose low, medium, and high productivity areas (management zones).
- Nutrient rates of application (minimum N-P-K) are planned and applied according to management zone.
- Utilize variable rate technology for nutrient application to reduce nutrient loss risk and improve nutrient use efficiency; variable rate technology may be map-based, sensor-based (crop canopy sensors), or manual.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide documentation for review by NRCS showing a record of implementing nutrient management meeting all NRCS Conservation Practice Standard Nutrient Management (CPS 590) general criteria and additional criteria to minimize agricultural nonpoint source pollution of surface and groundwater.

- ☐ Prior to implementation, develop site-specific maps and use them to develop management zones within the field.

- ☐ Prior to implementation, develop and document a planned nutrient budget, yield goal, and applications by management zone (pounds/acre active ingredient nutrients, must include at a minimum N-P-K). Develop planned variable and flat rate application layers (maps and/or tabular statistics).

- ☐ During implementation, utilize variable rate technology. Variable rate technology may be map-based, sensor-based (crop canopy sensors), or manual.

- ☐ During implementation, keep records to document as applied records of actual variable rate applications (maps and/or tabular statistics).

- ☐ During implementation, minimize soil surface disturbance during fertilizer placement.

- ☐ During implementation, notify NRCS of any planned changes to verify the planned system meets the enhancement criteria.

- ☐ After implementation, make documentation and records available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Nutrient Management (CPS 590) as it relates to implementing this enhancement.

- ☐ Prior to implementation, review documentation to verify a record of implementing nutrient management meeting all NRCS Conservation Practice Standard Nutrient Management (CPS 590) general criteria and additional criteria to minimize agricultural nonpoint source pollution of surface and groundwater.

- ☐ Prior to implementation, verify the development of site-specific maps used to develop management zones within the field.

- ☐ Prior to implementation, verify the development of a planned nutrient budget, yield goal, and planned nutrient applications by management zone.

- ☐ During implementation, evaluate any planned changes to verify the planned system meets the enhancement criteria.

- ☐ After implementation, review documentation and records to verify implementation of the enhancement.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY E590B

CONSERVATION STEWARDSHIP PROGRAM

Reduce risks of nutrient loss to surface water by utilizing precision agriculture technologies

Conservation Practice 590: Nutrient Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN ADDRESSED: Water Quality Degradation

PRACTICE LIFE SPAN: 1 year

State Criteria

1. Soil samples will be taken using either grid sampling and/or geo-referenced (GIS) management zones (directed) sampling.
   a. Grid Sampling
      i. When using grid sampling a sampling density of at least one sample per 5.0 acres is required. The University of Nebraska (UNL) recommendations a sampling density of a least one sample per 2.5 acres and a sampling density of one sample per acre is recommended for fields with more apparent variability.
      ii. Grid sampling is typically used for surface samples and all nutrients other than nitrogen.
   b. Geo-referenced (GIS) Management Zones (directed) Sampling
      i. When using directed sampling, individual soil samples shall represent an area no larger than 20 acres in size. Areas with similar results and recommendations can be combined into larger management zones.
      ii. Management zones will be selected using GIS yield maps, digital soil maps, aerial photography, and other maps of soil variability such as maps from previous grid sampling efforts.
      iii. Management zones should have a similar management (i.e. cropping history, manure and fertilizer applications, and irrigation) and similar soil and site conditions (i.e. soil texture, soil color, organic matter, slope, drainage, etc.).
   c. A combination of grid and directed sampling may be utilized. For example, surface grid samples may be utilized for amendments/nutrients other than nitrogen and directed management zone sampling used for nitrogen management.
2. Soil shall be sampled and analyzed in accordance with Practice Specifications for Nutrient Management (590 NE PS Nutrient Management 2020) or NebGuide (G1740) "Guidelines for Soil Sampling".

3. All soil samples must be taken prior to applying fertilizer or manure.
4. If applicable, manure shall be sampled and analyzed annually following UNL recommendations. See NebGuide (G1450) "Sampling Manure for Nutrient Analysis" and NebGuide (G1780) "Manure Testing: What to Request".
5. All nutrients will be applied using variable rate technologies (VRT).
6. Nutrient application rates will follow UNL recommendations based on soil tests and established yield goals (refer to Practice Standard (590 NE CPS Nutrient Management 2020) and Practice Specification (590 NE PS Nutrient Management 2020) for Nutrient Management).

Additional Documentation Requirements

Participant will:

1. Provide copies of soil test results for each management zone and/or maps showing the results of grid sample analysis. At a minimum, results for N-P-K and organic matter will be provided.
2. As applicable, provide copies of manure analysis, irrigation water analysis, etc.
3. Provide all maps including yield maps and soils maps used to develop Management Zones.
4. Provide a nutrient budget for N-P-K for each management zone.
5. Provide all "as-recommended" and "as applied" fertilizer maps produced. If needed, complete the nutrient application table below to document nutrients applied to each management zone.
6. Describe any variable-rate technology (VRT) equipment and strategies used.

Field Information				Commercial Fertilizer and Manure Information							
Tract, Field, Management Zone	Acres	Previous Crop, Planned Crop, Planting Date	Yield Goal, Actual Yield	Type of Fertilizer or Manure Applied	Application Date	Application Rate	Application Method	If Manure, Days to Incorp.	Available N (lbs/ac)	Available P_2O_5 (lbs/ac)	Available K_2O (lbs/ac)
Example: T123 Field 1, Zone 1	*40*	Prev. Crop: *Soybeans* Crop: *Corn* Planting Date: *4/25/2017*	Yield Goal: *150* Actual Yield: *145*	*32-0-0*	*4/1/2017*	*15 gals/ac*	*broadcast*		*53*	*0*	*0*
				10-34-0	*4/25/2017*	*5 gals/ac*	*In furrow*		*5.7*	*19.4*	*0*
				32-0-0	*5/15/2017*	*15 gals/ac*	*surface banded*		*53*	*0*	*0*
		Prev. Crop Crop Planting Date	Yield Goal Actual Yield								
		Prev. Crop Crop Planting Date	Yield Goal Actual Yield								
		Prev. Crop Crop Yield Goal	Yield Goal Actual Yield								
		Prev. Crop Crop Planting Date	Yield Goal Actual Yield								

NUTRIENT BUDGET

1) Field Information – Attach Field Map with boundaries and management zones

Producer		**Crop Year**	
Field Name		**Prior Crop**	
Tract No. / Field No.		**Planned Crop**	
Management Zone		**Yield Goal**	
Acres		**Cover Crop**	
Type of Soil Test (Grid or Zone) and Number of samples			

2) Soil Sampling Results – Include copy of soil test report

	Nitrogen (N) (ppm)			P (ppm)	K (ppm)	[1]OM (%)	pH
	Layer 1	Layer 2	Layer 3				
Soil Test Values							
Bottom Layer (in.)							

3) Nutrient Budget

	Nutrients				Calculations/Comments
RECOMMENDATIONS	N	P_2O_5	K_2O		
Requirements (lb/a) NEEDS					
CREDITS (lb./a)					
Soil Test N Residual					
Organic Matter ([1]OM) Nitrogen					[1]OM% is capped at 3.0%
Irrigation Water N (____ inches)					80% of avg. Irrigation water applied
Legume (type:_____)					
Cover Crop (type:_____)					Grazed/cut?
Organic N Value for Prior Manure					
Date Applied / Type / Rate Applied					
Total Credits (from above)					
Nutrient Recommendations					(Needs minus Total Credits)

4) Planned / Recommended Nutrient Application for Planned Crop

Source	Form	Timing (mo/d/yr)	Method (f Manure-Days to incorp.)	Total Rate Applied /A	Actual Nutrients (lb./a)			
					N	P	K	
TOTAL NUTRIENTS APPLIED (lb./A)								

Nitrification Inhibitor planned (if yes, name)?: _____

5) Actual Applied Nutrients

Source	Form	Timing (mo/d/yr)	Method (Manure-Days to incorp)	Total Rate Applied /A	Actual Nutrients (lb./a)			
					N	P	K	
TOTAL NUTRIENTS APPLIED (lb./A)								

Nitrification Inhibitor planned (if yes, name)?:_____ ACTUAL YIELD: _____

6) Application Equipment Calibration

Equipment Type	Date

Certified by: _____ Date: _____

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E590C

CONSERVATION STEWARDSHIP PROGRAM

Improving nutrient uptake efficiency and reducing risk of nutrient losses on pasture

Conservation Practice 590: Nutrient Management

APPLICABLE LAND USE: Pasture

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Nutrient management encompasses managing the amount, source, placement, and timing of the application of plant nutrients and soil amendments. Nutrients are currently being applied on the farm based on the 4R nutrient stewardship principles. Enhanced nutrient use efficiency strategies or technologies are utilized to improve nutrient use efficiency and reduce risk of nutrient losses on pasture.

Criteria

- Documentation of producer's record of nutrient management meeting all NRCS Conservation Practice Standard Nutrient Management (CPS 590) general criteria and additional criteria to minimize agricultural nonpoint source pollution of surface and groundwater.
- For nitrogen (N), phosphorus (P), and potassium (K), plan application rates using land grant university (LGU) recommendations or industry practices when recognized by the LGU. Lower-than-recommended nutrient application rates are permissible if the client's objectives are met.
- Geo-referenced map of all current and planned hay feeding areas, watering facilities, shelters, or other potential areas of animal concentration.

CONSERVATION STEWARDSHIP PROGRAM

- Minimize soil surface disturbance during fertilizer placement.
- **Utilize two or more nutrient use efficiency strategies or technologies** to reduce nutrient loss risk and improve nutrient use efficiency. Select two or more of the strategies and technologies below:
    - Split nutrient applications.
        - Apply no more than 50% of total forage N needs before green up of dormant grasses. Apply the remaining N after green up.
        - Additional nitrogen applications may be reduced or eliminated based on forage scouting, in-season soil sampling/analysis, or plant tissue sampling/analysis.
    - Nutrient application placement below soil surface.
        - Nutrients are injected or incorporated using a minimal soil disturbance method at time of application.
    - Use variable rate technology for all nutrient applications. Variable rate technology may be map-based, sensor-based (crop canopy sensors), or manual. Requires the development of site-specific production maps using soils data, current soil test results, or a productivity monitoring system with GPS to correlate field location with productivity. Data is used to diagnose low, medium, and high productivity areas (pasture management zones).
    - Movement of hay feeding locations to distribute nutrients across the pasture(s) to avoid areas of nutrient concentration and sensitive areas. Develop a detailed hay feed movement plan, which includes soil sampling of the historic/current hay feeding areas and planned areas to assess status of soil nutrients. Monitoring required through annual soil sampling, geo-references photographs, and written records.
    - Adjust pH to the optimum level for legumes and forages. Apply soil amendments to adjust soil pH according to soil test recommendations. Monitoring required through

annual soil sampling. *This option is only applicable on fields with documented need and having existing stands of forage species that do not need re-establishment.*

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide documentation for review by NRCS showing a record of implementing nutrient management meeting all NRCS Conservation Practice Standard Nutrient Management (CPS 590) general criteria and additional criteria to minimize agricultural nonpoint source pollution of surface and groundwater.
- ☐ Prior to implementation, develop and document a planned nutrient budget, forage production goal, and applications (pounds/acre active ingredient, nutrients must include at a minimum N-P-K). *If variable rate technology will be used develop site-specific yield maps and use them to develop management zones within the pasture.*
- ☐ Prior to implementation, develop geo-referenced maps showing location of current areas of livestock concentration.
- ☐ Prior to implementation, select two or more of the nutrient use efficiency strategies or technologies. **Selections:** _____
- ☐ During implementation, keep records to document actual nutrient applications (pounds/acre active ingredient, nutrients must include at a minimum N-P-K).
- ☐ During implementation, minimize soil surface disturbance during fertilizer placement.
- ☐ During implementation, notify NRCS of any planned changes to verify the planned system meets the enhancement criteria.
- ☐ During implementation, additional record keeping requirements for specific strategy or technology:
    - Nutrient application placement below soil surface. Records and documentation must include method of injection or incorporation and depth.

- Variable rate technology. Keep records to document as applied records of actual variable rate applications (maps and/or tabular statistics).
- Monitoring of hay feeding location movement. Maintain annual soil sample results, geo-references photographs, and written records.
- Adjust pH. Maintain soil test results.

☐ After implementation, make documentation and records available for review by NRCS to verify implementation of the enhancement.

NRCS will:

☐ As needed, provide technical assistance to meet the criteria of the enhancement.

☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Nutrient Management (CPS 590) as it relates to implementing this enhancement.

☐ Prior to implementation, review documentation to verify a record of implementing nutrient management meeting all NRCS Conservation Practice Standard Nutrient Management (CPS 590) general criteria and additional criteria to minimize agricultural nonpoint source pollution of surface and groundwater.

☐ Prior to implementation, verify the development of a planned nutrient budget, yield goal, and planned nutrient applications. *If variable rate technology will be used, verify the development of site-specific yield maps used to develop management zones within the field.*

☐ Prior to implementation, verify the selection of two or more nutrient use efficiency strategies or technologies.

☐ During implementation, evaluate any planned changes to verify the planned system meets the enhancement criteria.

☐ After implementation, review documentation and records to verify implementation of the enhancement.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E590C
Improving nutrient uptake efficiency and reducing risk of nutrient losses on pature

Conservation Practice 590 - Nutrient Management

APPLICABLE LAND USE: Pasture

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Documentation of LGU and/or laboratory guidelines for interpretations of the results and appropriate nutrient adjustments based on in-season plant tissue sampling and analysis.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E590D

CONSERVATION STEWARDSHIP PROGRAM

Reduce risks of nutrient losses to surface and groundwater by increasing setback awareness via precision technology

Conservation Practice 590: Nutrient Management

APPLICABLE LAND USE: Crop (Annual and Mixed), Crop (Perennial)

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Utilize precision technology to increase Surface/Groundwater Setbacks & Associated Application Rate Restrictions (SGS&AARR) implementation during nutrient application by providing precise, real-time location information (geo-located) in the field to the equipment operator. While operating nutrient application equipment, the operator's location is continually updated and displayed on an integrated, in-cab or add-on GPS-enabled device visible to the operator at all times to reduce the risk of nutrient application in setback and/or sensitive areas. This allows the equipment operator to manually turn off or steer equipment to avoid applying nutrients in setback or sensitive areas. Done properly this helps to protect surface and ground water resources.

Criteria

- Implementation of this enhancement requires the use of components of precision agriculture technologies for nutrient management.

- Prior or current documentation of implementation of a nutrient management meeting all NRCS Conservation Practice (CPS 590) general criteria and additional criteria to minimize agricultural nonpoint source pollution of surface and groundwater.

- Documentation that all 590 surface/groundwater setbacks and associated

application rate restrictions (SGS &AARR) are geolocated in a file format that is overlaid on a current air photo and/or field map and visually displayed for the nutrient applicator. SGS&AARR includes, but are not limited to, state specific 590 surface/groundwater setbacks and sensitive areas including soils and bedrock restrictions.

CONSERVATION STEWARDSHIP PROGRAM

- Photo or written documentation of:
    - Field verification of SGS&AARR,
    - Creation of updated maps in a format compatible with the system on application equipment, and annual updating if new SGS&AARR are documented,
    - Equipment installation and testing to ensure fully functional system, and
    - Implementation of the system with each nutrient application.

- Subject to payment limitations, this enhancement will apply to all cropland acres operated by the producer meeting CSP 590.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

- ☐ Prior to implementation, provide documentation for review by NRCS showing a record of implementing nutrient management meeting all NRCS Conservation Practice (CPS 590) general criteria and additional criteria to minimize agricultural nonpoint source pollution of surface and groundwater.
- ☐ Prior to implementation, a Qualified Individual will create an electronic file(s) with 590 criteria geo-located, compatible with all nutrient application equipment used on the farm and ensure compatibility with all equipment used. The Qualified Individual will provide copies, training, and operating instructions to all operators prior to nutrient application.
- ☐ Prior to implementation, the Qualified Individual will quality review all electronic files, and provide documentation for review to NRCS showing the system to be used by the equipment operator and electronic copies of site specific, field verified 590 maps including all SGS&AARR in a format readable by NRCS (KML files, shapefiles, or other mutually agreed upon format) via NRCS State Office designated delivery method.
- ☐ Prior to implementation, existing maps are reviewed, SGS&AARR are geolocated an in-field assessment for previously unmapped SGS&AARR is conducted and all maps updated and approved by a Qualified Individual to ensure all 590 criteria are documented and accurate.
- ☐ Prior to implementation, provide documentation of nutrient application equipment calibration.
- ☐ Prior to implementation, provide documentation to NRCS documenting the installation of equipment on tractors/equipment using a dedicated, fuse protected, power source or a factory installed power source, documentation of maps loaded onto devices, and documentation that system is fully functional and operational.

Prior to initial implementation (one time)

Verification of purchase/usage of tablet/display system with internal/connected GPS receiver	Verification of purchase/usage of tablet/display system with minimum screen brightness of 450 NITS	Verification of installation/usage of tablet/display system with a dedicated, fuse protected, power source or a factory installed power source.

CONSERVATION STEWARDSHIP PROGRAM

Prior to initial implementation (one time, or when additional SGS/AARR are documented)

Field	Acres	Verification of current CPS 590 implementation by NRCS	Verification of calibration of nutrient application equipment by Qualified Individual	Verification of electronic maps and equipment compatibility by Qualified Individual

Prior to initial implementation (one time, or when additional SGS/AARR are documented)

Field	Acres	Verification that the Qualified Individual has conducted an in-field assessment, geolocated all SGS&AARR in a compatible format and provided copies to NRCS	Verification of installation and functionality on all nutrient application equipment by Qualified Individual	Verification that the Qualified Individual has trained all equipment operators

- ☐ During implementation, keep records to document as applied records of nutrient applications (maps, photo documentation and/or tabular statistics).
- ☐ During implementation, update all electronic files when additional SGS&AARR are documented. Updated copies must be provided to NRCS annually.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Nutrient Management (CPS 590) as it relates to implementing this enhancement.
- ☐ Prior to implementation, review documentation to verify a record of implementing nutrient management meeting all NRCS Conservation Practice Standard Nutrient Management (CPS 590) general criteria and additional criteria to minimize agricultural nonpoint source pollution of surface and groundwater.
- ☐ Prior to implementation, verify the development of site-specific geo-located maps. For each field, all SGS&AARR will be documented by the Qualified Individual via geo-location and included in the electronic file. NRCS staff will review to ensure that known site specific soils information and known sensitive area resource concerns are included.
- ☐ Prior to implementation, verify the development of a planned nutrient budget, yield goal, and planned nutrient applications by management zone.
- ☐ During implementation, evaluate any planned changes to verify the planned system meets the enhancement criteria.
- ☐ After implementation, review documentation and records to verify implementation of the enhancement.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E590D

Reduce risks of nutrient losses to surface and groundwater by increasing setback awareness via precision technology

Conservation Practice 590: Nutrient Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Participant will:

Identify TSP that will be providing technical assistance.

NRCS will:

Contact State Specialist for additional guidance on implementing.

United States Department of Agriculture

Conservation Enhancement Activity

E595A

CONSERVATION STEWARDSHIP PROGRAM

Reduce risk of pesticides in surface water by utilizing precision pesticide application techniques

Conservation Practice 595: Integrated Pest Management

APPLICABLE LAND USE: Crop (annual & mixed); Crop (perennial)

RESOURCE CONCERN ADDRESSED: Water Quality Degradation

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Utilize precision application techniques to reduce risk of pesticides in surface water by reducing total amount of chemical applied and reducing the potential for delivery of chemicals into water bodies.

Criteria

- Documentation of producer's record of integrated pest management meeting all Conservation Practice Standard Integrated Pest Management (CPS 595) general criteria
- Use of GPS or other geospatial technologies is required to document application and site-specific compliance with all label requirements for controlling non-target application.
- Utilize one or more of the following techniques to reduce the total amount of chemical applied and reduce the potential for delivery of chemicals into water bodies:
    - Precision guidance system which reduces ground or aerial spray overlap to less than 12 inches

- Variable rate technology (VRT) which allows rate of pesticide application to dynamically change for site specific applications
- "Smart sprayer" technology which utilizes automatic sensors and computer controlled nozzles to turn individual nozzles on and off

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide documentation of implementation of integrated pest management meeting all Conservation Practice Standard Integrated Pest Management (CPS 595) general criteria and additional criteria to prevent or mitigate off-site pesticide risks to water quality from leaching, solution runoff, and adsorbed runoff losses.
- ☐ During implementation, keep records of applications using the selected technology with maps and/or tabular data.
- ☐ After implementation, make the following items available for review by NRCS to verify implementation of the enhancement:
  - As applied records of actual applications using the selected technology (maps and/or tabular statistics).

NRCS will:

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Integrated Pest Management (CPS 595) as it relates to implementing this enhancement.
- ☐ As needed, provide technical additional assistance to the participant as requested.
- ☐ After implementation, verify implementation of the enhancement, by reviewing records created during enhancement implementation.

NRCS Documentation Review:

CONSERVATION STEWARDSHIP PROGRAM

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Acres Applied _____Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E595A

Reduce risk of pesticides in surface water by utilizing precision pesticide application techniques

Conservation Practice 595: Integrated Pest Management

APPLICABLE LAND USE: Crop (annual & mixed); Crop (perennial)

RESOURCE CONCERN: Water Quality Degradation

ENHANCEMENT LIFE SPAN: 1 year

Note: This enhancement requires that the producer already be using IPM where the addition of precision application methods would enhance what they are currently doing.

Documentation Requirements

1. To document that they are meeting all general criteria for the implementation of Conservation Practice Standard 595 (CPS 595) Pest Management Conservation System (formerly named "Integrated Pest Management") as well as the additional criteria to prevent or mitigate off-site pesticide risks to water quality from leaching, solution runoff, and adsorbed runoff losses, the producer must provide the following:
   a. Plan map of the fields showing the location of sensitive areas and setbacks if applicable.
   b. Soils maps
   c. A monitoring/scouting plan including economic threshold levels for each pest, if applicable.
   d. A list of all pesticides (herbicides, insecticides, and fungicides) and any other pest suppression techniques (mowing, row cultivation, etc.) used in the cropping system.
      - For each pesticide applied include application rate, timing, and method of application.
   e. Environmental risk assessment of planned suppression techniques (provide a copy of the USDA-NRCS WIN-PST soil/pesticide interaction report for each pesticide and each major soil type).
   f. Mitigation practices and/or IPM techniques applied to reduce environmental risk and the resulting mitigation index score (minimum level of mitigation is based on the WIN-PST Soil/Pesticide Interaction Hazard Rating). Refer to Nebraska Agronomy Technical Note 110 Table I, IPM Techniques for Reducing Pesticide Environmental Risk and Table II, Conservation Practices for Reducing Pesticide Environmental Risk.

USDA United States Department of Agriculture

CONSERVATION STEWARDSHIP PROGRAM

Reduce risk of pesticides in surface water and air by utilizing IPM PAMS techniques

Conservation Practice: 595 Integrated Pest Management

APPLICABLE LAND USE: Crop (annual & mixed), Crop (perennial), Pasture

RESOURCE CONCERN: Water, Air

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Utilize integrated pest management (IPM) prevent, avoidance, monitoring, and suppression (PAMS) techniques to reduce risk of pesticides in water and air. Reduce the potential for delivery of chemicals into water or ozone precursor emissions.

Criteria

- Documentation of producer's record of how integrated pest management is meeting all general criteria within the Integrated Pest Management Conservation Practice Standard (CPS 595).
- Utilize ***at least four additional activities from techniques below***. The four or more activities can come from one or all of the PAMS activities identified below:
    - Prevention activities include cleaning equipment and gear when leaving an infested area, using pest-free seeds and transplants, and irrigation scheduling to limit situations that are conducive to disease development.
        - For pasture, activities could include: longer rotation periods, higher stop grazing heights, identify quarantine or exclusion zones if pests are present, and utilize weed free hay. Utilize forage species or varieties with generic resistance to anticipated insects or diseases.
    - Avoidance activities include maintaining healthy and diverse plant communities, using pest resistant varieties, crop and livestock rotation, and refuge

management. Maintain populations of beneficial species to limit development of weed and insect infestations.

- For pasture, activities include establishment of trap and/or cover crops to avoid pests' migration and invasion into healthy pasture lands. Utilize grazing practices that maintain vigorous forage growth that competes with weeds and able to withstand insects or diseases. Consider adding a diversity of forage species to dilute insect host plants and reduce opportunities for plant pest pressure.

- Monitoring activities include scouting for both pests and beneficial organisms, degree-day modeling, and weather forecasting to help target suppression strategies and avoid routine preventative treatments. Monitoring may include the use of drones, or other remote sensing tools which can provide color, red, or infrared images to help detect pest issues. Utilize weather models to help predict disease or insect outbreaks.
  - For pasture, use pasture condition score (PCS) and/or determining indicators of pasture health (DIPH) to assess and evaluate effects of invasive pests.
- Suppression activities include judicious use of cultural, mechanical, biological and chemical control methods that reduce or eliminate a pest population or its impacts while minimizing risks to non-target organisms. Optimizing application timing (plant phenology, weather and soil conditions etc.), using precision application equipment, or substituting lower risk pesticides.
  - For pasture, consider biological control activities, such as livestock grazing for targeted suppression and control of invasive plant species used in conjunction with other pest management activities. Consider utilizing the timing, duration, frequency and intensity of grazing to disrupt insect or disease cycles. Also consider other synthetic or biological agents (other than livestock) to manage weeds, insects and diseases.
  - When addressing air quality, include at least one suppression activity to reduce emissions of ozone precursors, such as choosing low-emission application methods, selecting alternatives or avoiding use of emulsifiable concentrate (EC) formulations, use of precision application, solarization, biofumigants or adding adjuvants. Consider conditions/practices that reduce herbicide volatilization (in areas with low RH and high temps).

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide documentation for review showing producer's record of integrated pest management meeting all Conservation Practice Standard Integrated Pest Management (CPS 595) general criteria.
- ☐ During implementation, keep documentation, such as records, plans, receipts, showing the implementation of the activities selected.
- ☐ After implementation, make documentation available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Integrated Pest Management (CPS 595) as it relates to implementing this enhancement.
- ☐ As needed, provide technical assistance to the participant as requested.
- ☐ After implementation, verify implementation by reviewing records kept during enhancement implementation.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Acres Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E595B

Reduce risk of pesticides in surface water and air by utilizing IPM PAMS techniques

Conservation Practice 595: Integrated Pest Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN ADDRESSED: Air Quality Impacts

PRACTICE LIFE SPAN: 1 year

Note: This enhancement requires that the producer already be using a basic IPM and using additional IPM techniques would enhance what they are currently doing.

Documentation Requirements

1. To document that they are meeting all general criteria for the implementation of 595 NE CPS Integrated Pest Management 2011 (formerly named Conservation Practice Standard 595 (CPS 595) Integrated Pest Management) the producer must provide the following:
   596) Plan map of the fields showing the location of sensitive areas and setbacks if applicable.
   597) Soils maps
   598) A list of all pesticides (herbicides, insecticides and fungicides) and any other pest suppression techniques (mowing, row cultivation, etc.) used in the cropping system.
   599) A list of current IPM (PAMS) techniques being applied.
   600) A completed **595 NE IR Integrated Pest Management 2022** (formerly named Integrated Crop Management Job Sheet (NE-CPA-39)) or equivalent information for each pesticide applied including application rate, timing and method of application.
2. Documentation of the additional PAMS techniques being applied (may use the attached table) to demonstrate that they are meeting the additional criteria to reduce pesticide losses to water through runoff and/or leaching, and/or atmospheric losses due to drift and/or volatilization.

Applicable IPM Techniques Include:

1. Monitoring to eliminate the use of preventative treatments
2. Partial or spot treatment
3. Precision application (Use enhancement E595A)
4. Substitution of lower risk pesticides (Document with WinPST)

5. Substitution of non-chemical controls
   a. Cultural practices – cover crops, mulches, crop rotation
   b. Biological – mating disruption for insects, release of beneficial insects
   c. Physical – cultivation, mowing, baited traps
6. Use of spray adjuvants to increase efficacy and reduce application rates
7. Soil Incorporation – Applicable to shallow mechanical or irrigation incorporation. Not applicable if pesticide leaching to groundwater is an identified natural resource concern. Not applicable if soil erosion is not adequately managed.
8. Adjusting sprayer set-up to minimize drift
   a. Use drift reduction nozzles, drops, shielding, pressure adjustment, electrostatic spray technology, or re-circulating spray technology.
   b. Reduce spray pressures per the nozzle criteria to producer larger spray droplets, which have a lower tendency to drift. Do not exceed 40-45 psi spray pressure.
   c. Reduce boom height to the minimum amount allowable (where full coverage is achieved just above the top of the plant canopy) to achieve coverage and minimize the amount of time droplets are in the air before contacting plant or soil surfaces.
   d. Use spray adjuvants approved for use with the specific pesticide being applied to reduce evaporation of airborne spray droplets, keeping droplets larger so they will settle more quickly onto the targeted plant and soil.
9. To reduce emissions of ozone precursors avoid use of emulsifialble concentrate (EC) formulations – EC formulations usually contain an oil-soluble liquid active ingredient, a petroleum-based solvent, and an emulsifier (mixing agent). The presence of petroleum-based solvents in EC formulations is a significant source of volatile organic compounds (VOCs) which can contribute to ground-level ozone pollution.

For additional information on drift reduction technologies refer to the following documents.

Curran, W.S. and D.D. Lingenfelter. 2009. Adjuvants for Enhancing Herbicide Performance. Agronomy Facts 37, Penn State University. Available at: https://extension.psu.edu/adjuvants-for-enhancing-herbicide-performance

Kruger, Greg R., Robert N. Klein, and Clyde L. Ogg. 2013. Spray Drift of Pesticides. NebGuide G1773, University of Nebraska-Lincoln Extension, Lincoln, NE.

Young, Bryan. 2016. Compendium of Herbicide Adjuvants. Southern Illinois University, Carbondale, IL. Available at: http://www.herbicide-adjuvants.com/

Witt, J. M. Agricultural Spray Adjuvants. Oregon State University Extension. http://psep.cce.cornell.edu/facts-slides-self/facts/gen-peapp-adjuvants.aspx

Integrated Pest Management Enhancement Job Sheet

Field Information				IPM (PAMS) Techniques Used				
Tract, Field	Acres	Crop	Target Pest	Pest Prevention	Pest Avoidance	Pest Monitoring	Pest Suppression Technique	
							Date Applied	Method*
Example: T123 Field 1	*40*	*Soybean*	*Soybean Cyst Nematode*	*Clean Equipment*	*Use Pest Resistant Variety*	*Field Scouting and testing for infestation*		*None*

* If chemical pest control is applied complete the Integrated Crop Management Job Sheet (NE-CPA-39) or provide equivalent documentation.

CONSERVATION ENHANCEMENT ACTIVITY

E595D

CONSERVATION STEWARDSHIP PROGRAM

Increase the size requirement of refuges planted to slow pest resistance to Bt crops

Conservation Practice 595: Pest Management

APPLICABLE LAND USE: Crop (Annual and Mixed)

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Bacillus thuringiensis (Bt) plant-incorporated protectants are plants that have been genetically altered to produce proteins that are harmful to certain insect pests. Widespread implementation of Bt crops has decreased insecticide use and increased crop yields, but it must be used as part of an integrated pest management (IPM) approach to protect the crop from pest species that are not susceptible to the Bt toxin and to manage pest resistance.

Crop rotation, scouting and resistance management strategies, such as planting and creating refuges of non-Bt crops, are essential when farming Bt crops. Insects have developed resistance to Bt proteins. To mitigate the development of further resistance, growers are required to plant refuges of non-transgenic crops. These refuges produce numbers of susceptible insects that will help sustain populations of non-resistant insects.

The size of refuge requirement depends on the environment, pest and strain of the crop. The size of refuge is determined by resistance risk and can vary depending on the product. A recent study published in the Journal of Integrated Pest Management revealed, compliance has been a challenge. Only 40% of growers surveyed stated they were planning to plant a refuge (Reisig 2017). Further, EPA (2018) reports document refuge compliance as low as 7% in areas at the highest risk of resistance. Non-compliance arises, in part, due to a

concern for yield loss and thus profit loss if a non-Bt refuge is planted.

Criteria

- This enhancement will increase the size of the required refuge by an additional 10% (of the total crop acreage) in areas with the highest risk of pest resistance to Bt crops[1], Ex. If the label requires a refuge to be 20% of the entire crop, an additional 10% area of non-Bt crop would be needed to be planted for a total of a 30% refuge to receive incentivization under this enhancement.

- Additional refuge planted must adhere to the extant terms of registration for Bt crops. (see Fig 1.)

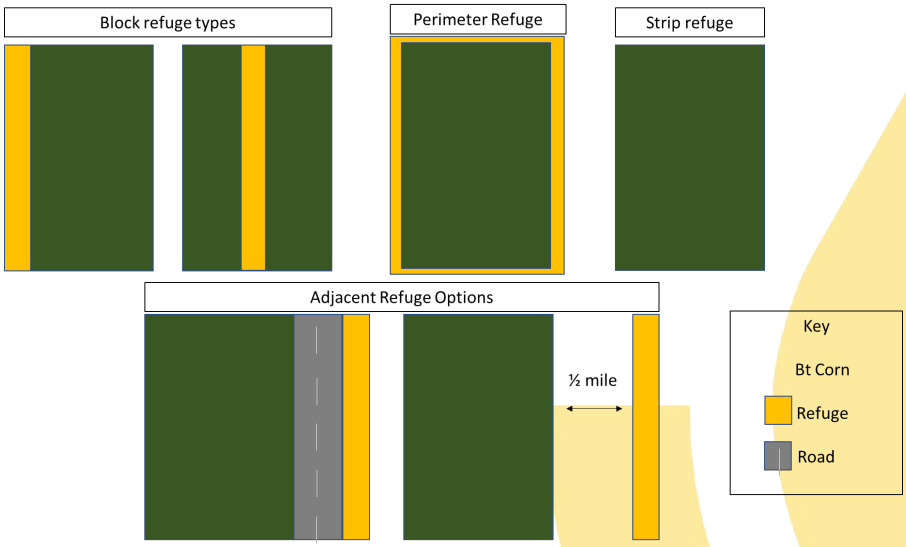


Figure 1. Refuge Planting Design Options

- Refuge designs include separate fields, blocks within fields (e.g., along the edges or headlands), perimeter strips, or in-field strips can be used to achieve the 10% increase.

1-The high risk resistance region consists of the states of Alabama, Arkansas, Georgia, Florida, Louisiana, North Carolina, Mississippi, South Carolina, Oklahoma (only the counties of Beckham, Caddo, Comanche, Custer, Greer, Harmon, Jackson, Kay, Kiowa, Tillman, Washita), Tennessee (only the counties of Carroll, Chester, Crockett, Dyer, Fayette, Franklin, Gibson, Hardeman, Hardin, Haywood, Lake, Lauderdale, Lincoln, Madison, Obion, Rutherford, Shelby, and Tipton), Texas (except the counties of Carson, Dallam, Hansford, Hartley, Hutchinson, Lipscomb, Moore, Ochiltree, Roberts, and Sherman), Virginia (only the counties of Dinwiddie, Franklin City, Greensville, Isle of Wight, Northampton, Southampton, Suffolk City, Surrey, Sussex) and Missouri (only the counties of Dunkin, New Madrid, Pemiscot, Scott, Stoddard) Virginia (only the counties of Dinwiddie, Franklin City, Greensville, Isle of Wight, Northampton, Southampton, Suffolk City, Surrey, Sussex) and Missouri (only the counties of Dunkin, New Madrid, Pemiscot, Scott, Stoddard).

- Refuge area must meet the proximity requirements of the Bt crop type (e.g., if a block refuge is planted it must be within a half mile of the Bt field, if perimeter or in-field strips are implemented, the strips must be at least 4 consecutive rows wide, etc.)
- Required refuge areas must be planted to the same crop as the Bt crop (i.e., a Bt corn field must have a non-Bt corn counterpart). The non-Bt variety must be as similar to the Bt variety as possible using an isoline hybrid if available.
- Growers who receive the incentivization are encouraged to monitor fields for Bt resistance and report unexpected pest damage to Bt crops to the company from which the grower obtained the Bt seed.

Documentation and Implementation Requirements:

Participant will:

- □ Prior to implementation, provide documentation for review showing producer's record of integrated pest management meeting all Conservation Practice Standard Integrated Pest Management (CPS 595) general criteria.
- □ During implementation, keep documentation, such as records, plans, receipts, showing the implementation of the activities selected including:
    - Document the Bt crop and the refuge size requirement from the label.
    - A map showing the non-Bt variety of the crop (refuge area) in relation to the Bt crops, noting the original refuge plus the additional refuge areas.
    - Photographs of Bt and non-Bt crops planted in the field.
- □ After implementation, make documentation and records available for review by NRCS to verify implementation of the enhancement.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Integrated Pest Management (CPS 595) as it relates to implementing this enhancement.
- ☐ As needed, provide technical assistance to the participant as requested.
- ☐ After implementation, verify implementation by reviewing records kept during enhancement implementation.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E595D

Increase the size requirement of refuges planted to slow pest resistance to Bt crops

Conservation Practice 595: Integrated Pest Management

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Same as National Criteria.

Note: This enhancement requires that the producer already be using a basic IPM and using additional IPM techniques would enhance what they are currently doing.

Documentation Requirements

1. To document that they are meeting all general criteria for the implementation of 595 NE CPS Integrated Pest Management 2011 (formerly named Conservation Practice Standard 595 (CPS 595) Integrated Pest Management) the producer must provide the following:
   a. Plan map of the fields showing the location of sensitive areas and setbacks if applicable.
   b. Soils maps
   c. A list of all pesticides (herbicides, insecticides and fungicides) and any other pest suppression techniques (mowing, row cultivation, etc.) used in the cropping system.
   d. A list of current IPM (PAMS) techniques being applied.
   e. A completed 595 NE IR Integrated Pest Management 2011 (formerly named Integrated Crop Management Job Sheet (NE-CPA-39)) or equivalent information for each pesticide applied including application rate, timing and method of application.

NRCS will:

1. Provide the participant with a copy of the USDA-NRCS WIN-PST soil/pesticide interaction report for each pesticide and each major soil type based on the information provided by the participant, if applicable.
2. Assist participant in identifying mitigation practices and techniques to meet the minimum level of mitigation required, if applicable.
3. Provide producer with a copy of the 595 NE IR Integrated Pest Management 2011 (NE-CPA-39 job sheet) if needed.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E595E

CONSERVATION STEWARDSHIP PROGRAM

Eliminate the use of chemical treatments to control pests and to increase the presence of dung beetles

Conservation Practice: Integrated Pest Management - 595

APPLICABLE LAND USE: Pasture; Range

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Pests and parasites can have a significant impact on the economic viability of livestock operations by affecting the performance and health of animals. The use of broad-spectrum insecticides, pour-ons and avermectins have been shown to have a detrimental effect on dung beetle populations. Having a healthy population of dung beetles facilitates the recycling of nutrients and promotes soil and grassland health. By eliminating the application of broad-spectrum insecticides, pour-ons, and avermectins, including injectable avermectins, for pest control in and on livestock along with rotational grazing and higher stock densities has shown to increase the dung beetle population. Use of natural or alternative methods of pest control over multiple years is encouraged.

Criteria

- Determine the chemical treatments that are harmful to the dung beetle population and eliminate use. Rotational grazing management and the use of natural treatments for pest control will be implemented. Follow all land grant university recommendations and methods of evaluations.

- A written grazing plan for matching the forage quantity and quality produced with the grazing and/or browsing demand will be followed.

- Maintain diversity of pastureland and rangeland plants to optimize delivery of nutrients to the animals by incorporating the intensity, frequency, timing and duration of grazing and/or browsing needed as determined by a planning process that includes:
    - A resource inventory with ecological site description or reference sheet and structural improvements and existing resource conditions,
    - Grazing plan that provides for 45 days or more recovery period between grazing events
    - All potential contingency plans

- Supplemental feed and/or minerals will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.

Documentation Requirements

Participant will:

- ☐ Prior to implementation, provide documentation for review showing producer's record of integrated pest management meeting Conservation Practice Standard Integrated Pest Management (CPS 595) general criteria.

- ☐ During implementation, keep documentation, such as records, plans, receipts, showing the implementation of the activities selected including:

  - Written documentation of what chemical treatment(s) that were replaced by non-harmful alternative method(s).

  - A written plan for matching the forage quantity and quality produced with the grazing and/or browsing demand will be followed.

  - Record of rotational grazing.

- ☐ After implementation, make documentation available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Integrated Pest Management (CPS 595) as it relates to implementing this enhancement.

- ☐ As needed, provide technical assistance to the participant as requested.

- ☐ After implementation, verify implementation by reviewing records kept during enhancement implementation.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Acres Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY E595E

CONSERVATION STEWARDSHIP PROGRAM

Eliminate the use of chemical treatments to control pests and to increase the presence of dung beetles.

Conservation Practice 595: Pest Management

APPLICABLE LAND USE: Pasture; Range

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

1. **Applies to range or pasture used for normal grazing regardless of the time of year. It does not include open lots, fall cornstalks, or other land uses used during the production cycle.**
2. **Requires the producer to already be using a basic IPM and will be using additional IPM techniques that will enhance current management from what they are currently doing.**
3. **Does not allow the use of chemical insecticides (de-wormers, internal and external parasites) for livestock while on pasture or range.**
4. **Requires a 30-day down time from the date livestock were chemically treated prior to entry into pasture or range.**
5. **Does not allow the use of sacrificial pastures for the 30-day post chemical treatment of livestock before pasture or range entry.**
6. **May be implemented on a portion of an operation as long as the animal herd is designated, and applicable land units clearly defined for purposes of the enhancement.**

Documentation Requirements

1. To document that they are meeting all general criteria for the implementation of Integrated Pest Management Standard (formerly named Conservation Practice Standard 595 (CPS 595) Integrated Pest Management) the producer must provide the following:
   - A list of the types of livestock pests for which chemical treatments are used.

- A list of the types of treatments currently used and when they are applied.
- A list of current IPM strategies (Prevention, Avoidance, Monitoring, Suppression) being applied.

2. To minimize risk of livestock chemical pest treatments to dung beetles:
   - No chemical de-wormer applications are allowed while livestock are present on pastures. Application methods include, but are not limited to pour-on, injections, oral drench, bolus, crumbles, minerals with added chemical de-wormers. FYI-There are three main classes of chemical de-wormers—benzimidazoles, such as fenbendazole; imidazothiazoles, such as levamisole; and avermectins, of which ivermectin is a member.
   - Alternative treatments may be used while livestock are on pasture / range as follows:
     - Insecticide ear tags (pose less risk to dung beetles).
     - Natural (and less toxic) treatments are acceptable provided:
       - Producers provide the proposed natural treatment in their management plan so NRCS can approve the planned natural treatment.
       - Producers should consult with a veterinarian on planned treatment.
   - Livestock cannot enter pastures / range if they have been treated with chemical insecticides in the previous 30 days. Insecticide residues may be present in dung up to 30 days post-treatment, which are still harmful to the dung beetle. NOTE: No use of sacrificial pastures for the 30-day post-treatment of livestock with a chemical de-wormer.

In addition to the requirements listed in the National Enhancement Worksheet, the participant will:

☐ Develop a prescribed grazing plan. Participant may request NRCS assistance for development of the plan.

☐ Use the Nebraska Prescribed Grazing Design Tool September 2021 Updated , or equivalent to document the grazing plan. The grazing plan must address grazing intensity (forage balance) at the targeted utilization level and also a grazing schedule to accommodate the necessary rest and regrowth potential. The grazing plan will include:

a). Objectives,
b). Forage inventory by pasture, paddock or field
c). Livestock inventory and forage demand,
d). Forage-animal demand balance sheet,
e). Grazing schedule which accommodates the necessary rest and regrowth potential and the pasture sequence which will reduce the pest pressure on livestock,
f). Contingency plan
g). Monitoring plan.

☐ Adaptively manage livestock movements based on the rate of plant growth, available forage, and allowable utilization target. Follow contingency plans to deal with episodic disturbance events such as drought.

- ☐ Use form NE-CPA-64 – "Actual Use Report", or equivalent, to document annual grazing management, in and out dates for pasture, and forage utilization and provide this report to NRCS each year the enhancement is scheduled.

In addition to the requirements listed in the National Enhancement Worksheet, the NRCS will:

- ☐ Provide additional technical assistance in developing the grazing management plan, as requested by the participant.
- ☐ Prior to implementation, provide and explain NRCS Prescribed Grazing Standard (formerly named Conservation Practice Standard Prescribed Grazing (CPS 528)) as it relates to implementing this enhancement.
- ☐ After implementation of the enhancement, verify implementation of the grazing plan by reviewing grazing records and changes made to address dung beetle habitat.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E595F

Improving soil organism habitat on agricultural land

Conservation Practice 595: Pest Management Conservation System

APPLICABLE LAND USE: Pasture, Crop (Mixed & Annual)

RESOURCE CONCERN ADDRESSED: Pest Pressure, Soil Organism Habitat Loss or Degradation

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

To reduce or eliminate the use of seed treatments in corn and soybean cropping systems to promote beneficial organism populations and pest control. Beneficial organisms such as the Carabidae beetle are very important in the population control of common agricultural pests like the grey garden slug. Slugs are a common pest in no-till and heavily cover cropped fields. Slugs are mollusks and can ingest some treatments with no adverse effects. Beneficial organism populations can be negatively impacted when they consume slugs exposed to seed treatments. The reduction or elimination of routine seed treatments in these cash crop systems may increase beneficial insect populations.

Criteria

- Producers will reduce or eliminate treatments used in their crop rotations. Treatments on corn or soybean may not be replaced with another routine treatment, such as in-furrow applications.

- If a participant determines after contracting that a targeted seed treatment or other early season treatment is necessary on a contracted soybean or corn field (i.e., within three weeks of planting), the participant will not be penalized, but will forego an incentive payment provided he or she can provide documentation of needed control (e.g. scouting report).

- Documentation of producer's record of integrated pest management meeting all Conservation Practice Standard Integrated Pest Management (CPS 595) general criteria

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide documentation for review showing producer's record of integrated pest management meeting all Conservation Practice Standard Integrated Pest Management (CPS 595) general criteria.
- ☐ Provide documentation to demonstrate prior seed treatment use.
- ☐ Provide any historical pest scouting reports.
- ☐ During implementation, keep documentation, such as seed labels, records, plans, receipts, showing the implementation of the activities selected.
- ☐ After implementation, make documentation available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Integrated Pest Management (CPS595) as it relates to implementing this enhancement.
- ☐ As needed, provide technical assistance to the participant as requested.
- ☐ After implementation, verify implementation by reviewing records kept during enhancement implementation.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E595F

Improving soil organism habitat on agricultural land

Conservation Practice 595: Pest Management Conservation System

APPLICABLE LAND USE: Crop (Mixed & Annual)

RESOURCE CONCERN: Pest Pressure, Soil Organism Habitat Loss or Degradation

ENHANCEMENT LIFE SPAN: 1 year

Note: This enhancement requires that the producer already be implementing a Pest Management Conservation System.

Documentation Requirements

1. To document that they are meeting all general criteria for the implementation of Conservation Practice Standard 595 (CPS 595) Pest Management Conservation System (formerly named "Integrated Pest Management") as well as the additional criteria to prevent or mitigate off-site pesticide risks to water quality from leaching, solution runoff, and adsorbed runoff losses, the producer must provide the following:
   a. Plan map of the fields showing the location of sensitive areas and setbacks if applicable.
   b. Soils maps
   c. A monitoring/scouting plan including economic threshold levels for each pest, if applicable.
   d. A list of all pesticides (herbicides, insecticides, and fungicides) and any other pest suppression techniques (mowing, row cultivation, etc.) used in the cropping system.
      - For each pesticide applied include application rate, timing, and method of application.
   e. Environmental risk assessment of planned suppression techniques (provide a copy of the USDA-NRCS WIN-PST soil/pesticide interaction report for each pesticide and each major soil type).
   f. Mitigation practices and/or IPM techniques applied to reduce environmental risk and the resulting mitigation index score (minimum level of mitigation is based on the WIN-PST Soil/Pesticide Interaction Hazard Rating). Refer to Nebraska Agronomy Technical Note 110 Table I, IPM Techniques for Reducing Pesticide Environmental Risk and Table II, Conservation Practices for Reducing Pesticide Environmental Risk.

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E595G

CONSERVATION STEWARDSHIP PROGRAM

Reduce resistance risk by utilizing PAMS techniques

CONSERVATION PRACTICE: 595 - Integrated Pest Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture

RESOURCE CONCERN: Plants – Pest Pressure

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Utilize integrated pest management (IPM) prevention, avoidance, monitoring, and suppression (PAMS) techniques to reduce pesticide resistance and address plant pest pressure.

Criteria

1) As a baseline, document the producer's record of Integrated Pest Management (IPM) activities currently used that meet the Conservation Practice Standard Pest Management Conservation System (CPS 595) general criteria, including but not limited to:
    - Current IPM- fields, tracts, or PLUs and acres under current management.
    - Planned IPM - fields, tracts or PLUs and acres affected.
    - Prevention activities: cleaning equipment and gear when leaving an infested area, using pest-free seeds and transplants, and irrigation scheduling to limit situations that are conducive to disease development.
    - Avoidance activities: maintaining healthy and diverse plant communities, using pest resistant varieties, crop rotation, and refuge management.
    - Monitoring activities: pest scouting, degree-day modeling, and weather forecasting to help target suppression strategies and avoid routine preventative treatments.
    - Suppression activities: judicious use of cultural, mechanical, biological, and chemical control methods that reduce or eliminate a pest population or its impacts while minimizing risks to non-target organisms. Optimizing application timing, using precision application equipment, or substituting lower risk pesticides.

CONSERVATION STEWARDSHIP PROGRAM

2) Utilize rotation of pesticide modes of action (MOA) and ***at least three new or additional activities*** from the techniques below that fit within the general PAMS strategies above:

Pre-season strategies:

- Acquisition of knowledge and skills to manage pesticide resistance by:
  - Attending educational meetings to obtain the latest information in development of sound pest management programs.
    OR
  - Promote communication regarding pesticide resistance, by hosting a field day or community meeting to discuss pesticide resistance issues in their community.
- Diversify the current crop rotation to add different crop types to disrupt the host plant/pest cycle and reduce use of the same pesticide MOA season after season.
- Add cover crops to the crop rotation or consider use of nurse crops and intercropping of crops to be competitive with weeds thereby reducing weed pressure in the cash cropland weed seed development or as host crops for beneficial insects
- Use grazing and/or browsing animals when applicable, to reduce weed populations.

Planting strategies:

- Plant certified (or tested by a certified lab) weed-free crop, cover crop, or pollinator habitat seed to reduce introduction of new weed pests.
- Use pre-emergence herbicides with soil residual activity, with different mechanisms of activity MOA on target weed species.
- Plant crops with stacked traits to maximize the diversity of available pest management tools a crop with Bt (bacillus thuringiensis) and herbicide resistance traits.

Growing season strategies:

- Managing the crop according to recommendations from local extension experts or crop consultants (i.e., Certified Crop Advisors) to promote overall crop vigor, resilience, and competitiveness.
- Scouting prior to pesticide application to correctly identify the target pest and to determine if economic thresholds or estimates of crop damage are met before applying pesticides.
- Time pesticide applications treatment or other PAMS activity when the most susceptible life cycle stage of the target pest(s) is present to maximize the efficacy for the treatment selected.
- Methods of monitoring include use of monitoring traps to indicate adult emergence, real time data feeds from monitoring systems, or using weather or vegetation growth models that predict conditions conducive to pest development.

- Perform in-field follow-up after pesticide application determine and document whether the applied pesticide provided effective control of the target pests.
- Use of cultural, mechanical, or biological pest management strategies such as, tillage, mowing, flaming, roller crimping etc.

Harvesting strategies:

- Manage the soil seedbank by reducing weed seed inputs through use of harvest weed seed destruction equipment i.e., combine weed seed grinding.
- Manage the field environment (including soils) to lessen the probability of weed establishment, enhance weed seed decay, and promote weed seed predation (e.g., maintaining habitat refuges, delaying postharvest tillage etc.).

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, provide documentation for review showing producer's record of integrated pest management meeting all Conservation Practice Standard Integrated Pest Management (CPS 595) general criteria.

☐ During implementation, keep documentation, such as records, plans, receipts, showing the implementation of the activities selected.

☐ After implementation, make documentation available for review by NRCS to verify implementation of the enhancement.

NRCS will:

☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Pest Management Conservation System (CPS 595) as it relates to implementing this enhancement.

☐ Evaluate any new pesticides used with this enhancement with WIN-PST and will plan appropriate mitigation if needed to protect water quality and/or beneficial organism protection.

☐ As needed, provide technical assistance to the participant as requested.

☐ After implementation, verify implementation by reviewing records kept during enhancement implementation.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E595G

Reduce resistance risk by utilizing PAMS techniques

Conservation Practice 595: Pest Management Conservation System

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN ADDRESSED: Air Quality Impacts

PRACTICE LIFE SPAN: 1 year

Note: This enhancement requires that the producer already be using a basic IPM and using additional IPM techniques would enhance what they are currently doing.

Documentation Requirements

1. To document that they are meeting all general criteria for the implementation of Conservation Practice Standard 595 Pest Management Conservation System (formerly named Integrated Pest Management) the producer must provide the following:
   a. Plan map of the fields showing the location of sensitive areas and setbacks if applicable.
   b. Soils maps
   c. Complete the table on page 3 to document all pesticides (herbicides, insecticides, and fungicides) currently used in the cropping system including the EPA Registration number and Mode of Action (MOA).
   d. Include the planned pesticide(s) to document the required change in MOA.
   e. Identify any other pest suppression techniques (mowing, row cultivation, etc.) used in the cropping system.
   f. Complete the table on page 4 to document conservation practices or PAMS techniques which are currently used or are planned.

2. Based on the documentation provided by the producer, NRCS will complete the 595 IR Pest Management Conservation Planning Worksheet to verify that the existing pest management system meets all the general criteria of CPS 595 and that the planned system meets the requirements of this enhancement.

Pesticide Application Documentation

Field	Crop	Pest	Product Name[1]	EPA Registration Number	MOA[2]	Application Rate	Timing	Method of Application	Incorporated
1	corn	Broadleaf Weeds	2,4-D Amine existing	81927-38	Group 4	8 oz	post emergence	ground sprayer	no

1- Indicate if existing or planned.
2- Information available in University of Nebraska Extension Publication EC130.

Conservation Practices and PAMS Techniques

Indicate which of the following conservation practices or PAMS techniques are currently used or are planned.

Conservation Practices:

	Contour Farming
	Cover Crops
	Crop rotation to break up pest cycles
	Field Borders (indicate width)
	Filter Strips (indicate width)
	Irrigation Water Management
	No-Till
	Mulch Till
	Strip Cropping
	Terraces

PAMS Techniques:

	Do not apply pesticides when rain is forecast
	Apply pesticides when target pest is most susceptible
	Use of formulations or adjuvants to improve efficacy and reduce drift
	Monitoring for Pests
	Setbacks (indicate width)
	Drift reducing nozzles
	Use certified, weed free seed
	Use harvest weed seed destruction equipment

Other:

	Attend educational meetings on Pest Management

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E612B

CONSERVATION STEWARDSHIP PROGRAM

Planting for carbon sequestration and storage

CONSERVATION PRACTICE: 612 - Tree/Shrub Establishment

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Air

ENHANCEMENT LIFE SPAN: 15 years

Enhancement Description

Plant tree species and/or shrubs to sequester and store carbon. Forest stands will be managed for longer rotations and/or enhanced composition diversity to improve carbon storage.

Criteria

- States will apply criteria from the NRCS National Conservation Practice Standard Tree/Shrub Establishment (Code 612), and any additional criteria as required by the NRCS State Office.
- Species will be selected for their rate of growth, lifespan, historic range, mature size, suitability for retention as wildlife or legacy species, and/or suitability for use in long-lived sustainable wood products as well as their adaptability to current and future site conditions, including soil type.
- To support forest-level carbon sequestration and storage, native plant communities, soil organic matter, standing and down woody material should be properly maintained.
- Selection of species should also be chosen according to the site's natural disturbance regime. Species should be selected based on traits, successional status, structure, and composition.
- Build forest resilience by favoring existing species that are better adapted to projected future climate conditions, and by enhancing relative compositional and structural diversity.
- Do not plant species on the Federal or State invasive species or noxious weed lists.

- Only viable, high-quality, and site-adapted planting stock or seed will be used.

- A precondition for tree/shrub establishment is appropriately prepared sites. Refer to criteria in NRCS Conservation Practice Standard Tree/Shrub Site Preparation (Code 490).

- Implementation and timing of planting will be appropriate for the site and ensure successful establishment.

- Planting must be protected from unacceptable adverse impacts from insects, disease, wildlife, and/or fire. Apply supporting practices and treatments to protect establishing trees and shrubs, as necessary.

- Each site will be evaluated to determine if mulching, supplemental water, or other treatments (e.g., tree protection devices, shade cards, weed mats) will be needed to assure adequate survival and growth.

- The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation:
- provide an updated Forest Management Plan that documents intended objectives for carbon sequestration and storage.
- select a combination of species with longer life spans that are suitable for their rate of growth, historical range, mature size, suitability for retention as wildlife or legacy species, and/or suitability for use in long-lived sustainable wood products as well as their adaptability to current and future site conditions, including soil type.
- select planting technique, arrangement and spacing design, and timing appropriate for the site conditions.

Species	Note selected species characteristic(s)

☐ During implementation:
- install and maintain erosion control measures as needed for the site.
- protect the planting(s) from plant and animal pests and fire.
- notify NRCS in writing of any planned changes to verify changes meet NRCS enhancement criteria.

TASK	Species	Species	Species
Planting date			
Planting Technique			
Arrangement/Spacing			

NRCS will:

☐ Prior to implementation:
- provide and explain NRCS Conservation Practice Standard Tree/Shrub Site Preparation (Code 490) as it relates to implementing this enhancement. Verify the enhancement is planned for acres that have been appropriately prepared for tree/shrub establishment.
- verify the enhancement is planned for the appropriate land use.
- provide and explain NRCS Conservation Practice Standard Tree/Shrub Establishment (Code 612) as it relates to implementing this enhancement.
- verify no plants on the Federal or state noxious weeds list are included.
- NRCS will provide Technical Assistance, as needed, in the following:
  - Selecting a combination of species to meet enhancement criteria.
  - Selecting planting techniques, arrangement and spacing design, and timing appropriate for the site and soil conditions.
  - Planning the use of additional erosion control, as needed for the site.

☐ During implementation:
- evaluate any planned changes to verify they meet the enhancement criteria.

☐ After implementation:
- verify the planned trees and shrub species were established to specifications developed for the site.
- verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E612B

Planting for high carbon sequestration rate

Conservation Practice 612: Tree/Shrub Establishment

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range, Forest, Associated Ag Land, Farmstead

RESOURCE CONCERN: Air

ENHANCEMENT LIFE SPAN: 15 years

State Criteria

Planted species will be appropriate and adapted to site conditions. Use native species where practical to address resource concerns. Refer to Conservation Tree and Shrub Groups in the Nebraska Field Office Technical Guide for information on adaptations and beneficial uses. Design of planting will meet density requirements in the 612 NE CPS Tree/Shrub Establishment 2019 conservation practice standard and guidance document. Installation of the planting will meet the requirements in the 612 NE GD Tree/Shrub Establishment 2011 including proper site preparation methods.

A low maintenance herbaceous seeding will also be established (where needed on sites without perennial vegetation or those with unacceptable plants present – i.e. smooth brome) within the tree planting to further increase carbon sequestration on the site. Information on low maintenance mixtures is included in the 612 NE GD Tree/Shrub Establishment 2011. All low maintenance seedings will contain forbs and/or legumes at a seeding rate of 10% to 25% of the grass mixture (2 PLS/ft^2 to 5 PLS/ft^2 on a 20 PLS/ft^2 seeding).

Specific maintenance or management practices approved by NRCS and intended to improve initial survival as well as plant diversity and vigor are allowed on the tree planting area.

It is recommended that a minimum of three woody species comprise the planting to provide diversity and avoid future impacts of disease or pests. Prioritize long-lived species.

CONSERVATION STEWARDSHIP PROGRAM

Document recommended site preparation, planting method, tree/shrub species, seed mixture, seeding rates and other pertinent information on the Tree and Shrub Planting Implementation Requirements 2014 and the Herbaceous Vegetation Seeding Design Worksheet 2020 and/or associated attachments, maps, and designs.

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E612C

CONSERVATION STEWARDSHIP PROGRAM

Establishing tree/shrub species to restore native plant communities

CONSERVATION PRACTICE: 612 - Tree/Shrub Establishment

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Animals, Plants

ENHANCEMENT LIFE SPAN: 15 years

Enhancement Description

Establish trees and/or shrubs to restore elements of plant communities and diversity that have been lost. Restoring stand-level diversity and function improves health and vigor through planting resilient and/or resistant native plant communities. Additional benefits include providing diversity in wildlife habitat and forage.

Criteria

- States will apply criteria from the NRCS National Conservation Practice Standard Tree/Shrub Establishment (Code 612), and any additional criteria as required by the NRCS State Office.
- Species selected for planting will be native to the site and will create a successional state that progresses toward the identified target plant community.
- To enhance native plant diversity, select a minimum of three different species of trees and/or shrubs to be planted. An exception is in situations where a native lost species is being restored to a fully-stocked forest stand. (i.e., American chestnut). Selection of species should also be chosen according to the site's natural disturbance regime. Species should be selected based on traits, successional status, structure, and composition.
- Selection of species should also be chosen according to the site’s natural disturbance regime. Species should be selected based on traits, successional status, structure, and composition.

- Build forest resilience by favoring existing species that are better adapted to projected future climate conditions, and by enhancing relative compositional and structural diversity.
- Do not plant species on the Federal or State invasive species or noxious weed lists.
- Only viable, high-quality and site-adapted planting stock or seed will be used.
- A precondition for tree/shrub establishment is appropriately prepared sites. Refer to criteria in NRCS Conservation Practice Standard Tree/Shrub Site Preparation (Code 490).
- Implementation and timing of planting will be appropriate for the site and ensure successful establishment.
- Planting must be protected from unacceptable adverse impacts from insects, disease, wildlife, and/or fire. Apply supporting practices and treatments to protect establishing trees and shrubs, as necessary.
- Each site will be evaluated to determine if mulching, supplemental water, or other treatments (e.g., tree protection devices, shade cards, weed mats) will be needed to assure adequate survival and growth.
- The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation:
- provide an updated Forest Management Plan that documents intended objectives for restoring native plant communities.
- select a combination of at least three native tree/shrub species that will increase plant and stand diversity.

Species	Note selected species characteristic(s)

☐ During implementation:
- install and maintain erosion control measures as needed for the site.
- protect the planting(s) from plant and animal pests and fire.
- notify NRCS in writing of any planned changes to verify changes meet NRCS enhancement criteria.

TASK	Species	Species	Species
Planting Date			
Planting Technique			
Arrangement/Spacing			

NRCS will:

☐ Prior to implementation:
- provide and explain NRCS Conservation Practice Standard Tree/Shrub Site Preparation (Code 490) as it relates to implementing this enhancement.
- verify the enhancement is planned for the appropriate land use.
- provide and explain NRCS Conservation Practice Standard Tree/Shrub Establishment (Code 612) as it relates to implementing this enhancement.
- verify no plants on the Federal or state noxious weeds list are included.
- NRCS will provide Technical Assistance, as needed, in the following:
    - Selecting a combination of species to meet enhancement criteria.
    - Selecting planting techniques, arrangement and spacing design, and timing appropriate for the site and soil conditions.
    - Planning the use of additional erosion control for the site, as needed.
    - Preparing specifications for applying this enhancement for each site using approved state implementation requirements, national technical notes, appropriate state technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

☐ During implementation:
- evaluate any planned changes to verify they meet the enhancement criteria and were established to specifications developed for the site.

☐ After implementation:

- verify the plantings were protected from plant and animal pests and fire.
- verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E612C

Establishing tree/shrub species to restore native plant communities

Conservation Practice 612: Tree/Shrub Establishment

APPLICABLE LAND USE: Forest, Range, Associated Ag Land

RESOURCE CONCERN: Plants

ENHANCEMENT LIFE SPAN: 15 years

State Criteria

Planted species will be appropriate and adapted to site conditions. Use of native species appropriate to the target native plant community is required. Refer to Conservation Tree and Shrub Groups in the Nebraska Field Office Technical Guide for information on adaptations and beneficial uses. Design of planting will meet density requirements in the 612 NE CPS Tree/Shrub Establishment 2019 conservation practice standard and guidance document – unless the historic plant community requires otherwise. Installation of the planting will meet the requirements in the 612 NE GD Tree/Shrub Establishment 2011 including proper site preparation methods. If adding shrubs into a grass community, it is preferable to plant them in 'thickets' 30 ft x 50 ft in size.

A low maintenance herbaceous seeding will also be established (where needed on sites without perennial vegetation or those with unacceptable plants present – i.e. smooth brome) within the tree planting to further reduce the potential for water erosion on the site. Information on low maintenance mixtures is included in the 612 NE GD Tree/Shrub Establishment 2011. All low maintenance seedings will contain native grasses and forbs suited to the target native plant community. Forbs will be seeded at a rate of 10% to 25% of the grass mixture (2 PLS/ft^2 to 5 PLS/ft^2 on a 20 PLS/ft^2 seeding).

Specific maintenance or management practices approved by NRCS and intended to improve initial survival as well as plant diversity and vigor are allowed on the tree planting area.

Target species will be selected to match or replace key dominant species within the target native plant community. Refer to Nebraska Biology Technical Note #65 – Terrestrial Ecological Systems and Natural Communities of Nebraska for information related to the target native plant community and appropriate species to use.

Document recommended site preparation, planting method, tree/shrub species, seed mixture, seeding rates and other pertinent information on the Tree and Shrub Planting Implementation Requirements 2014 and the Herbaceous Vegetation Seeding Design Worksheet 2020 and/or associated attachments, maps, and designs.

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E612D

CONSERVATION STEWARDSHIP PROGRAM

Adding food-producing trees/shrubs to an agroforestry system

CONSERVATION PRACTICE: 612 - Tree/Shrub Establishment

APPLICABLE LAND USE: Crop (Annual & Mixed), Crop (Perennial), Pasture, Range, Forest, Associated Ag Land, Farmstead

RESOURCE CONCERN: Animals, Plants

ENHANCEMENT LIFE SPAN: 15 years

Enhancement Description

Plant food producing trees/shrubs for wildlife or human consumption within an agroforestry system (windbreaks/shelterbelts, alley cropping, forest farming, silvopasture, and/or riparian forest buffer).

Criteria

- States will apply criteria from the NRCS National Conservation Practice Standard Tree/Shrub Establishment (Code 612), and any additional criteria as required by the NRCS State Office.

- Species selected will be able to produce food and/or culinary items to create an edible landscape. See States list for suitable woody plants.

- Apply at least one of the following activities to improve edible food production:
    - Add at least one edible, food producing row to existing linear plantings.
    - Add clusters of food-producing plants to existing plantings, so that food plants occupy at least 10% of the total area established in an agroforestry practice.
    - Add food-producing plants to occupy idle areas of the operation, such as field corners adjacent to existing plantings.

- Plant a variety of tree, shrub, and-or bramble species (3 or more, using native species whenever possible) with varying flowering times to favor pollinator species and to provide an extended time frame for available food.

- Further considerations are visual appeal, proximity to farmsteads, proximity to areas of wildlife use or viewing, or other locations depending on landowner objectives.

- Minimize herbicide use. Use spot weed treatments and avoid spraying when flowers are present.

- Selection of species should also be chosen according to the site's natural disturbance regime. Species should be selected based on traits, successional status, structure, and composition.

- Build forest resilience by favoring existing species that are better adapted to projected future climate conditions, and by enhancing relative compositional and structural diversity.

- Do not plant species on the Federal or State invasive species or noxious weed lists.

- Only viable, high-quality and site-adapted planting stock or seed will be used.

- A precondition for tree/shrub establishment is appropriately prepared sites. Refer to criteria in NRCS CPS Tree/Shrub Site Preparation (Code 490).

- Implementation and timing of planting will be appropriate for the site and ensure successful establishment.

- Plantings must be protected from unacceptable adverse impacts from insects, disease, wildlife, livestock, and/or fire. Apply supporting practices and treatments as necessary to protect establishing trees and shrubs.

- Each site will be evaluated to determine if mulching, supplemental water, or other treatments (e.g., tree protection devices, shade cards, weed mats) will be needed to assure adequate survival and growth.

- The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

☐ Prior to implementation:

- provide an updated Forest Management Plan that documents intended objectives for adding food-producing trees/shrubs for wildlife or human consumption.
- prepare the planned acres for trees and shrub establishment. Refer to NRCS Conservation Practice Standard Tree-Shrub Site Preparation (490).
- select the required number and diversity of tree and shrub species (preference for native edible food plants) that will increase food and forage production for wildlife and humans.
- select planting technique, arrangement and spacing design, and timing appropriate for the site conditions.

Species	Note selected species characteristic(s)

☐ During implementation:

- install and maintain erosion control measures as needed for the site.
- protect the planting(s) from plant and animal pests and fire.
- notify NRCS in writing of any planned changes to verify changes meet NRCS enhancement criteria.

TASK	Species	Species	Species
Planting Date			
Planting Technique			
Arrangement/Spacing			

NRCS will:

☐ Prior to implementation:

- provide and explain NRCS Conservation Practice Standard Tree/Shrub Establishment (Code 612) as it relates to implementing this enhancement.

- verify the enhancement is planned for the appropriate land use.
- verify no plants on the Federal or state noxious weeds list are included.
- NRCS will provide Technical Assistance, as needed, in the following:
  - Selecting a combination of species to meet enhancement criteria.
  - Selecting planting techniques, arrangement and spacing design, and timing appropriate for the site and soil conditions.
  - Planning the use of additional erosion control for the site, as needed.
  - Preparing specifications for applying this enhancement for each site using approved state implementation requirements, national technical notes, appropriate state technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
  - During implementation, evaluate any planned changes to verify they meet the enhancement criteria and were established to specifications developed for the site.
  - After implementation, verify the plantings were protected from plant and animal pests and fire.
  - After implementation, verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.

☐ During implementation:

- evaluate any planned changes to verify they meet the enhancement criteria and were established to specifications developed for the site.

☐ After implementation:

- verify the plantings were protected from plant and animal pests and fire.
- verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E612D

Adding food-producing trees and shrubs to existing plantings

Conservation Practice 612: Tree/Shrub Establishment

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Plants, Animals

ENHANCEMENT LIFE SPAN: 15 years

State Criteria

An existing agroforestry practice must already be established in order for this enhancement to be applicable (i.e. windbreak/shelterbelt, riparian forest buffer, etc.). Planted species will be appropriate and adapted to site conditions. Refer to Conservation Tree and Shrub Groups in the Nebraska Field Office Technical Guide for information on adaptations and beneficial uses.

The payment for this enhancement applies to the entire acreage of the agroforestry practice.

Commonly Recommended Woody Species to Provide Edible Products:

Pawpaw	(Native to VZ 4)	Silver Buffaloberry	(Native to VZ 1-3)
Black Cherry	(Native to VZ 3-4)	Common Chokecherry	(Native to VZ 1-4)
Black Walnut	(Native to VZ 3-4)	Buffalo/Golden Currant	(Native to VZ 1-4)
Shagbark Hickory	(Native to VZ 4)	Elderberry	(Native to VZ 3-4)
Pinyon Pine	(Not native to NE)	American Hazelnut	(Native to VZ 4)
Northern Pecan	(Not native to NE)	American Plum	(Native to VZ 1-4)
		Western Sandcherry	(Native to VZ 1-3)
		Saskatoon Serviceberry	(Native to VZ 1-3)

(Note: Additional native woody species may also be used if identified in appropriate plant community as found within the Terrestrial Ecological Systems and Natural Communities of Nebraska, 2010. For example, Missouri gooseberry as common understory in Eastern Riparian Forest community.)

Installation of the planting will meet the requirements in the (380) Tree Planting Procedures document including proper site preparation methods.

If needed on newly planted areas, a low maintenance herbaceous seeding will also be established within the tree planting to further improve conservation benefits. Information on low maintenance mixtures is included in the 612 NE GD Tree/Shrub Establishment 2011. All low maintenance seedings will contain forbs and/or legumes at a seeding rate of 10% to 25% of the grass mixture (2 PLS/ft^2 to 5 PLS/ft^2 on a 20 PLS/ft^2 seeding).

Specific maintenance or management practices approved by NRCS and intended to improve initial survival as well as plant diversity and vigor are allowed on the tree planting area.

Document recommended site preparation, planting method, tree/shrub species, seed mixture, seeding rates and other pertinent information on the Tree and Shrub Planting Implementation Requirements 2014 and the Herbaceous Vegetation Seeding Design Worksheet 2020 and/or associated attachments, maps, and designs.

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E612E

CONSERVATION STEWARDSHIP PROGRAM

Cultural plantings

CONSERVATION PRACTICE: 612 - Tree/Shrub Establishment

APPLICABLE LAND USE: Forest, Associated Ag Land, Farmstead

RESOURCE CONCERN: Plants

ENHANCEMENT LIFE SPAN: 15 years

Enhancement Description

Planting trees/shrubs that are of cultural significance, such as those species utilized by Tribes in traditional practices, medicinal plants, species used in basket-making, etc. (e.g., paper birch, slippery elm, witch hazel).

Criteria

- States will apply criteria from the NRCS National Conservation Practice Standard Tree/Shrub Establishment (Code 612), and any additional criteria as required by the NRCS State Office.
- Species will be selected for their cultural importance.
- Build forest resilience by favoring existing species that are better adapted to projected future climate conditions, and by enhancing relative compositional and structural diversity.
- Do not plant species on the Federal or State invasive species or noxious weed lists.
- Only viable, high-quality and site-adapted planting stock or seed will be used.
- A precondition for tree/shrub establishment is appropriately prepared sites. Refer to criteria in NRCS CPS Tree/Shrub Site Preparation (Code 490).
- Implementation and timing of planting will be appropriate for the site and ensure successful establishment.

- Plantings must be protected from unacceptable adverse impacts from insects, disease, wildlife, and/or fire. Apply supporting practices and treatments as necessary to protect establishing trees and shrubs.

- Each site will be evaluated to determine if mulching, supplemental water, or other treatments (e.g., tree protection devices, shade cards, weed mats) will be needed to assure adequate survival and growth.

- The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation:
- provide an updated Forest Management Plan that documents intended objectives for cultural plantings.
- prepare the planned acres for trees and/or shrub establishment. Refer to NRCS Conservation Practice Standard Tree-Shrub Site Preparation (490).
- select a combination of tree and shrub species selected for their cultural importance and their adaptability to site conditions.
- select planting technique, arrangement and spacing design, and timing appropriate for the site conditions.

Species	Note selected species characteristic(s)

☐ During implementation:
- install and maintain erosion control measures for the site, as needed.
- protect the planting(s) from plant and animal pests and fire.
- notify NRCS in writing of any planned changes to verify changes meet NRCS enhancement criteria.

CONSERVATION STEWARDSHIP PROGRAM

TASK	Species	Species	Species
Planting Date			
Planting Technique			
Arrangement/Spacing			

NRCS will:

☐ Prior to implementation:

- provide and explain NRCS Conservation Practice Standard Tree/Shrub Site Preparation (CPS 490) as it relates to implementing this enhancement. Verify the enhancement is planned for acres that have been appropriately prepared for tree/shrub establishment.
- provide and explain NRCS Conservation Practice Standard Tree/Shrub Establishment (Code 612) as it relates to implementing this enhancement.
- verify the enhancement is planned for the appropriate land use.
- verify no plants on the Federal or state noxious weeds list are included in the planning combination.
- verify cultural significance and use is documented.
- NRCS will provide Technical Assistance, as needed, in the following:
    - Selecting a combination of species to meet enhancement criteria.
    - Selecting planting techniques, arrangement and spacing design, and timing appropriate for the site and soil conditions.
    - Planning the use of additional erosion control for the site, as needed.
    - Preparing specifications for applying this enhancement for each site using approved state implementation requirements, national technical notes, appropriate state technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

☐ During implementation:

- evaluate any planned changes to verify they meet the enhancement criteria and were established to specifications developed for the site.

☐ After implementation:

- verify the plantings were protected from plant and animal pests and fire.
- verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E612E

Cultural plantings

Conservation Practice 612: Tree/Shrub Establishment

APPLICABLE LAND USE: Pasture, Range, Forest, Associated Ag Land, Farmstead

RESOURCE CONCERN: Plants

ENHANCEMENT LIFE SPAN: 15 years

State Criteria

Planted species will be appropriate and adapted to site conditions. Refer to Conservation Tree and Shrub Groups in the Nebraska Field Office Technical Guide for information on adaptations and beneficial uses. Consult with a forester for woody species or varieties that are unique. If the purpose is for traditional practices associated with tribes, consult with the State Cultural Resources Specialist for details on required coordination. Design of planting will meet density requirements in the 612 NE CPS Tree/Shrub Establishment 2019 and 612 NE GD Tree/Shrub Establishment 2011 unless other requirements are needed to meet the purpose of the planting.

Installation of the planting will meet the requirements in the 612 NE GD Tree/Shrub Establishment 2011 including proper site preparation methods.

A low maintenance herbaceous seeding will also be established (only when suitable vegetation is not present) within the tree planting to further improve conservation benefits on the site. Information on low maintenance mixtures is included in the 612 NE GD Tree/Shrub Establishment 2011. All low maintenance seedings will contain forbs and/or legumes at a seeding rate of 10% to 25% of the grass mixture (2 PLS/ft^2 to 5 PLS/ft^2 on a 20 PLS/ft^2 seeding).

Specific maintenance or management practices approved by NRCS and intended to improve initial survival as well as plant diversity and vigor are allowed on the tree planting area.

It is recommended that a minimum of three woody species comprise the planting to provide diversity and avoid future impacts of disease or pests.

CONSERVATION STEWARDSHIP PROGRAM

Document recommended site preparation, planting method, tree/shrub species, seed mixture, seeding rates and other pertinent information on the Tree and Shrub Planting Implementation Requirements 2014 and the Herbaceous Vegetation Seeding Design Worksheet 2020 and/or associated attachments, maps, and designs.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E612G

CONSERVATION STEWARDSHIP PROGRAM

Tree/shrub planting for wildlife habitat

CONSERVATION PRACTICE: 612 - Tree/Shrub Establishment

APPLICABLE LAND USE: Forest; Associated Ag Land

RESOURCE CONCERN: Animals, Plants

ENHANCEMENT LIFE SPAN: 15 years

Enhancement Description

Tree/shrub planting will provide the plant diversity, structure, and composition needed to enhance habitat and forage for identified wildlife species.

Criteria

- States will apply criteria from the NRCS National Conservation Practice Standard Tree/Shrub Establishment (Code 612), and any additional criteria as required by the NRCS State Office.
- Select a minimum of five species of trees and shrubs to be planted, with at least one tree species and one shrub species. (i.e., one tree and four shrubs; two trees and three shrubs; three trees and two shrubs; four trees and one shrub).
- Groupings of trees and shrubs will be managed for best growth, visual appeal, proximity to areas of wildlife use.
- Selection of species should also be chosen according to the site's natural disturbance regime. Species should be selected based on traits, successional status, structure, and composition.
- Build forest resilience by favoring existing species that are better adapted to projected future climate conditions, and by enhancing relative compositional and structural diversity.
- Do not plant species on the Federal or State invasive species or noxious weed lists.

- Only viable, high-quality and site-adapted planting stock or seed will be used.

- A precondition for tree/shrub establishment is appropriately prepared sites. Refer to criteria in NRCS CPS Tree/Shrub Site Preparation (Code 490).

- Implementation and timing of planting will be appropriate for the site and ensure successful establishment.

- Plantings must be protected from unacceptable adverse impacts from insects, disease, wildlife, and/or fire. Apply supporting practices and treatments as necessary to protect establishing trees and shrubs.

- Each site will be evaluated to determine if mulching, supplemental water, or other treatments (e.g., tree protection devices, shade cards, weed mats) will be needed to assure adequate survival and growth.

- The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation:
- provide an updated Forest Management Plan that documents intended objectives for wildlife habitat.
- prepare the planned acres for trees and/or shrub establishment. Refer to NRCS Conservation Practice Standard Tree-Shrub Site Preparation (490).
- select a combination of five trees and shrubs for their importance in providing food for native wildlife, and their adaptability to site conditions.
- select planting technique, arrangement and spacing design, and timing appropriate for the site conditions.

Species	Note selected species characteristic(s)

☐ During implementation:
- install and maintain erosion control measures for the site, as needed.
- protect the planting(s) from plant and animal pests and fire.
- notify NRCS in writing of any planned changes to verify changes meet NRCS enhancement criteria.

TASK	Species	Species	Species
Planting Date			
Planting Technique			
Arrangement/Spacing			

NRCS will:

☐ Prior to implementation:
- provide and explain NRCS Conservation Practice Standard Tree/Shrub Site Preparation (CPS 490) as it relates to implementing this enhancement. Verify the enhancement is planned for acres that have been appropriately prepared for tree/shrub establishment.
- provide and explain NRCS Conservation Practice Standard Tree/Shrub Establishment (Code 612) as it relates to implementing this enhancement.
- verify the enhancement is planned for the appropriate land use.
- verify no plants on the Federal or state noxious weeds list are included in the planning combination.
- NRCS will provide Technical Assistance, as needed, in the following:
  - Selecting a combination of species to meet enhancement criteria.
  - Selecting planting techniques, arrangement and spacing design, and timing appropriate for target native wildlife, the site and soil conditions.
  - Planning the use of additional erosion control for the site, as needed.
  - Preparing specifications for applying this enhancement for each site using approved state implementation requirements, national technical notes, appropriate state technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

☐ During implementation:
- evaluate any planned changes to verify they meet the enhancement criteria and were established to specifications developed for the site.

CONSERVATION STEWARDSHIP PROGRAM

☐ After implementation:

- verify the planned trees and shrub species were established to specifications developed for the site.
- verify the plantings were protected from plant and animal pests and fire.
- verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E612G

Tree/shrub planting for wildlife food

Conservation Practice 612: Tree/Shrub Establishment

APPLICABLE LAND USE: Forest, Associated Ag Land, Farmstead

RESOURCE CONCERN: Animals, Plants

ENHANCEMENT LIFE SPAN: 15 years

State Criteria

Planted species will be appropriate and adapted to site conditions. Use native species where practical to address resource concerns. Non-native species will not be used within landscapes with intact native plant communities. Refer to Conservation Tree and Shrub Groups in the Nebraska Field Office Technical Guide for information on adaptations and beneficial uses. Select species that are listed to provide food (or 'both') and are rated as high or medium in the "Summary" document. Design of planting will meet density requirements in the 612 NE CPS Tree/ Shrub Establishment 2019 and Guidance Document. Installation of the planting will meet the requirements in the 612 NE GD Tree/Shrub Establishment 2011 including proper site preparation methods.

Design of the planting can be adapted to meet the intended purpose on the associated land use. For example, trees may be placed into a windbreak design on cropland or a farmstead while they may be in clump plantings in a forest stand. If planning this enhancement in a grassland landscape, use of shrubs only (without any tree species selected) is permitted if they are planted in a 'thicket' 30 ft. x 50 ft. in size. A single species of shrub should be found in each thicket. For thickets, bare ground is allowed between rows of shrubs. Follow procedures outlined in the 386 386 NE GD Field Border 2010.

Minimum size of tree/shrub planting for this enhancement is 0.25 acres in combination (i.e. clump plantings in forest stand, multiple shrub thickets, etc.).

CONSERVATION STEWARDSHIP PROGRAM

A low maintenance herbaceous seeding will also be established (where needed on sites without perennial vegetation or those with unacceptable plants present – i.e. smooth brome) within the tree planting to increase benefits to wildlife habitat on the site. Information on low maintenance mixtures is included in the 612 NE GD Tree/Shrub Establishment 2011. All low maintenance seedings will contain forbs and/or legumes at a seeding rate of 10% to 25% of the grass mixture (2 PLS/ft^2 to 5 PLS/ft^2 on a 20 PLS/ft^2 seeding).

Specific maintenance or management practices approved by NRCS and intended to improve initial survival as well as plant diversity and vigor are allowed on the tree planting area.

Document recommended site preparation, planting method, tree/shrub species, seed mixture, seeding rates and other pertinent information on the Tree and Shrub Planting Implementation Requirements 2014 and the Herbaceous Vegetation Seeding Design Worksheet 2020 and/or associated attachments, maps. and designs.

United States Department of Agriculture

Conservation Enhancement Activity

E643B

CONSERVATION STEWARDSHIP PROGRAM

Restoration and Management of Rare or Declining Habitat

Conservation Practice 643: Restoration and Management of Rare or Declining Habitats

APPLICABLE LAND USE: Forest

RESOURCE CONCERNS: Animals

PRACTICE LIFE SPAN: 5 year

Enhancement Description

Provide protection from adverse environmental conditions to create refugia for documented occurrences of sensitive plant communities.

Criteria

- States will apply general criteria from the NRCS National Conservation Practice Standard Restoration and Management of Rare or Declining Habitats (Code 643) as listed below, and additional criteria as required by the NRCS State Office.
- All necessary local, state, and federal permits shall be obtained by the landowner (or designee) prior to the constructing the refugia.
- Sites where refugia will be designated are those that: 1) currently harbor plant species listed by the State as State Endangered, State Threatened, State Sensitive (or similar designation), or other native plant species determined to be in decline, or, 2) provide an appropriate ecological site for rescuing these plant species if relocation is needed.
- Specific location, size, shape, and number of refugia will be based on occurrences of sensitive plants or plant communities, and/or on the existence of environmental conditions suitable for the rescue of sensitive plants whose habitat will be destroyed. The size of refugia is also affected by site features (e.g., slope, rock outcrops, water bodies, etc.).

- Refugia sites will be protected from adverse environmental impacts, including trampling by humans, using an 8-foot-high woven wire fence and appropriate signage, with a locked gate to provide access for management. Each installation shall be at least ¼ acre in size.
- A forested area surrounding refugia will be large enough to provide a buffer from wind and temperature effects of adjacent non-forested areas.
- Methods used during refugia construction shall be designed to protect the soil resource from erosion and compaction, and to protect the plant community from adverse impacts.
- Invasive plant and animal species and noxious weeds shall be controlled in and around the refugia. When possible, control will be limited to that necessary to control undesirable species while still protecting habitat that benefit native pollinators and other fish and wildlife species that depend on the site for food, cover, and water.
- Undisturbed areas shall be conserved on a sufficient extent of the area surrounding refugia to sustain typical plant communities and help protect the refugia.
- Plants rescued and brought to refugia for protection will be those species ecologically adapted to site conditions, in quantities appropriate for best survival, which will not displace desired existing vegetation.
- Site preparation, planting dates, methods, plant care, and handling shall optimize vegetation survival and growth.
- A pretreatment assessment of the targeted habitat will be conducted to provide a baseline for comparison with post-treatment habitat conditions. Goals or success criteria will be established using reference sites for guidance and comparison. Where reference sites do not exist, use ecological site descriptions or historic data to establish goals.
- Use of fertilizers, pesticides and other chemicals shall not compromise the intended purpose of this practice.

- Use criteria in other NRCS Conservation Practice Standards to facilitate the restoration and management of rare and declining habitats as appropriate for the site. Depending on site conditions and natural disturbance regimes, these may include: Fence (Code 382); Access Control (Code 472); Brush Management (Code 314); Herbaceous Weed Control (Code 315); and Tree and Shrub Establishment (Code 612).

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

- ☐ Prior to implementation, acquire all necessary approvals and permits (i.e. local, state, or federal, as applicable).
- ☐ Prior to implementation, obtain documentation from the appropriate State agency that the site:
  - has plant species listed by the State as State Endangered, State Threatened, State Sensitive (or similar designation), or other native plant species determined to be in decline, or,
  - provides an appropriate ecological setting for rescuing such plants that need relocation due to imminent threat(s).
- ☐ Prior to implementation, obtain site-specific designs for refugia, including locations, dimensions, timing of construction, and appropriate routes for bringing materials to the site. Coordinate the design with the appropriate State agency and obtain documentation that the design will provide protection for the intended plant species. Have documentation available for NRCS review.
- ☐ Prior to implementation, develop a monitoring plan in cooperation with the responsible State agency and obtain documentation, that the monitoring plan is designed to address knowledge gaps in managing the planned species. Have documentation available for NRCS review.
- ☐ Prior to implementation, develop a plan for protecting resources during refugia construction. The plan will address resource concerns including potential soil damage, introduction of invasive species, and water quality related to road and trail use.
- ☐ Prior to implementation, arrange workers and materials for refugia construction.
- ☐ During implementation, follow the plan for protecting resources during refugia construction.
- ☐ After implementation, follow the monitoring plan.
- ☐ After implementation, maintain other suitable areas within the forest stand, and/or in adjacent stands, to allow the desired plant species to expand their populations.
- ☐ After implementation, if the use of pesticides or other chemicals are being considered, coordinate with the appropriate State agency to ensure that refugia plants will not be harmed.

NRCS will:

- ☐ Prior to implementation, verify the enhancement is planned for the appropriate land use.
  - Prior to implementation, verify participant documentation has plant species listed by the State as State Endangered, State Threatened, State Sensitive (or similar designation), or other native plant species determined to be in decline, or,
  - Provides an appropriate ecological setting for rescuing such plants that need relocation due to imminent threat(s).
  - Verify that any additional state NRCS requirements have been met.
- ☐ Prior to implementation, verify documentation that the responsible State agency has approved refugia design as providing appropriate protection for the intended plant species.
- ☐ Prior to implementation, verify documentation that the responsible State agency has approved a monitoring plan.
- ☐ As needed, prior to implementation, NRCS will provide technical assistance in:
  - Selecting suitable locations for refugia location.
  - Protecting site resources during construction.
  - Preparing specifications for applying this enhancement for each site using NRCS approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ After implementation, verify the planned refugia were constructed according to specifications developed for the site.
- ☐ After implementation, verify any erosion control and/or invasive plant treatment needed for the site is functioning and is maintained to specifications developed for the site.

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E643B

RESTORATION AND MANAGEMENT OF RARE OR DECLINING HABITAT

Conservation Practice 643: Restoration and Management of Rare or Declining Habitats

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Coordinate planning with the State Wildlife Biologist to ensure the involvement of a qualified botanist to assist with site evaluation and required protection and management strategies. Target plant species will only consist of those species identified as "Tier I" and considered at-risk or of conservation concern and found within Nebraska's Natural Legacy Project. In some instances, rare plant communities may also be acceptable when designated as "Imperiled" or "Critically Imperiled" within the Terrestrial Ecological Systems and Natural Communities of Nebraska.

Work with a wildlife biologist to identify the target plant species or plant community and to identify the actions needed to provide wildlife habitat benefits on the (formerly named NE-CPA-14), 645 NE IR Upland Wildlife Habitat Management 2007 Plan. Exceptions to the installation of an 8 foot high woven wire fence can be addressed in the management plan provided that other appropriate protections are in place. Plans must be approved by the State Wildlife Biologist.

In situations where planting of the target species into the refuge area are planned, a planting plan will be developed that addresses site preparation, planting methods, and maintenance. Sites where planting is to occur must be enrolled into this enhancement for a period of at least three years to allow for establishment.

CONSERVATION ENHANCEMENT ACTIVITY

E484D

CONSERVATION STEWARDSHIP PROGRAM

Low-tech process-based restoration to enhance floodplain connectivity

Conservation Practice 643: Restoration of Rare or Declining Natural Communities

APPLICABLE LAND USE: Range, Pasture, Forest, Associated Ag Land

RESOURCE CONCERN: Animal

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Beaver Dam Analogues (BDAs) and/or Post-Assisted Log Structures (PALS) are low-tech structures used to facilitate process-based restoration of rare and declining 'Stage 0' stream conditions. These structures are used to mimic, promote, and sustain the natural processes of beaver dam activity and wood accumulation that lead to more fully connected floodplains. BDAs and PALS are hand-built with a mixture of woody debris and on-site soils and vegetation. This enhancement is intended primarily to kick-start natural ecological, geomorphic, and hydrologic processes required for maintenance of healthy and functioning streams and associated floodplains.

Criteria

- Implement a series (complex) of Beaver Dam Analogues (BDAs) and/or Post-Assisted Log Structures (PALS) within stream reaches where the state approved evaluation tool identifies that the current condition meets planning criteria but restoration or enhancement is desired to improve floodplain connectivity, riparian condition, and move towards Stage 0 stream conditions.

- Document current condition as meeting planning criteria using the state approved evaluation tool and explain how implementation of the enhancement is expected to improve upon current condition (e.g., an increase in wetted area after

implementation).

CONSERVATION STEWARDSHIP PROGRAM

- Follow the conservation planning process and stream restoration guidance outlined in the Low-Tech Process-Based Restoration of Riverscapes Design Manual and Pocket Field Guide (Wheaton et al. 2019; available at: http://lowtechpbr.restoration.usu.edu/).

- Complete Low-Tech Restoration Risk Considerations Checklist. Apply enhancement only on1st - 3rd order wadeable streams where all other risks are low-to-moderate. (See pg. 22 of Low-Tech Process-Based Restoration of Riverscapes Design Manual for checklist).

- Provide project design package that includes: 1) map showing stream reach(es) affected, 2)objectives for each reach, and 3) estimated number, type, and location of structures in each reach.

- Obtain all necessary Clean Water Act, Section 404 permits, and other federal, state, or local permits, as required.

- Structures should consist of native materials, such as woody debris (branches, limbs, small logs, brush) and on-site soils and vegetation. Where posts are required for structure stability, use only untreated wooden posts. Structures should be hand-built and avoid the use of heavy equipment (tractors, dozers, etc.).

- Recommend annual monitoring, maintenance, and adaptive management until stream condition objectives are achieved. Typical maintenance activities should include replacing posts, refilling structure with woody material, and extending structure length.

- Estimated application rate to achieve the appropriate depth of cover is 270 cubic yards per acre.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

- ☐ Prior to implementation, provide project design package that includes:
  - Map showing stream reach(es) affected,
  - Objectives for each reach, and
  - Estimated number, type, and location of structures in each reach. (NRCS will provide technical assistance, as needed.)
- ☐ Prior to implementation, obtain all necessary Clean Water Act, Section 404 permits, and other federal, state, or local permits, as required.
- ☐ Prior to implementation, document pre-treatment conditions of the area including the use of representative digital images/photos.
- ☐ During implementation, install BDAs and/or PALS using appropriate methods as per the plan and specifications.
- ☐ During implementation, notify NRCS of any planned changes to verify the planned system meets the enhancement criteria.
- ☐ After implementation, document post-treatment conditions of the area including the use of representative digital images/photos.
- ☐ After implementation, annual monitoring, maintenance, and adaptive management is recommended.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ During implementation, evaluate any planned changes in the mulching plan to ensure enhancement criteria are met.
- ☐ If changes were made after implementation, use information provided from the participant to verify the applied system meets the enhancement criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E643D
Low-tech process-based restoration to enhance floodplain connectivity

Conservation Practice 643: Restoration of Rare or Declining Natural Communities

APPLICABLE LAND USE: Range, Pasture, Forest, Associated Ag Land

RESOURCE CONCERN: Animal

ENHANCEMENT LIFE SPAN: 1 Year

State Criteria

Same as National Criteria.

USDA
United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

United States Department of Agriculture

Conservation Enhancement Activity

E644A

CONSERVATION STEWARDSHIP PROGRAM

Managing Flood-Irrigated Landscapes for Wildlife

Conservation Practice 644: Wetland Wildlife Habitat Management

APPLICABLE LAND USE: Crop (Annual & Mixed), Crop (Perennial), Pasture

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Developing and implementing a conservation plan that supports maintenance of flood-irrigation in key landscapes to provide important foraging habitat for local breeding and migratory waterfowl and waterbirds.

Criteria

- Develop a conservation plan for the targeted species suite.
- As identified in the conservation plan, flood-irrigation will be applied in an amount and at a time to meet the targeted wildlife need.
- States will apply general criteria from the NRCS National Conservation Practice Standard Wetland Wildlife Habitat Management (Code 644) and additional criteria as required by the NRCS State Office
- Targeted species must be listed on the State Wildlife Action Plan or as State Endangered, State Threatened, State Sensitive (or similar designation).
- Appropriate locations for this enhancement will be provided by the NRCS State Office (NRCS State Office will base locations on current distribution of the targeted species and potential expansion into adjacent habitat for the target species. Other agencies

(e.g. State Department of Fish and Game, USFWS) and organizations (e.g. Ducks Unlimited, The Nature Conservancy) will provide input to NRCS concerning instances where the enhancement is used to provide habitat outside of the current distribution of the target species.)

- Use of fertilizers, pesticides, and other chemicals shall not compromise the intended purpose of this practice.
- Use criteria in other NRCS Conservation Practice Standards to facilitate the management of wetland wildlife habitat as appropriate for the site.
- Depending on site conditions, facilitative practices may be used to implement this enhancement. The NRCS Conservation Practice Standards may include, but are not limited to: Dam, Diversion (Code 348), Diversion (Code 362), Fence (Code 382), Field Border (Code 386), Filter Strip (code 393), Grade Stabilization Structure (Code 410), Irrigation Canal or Lateral (Code 320), Irrigation Field Ditch (Code 388), Irrigation Pipeline (Code 430), Irrigation Storage Reservoir (Code 436), Irrigation System, Surface and Subsurface (Code 443), Irrigation Water Management (Code 449), Nutrient Management (Code 590), Pumping Plant (Code 533), Riparian Herbaceous Cover (Code 390), Shallow Water Development and Management (Code 646), Stream Crossing (code 578), Structure for Water Control (Code 587), and Wetland Enhancement (Code 659).
- A Wildlife Habitat Evaluation Guide (WHEG) specific to wildlife habitat within a flood-irrigated landscape on perennial cropland or pasture must be used to show that implementation of the Enhancement will improve wildlife habitat value from fair (planning criteria = 0.5) to good (planning criteria greater than or equal to 0.6).

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant Will:

- ☐ Prior to implementation, meet with NRCS to review results of the wildlife habitat assessment conducted by NRCS, and discuss range of management alternatives that would improve wildlife habitat conditions.
- ☐ Prior to implementation, meet with NRCS to obtain and review the Wildlife Habitat Management Plan.
- ☐ During implementation, follow the Wildlife Habitat Management Plan.
- ☐ During implementation, maintain field log to include:
  - o Date/time of each field visit and observed water levels or percent holding capacity and average water depths;
  - o Digital photographs documenting the habitat provided
- ☐ After implementation, provide the field log to NRCS for review to verify enhancement was implemented to meet criteria.

NRCS will:

- ☐ As needed, provide additional technical assistance to the participant.
- ☐ Prior to implementation, provide and explain state NRCS Conservation Practice Standard Wetland Wildlife Habitat Management (Code 644) as it relates to implementing this enhancement.
- ☐ Prior to implementation, assess habitat condition using the Wildlife Habitat Evaluation Guide to calculate current WHEG score and anticipated WHEG score after implementation of Enhancement; **Existing WHEG score = _____ Planned Post Implementation WHEG score = _____**
- ☐ Prior to implementation, review results of the wildlife habitat evaluation with participant, and discuss range of management alternatives that would improve wildlife habitat conditions
- ☐ Prior to implementation, develop a Wildlife Habitat Management Plan for targeted suite of species.
- ☐ Prior to implementation, review and explain the Wildlife Habitat Management Plan to the participant.
- ☐ After implementation, reassess habitat condition using Wildlife Habitat Evaluation Guide; **Post Implementation WHEG score = _____**

☐ After implementation, review field log to verify enhancement was implemented to meet criteria.

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E644A

Managing Flood-Irrigated Landscapes for Wildlife

Conservation Practice 644: Wetland Wildlife Habitat Management

APPLICABLE LAND USE: Crop (Annual & Mixed), Crop (Perennial), Pasture

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Areas that may be eligible are those which are currently cropland (routinely planted or harvested for hay) and grazed pasture but frequently are impacted by saturation or ponding/flooding and have the potential to produce moist soil plants including smartweeds, barnyard grass, and other annuals/perennials considered beneficial to waterfowl, shore birds, and wading birds. Identify areas where this enhancement applies from historic aerial photography showing crop stress, flooded crops, and similar features in a majority of years reviewed. These areas should be capable of being flooded intentionally with an artificial water source (i.e. irrigation well, etc.).

Areas where this enhancement applies must be a minimum of 30 feet wide at all points and consist of a contiguous area at least 0.5 acre in size. Multiple areas within a field or pasture may be selected. These areas will be counted as “buffers or odd areas” on the Cropland WHEW or as “key wildlife areas” on the Pasture WHEW.

Target habitat areas may be planted to crops, if desired by the producer for convenience, but cannot be harvested. No herbicide use or tillage will occur during the growing season in these areas in order to allow the natural plant community to develop. If located in pasture or perennial cropland (i.e. hayland), these areas must be deferred from grazing or haying later in the growing season to allow desired plants to persist.

Any management of vegetation in fall through spring (migration seasons) must be approved as part of the wildlife habitat development and management plan. The habitat area must be flooded with supplemental water source (if surface water is not present) during peak fall and spring migrations.

Work with a wildlife biologist, as needed, to identify the target wildlife species and to identify the actions needed to provide wildlife habitat benefits on the NE-CPA-14, 645 NE IR Upland Wildlife Habitat Management 2007 Plan.

The field or pasture containing this enhancement must meet a minimum of 0.5 score as planned condition and also must increase in score from present to planned condition by at least 0.10. The most likely habitat assessments are the Cropland Habitat Evaluation Worksheet 2006, Hayland Habitat Evaluation Worksheet 2006, or Pastureland Habitat Evaluation Worksheet 2006, or other appropriate tools may be used.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E645A

CONSERVATION STEWARDSHIP PROGRAM

Reduction of attractants to human-subsidized predators in sensitive wildlife species habitat

Conservation Practice 645: Upland Wildlife Habitat Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Animals

PRACTICE LIFE SPAN: 1 Year

Enhancement Description

Reduction of artificial perching sites ,nest sites, food, and water available to subsidized predators in areas where human-subsidized predators are a threat to sensitive wildlife species. Human-subsidized predators may include ravens, crows, magpies, coyotes, foxes, skunks, raccoons, and other species. Activities under this enhancement may include removal of non-native or invasive trees; removal of unused power poles, corrals, windmills, buildings, and other vertical structures; and/or removal or management of watering facilities, dead livestock, road kill, garbage, animal feed, dumps, and other non-natural food sources.

Criteria

- Identify the targeted sensitive wildlife species.
- Identify the subsidized predator(s).
- Coordinate planned activities with a NRCS or partner biologist.
    - Coordination with US Fish and Wildlife Service and the State Wildlife Agency may be required.

- Treat only artificial, human caused attractants.
    - This activity shall not be used to remove or modify natural water sources, natural perching and nesting sites, or natural food sources for native predators.
- Develop an assessment of the predator attractants, including:
    - Each individual subsidy with a point on a map,
    - A description of the subsidy,
    - Effects to non-target wildlife species, especially raptors and other native predators, and
    - Potential effects to all sensitive as well as threatened and endangered (T&E) species.
- Conduct attractant removal activities in a manner to avoid direct mortality and outside of the nesting season.
- Lethal control shall not be performed as a component of this activity.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, meet with NRCS to review results of predator attractant assessment conducted by NRCS and to discuss predator attractants to be removed.
- ☐ During implementation, maintain a field log to include:
  - o Map of the assessed and removed predator attractants with point locations and descriptions of each item.
  - o Dates when the attractant was removed.
  - o Before and after photographs of each removed attractant.
- ☐ After implementation, provide the field log to NRCS for review to verify enhancement was implemented to meet criteria.

NRCS will:

- ☐ Prior to implementation, identify targeted sensitive species and conduct an assessment of subsidized predator attractants on site .
- ☐ Prior to implementation, provide and explain state NRCS Conservation Practice Standard Upland Wildlife Habitat Management (Code 645) as it relates to implementing this enhancement.
- ☐ Prior to implementation, develop technical specifications for attractant removal needed to improve habitat for the targeted sensitive species consistent with NRCS Conservation Practice Standard Upland Wildlife Habitat Management (Code 645).
- ☐ Prior to implementation, assess effects on non-target wildlife species and complete any required coordination with US Fish and Wildlife Service and the State Wildlife Agency.
- ☐ After implementation, review field log to verify enhancement was implemented to meet criteria.

NRCS Documentation Review:

CONSERVATION STEWARDSHIP PROGRAM

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E645A

Reduction of attractants to human-subsidized predators in sensitive wildlife species habitat

Conservation Practice 645: Upland Wildlife Habitat Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Features to be removed must be artificial (human-caused) and resulting in a negative impact to the target sensitive wildlife species. Common features include planted trees, very large brush piles, abandoned buildings, unused power poles, water tanks, etc. In most cases, these features will be present within an 'intact' landscape or habitat type (i.e. grassland).

Coordinate planning with a wildlife biologist and request concurrence from the State Wildlife Biologist for any feature where benefits to the target species associated with removal is uncertain. Target wildlife species will only consist of those species identified as "Tier I" and considered at-risk or of conservation concern and found within Nebraska's Natural Legacy Project. Other wildlife species to consider are those with a national or regional focus and associated conservation plan. Predator species will not include species considered at-risk or of conservation concern.

Prior to removal, human features fifty years or older including, but not limited to: buildings, windmills, watering facilities, and unused power poles need to have a cultural resources review.

Impacts to non-target wildlife (such as roosting bats) will be considered and documented with coordination of a wildlife biologist. Mitigation for negative impacts to wildlife species which are not human-subsidized predators will be determined by a wildlife biologist and implemented where feasible (i.e. bat house).

Work with a wildlife biologist, as needed, to identify the target wildlife species and to identify the actions needed to provide wildlife habitat benefits on the NE-CPA-14, 645 NE IR Upland Wildlife Habitat Management 2007 Plan.

Determine the area eligible for payment be assessing the size and location of the feature to be removed and the effective range of the targeted predator to impact that species as well as the habitat to support the target wildlife species to benefit.

Recommended management actions should be commensurate with payment rates and adequate to address the habitat needs of the target species. Payment is for one year for each predator attractant feature that is removed. Multiple year payments following the removal of one feature is not allowed.

EXAMPLE: A mature human-planted windbreak 100 feet wide by 660 feet long is identified for removal. It is located in a 640 acre pasture which serves as potential nesting habitat for greater prairie chicken. The target predators are medium-sized raptors such as great-horned owl and red-tailed hawk as well as meso-mammals including striped skunk and raccoon. These predator species that occupy the windbreak have an effective range of impacting the nests or broods of greater prairie chicken up to 1/4 mile. All acres of grazing land under the control of the producer and enrolled into CSP which are within 1/4 mile of the windbreak are eligible for payment. If the windbreak is located in one 'corner' of the 640 acre section, this is approximately 50 acres. (More precise measurements can be made using spatial tools.)

CONSERVATION ENHANCEMENT ACTIVITY

E645B

CONSERVATION STEWARDSHIP PROGRAM

Manage existing shrub thickets to provide adequate shelter for wildlife

Conservation Practice 645 Upland Wildlife Habitat

APPLICABLE LAND USE: Crop (Annual & Mixed), Crop (Perennial), Range, Pasture, Associated Ag Land, Farmstead, Forest

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 year

Enhancement Description

Existing shrub thickets provide an instant and important cover for wildlife. Various wildlife species may use shrubs as winter/thermal cover, summer shade, roosting, or as escape cover from predators. Proper management ensures that these shrubs will continue to provide the desired benefits for the local wildlife. A combination of herbicide treatments, cutting and trimming branches, and removal of other competing vegetation will occur. An eligible existing shrub thicket needs to have a canopy cover of 750 square feet, with an end goal of expanding to 1500 square feet. Any existing shrub thicket (not hand planted within the last 5 years) are eligible for this enhancement. Shrub thickets found within fence rows may now be very wide, but still meet the 750 square feet, are eligible.

Criteria

Multiple activities may need to occur to properly manage existing shrubs. Any activities involving tree removal will be coordinated with a Forester. Options for management of existing shrubs are described below:

A. Encouraging new growth on existing plants

1. Pruning and cutting back of plants is best done when the shrubs are dormant. Cutting back shrubs close to the ground encourages growth of new stems at ground level, which provides more protection for animals using the interior of the shrub. Leaving

the cut branches on the ground adjacent to the thicket, will provide cover until new branches grow back .

2. Cutting back dead limbs is best done when the plants are actively growing, in order to observe which branches are alive, and which branches are dead. Leaving the dead branches on the ground and adjacent to the shrub thicket can provide additional cover at ground level.

3. Before cutting branches and leaving them adjacent to the thicket, prepare the ground by creating bare ground for the branches to lay on.

B. Creating bare ground for easier access by wildlife and encourage suckering of new growth.

1. Applying herbicide underneath and adjacent to shrub thicket(s) will create bare ground, which encourages suckering of new plant growth by eliminating vegetation and opening the canopy. Also, bare ground will allow smaller wildlife species to move more freely under the shrubs.

2. Application of herbicide should be timed and applied carefully in order to not harm shrub plants. Pre-emergent or post-emergent herbicides may be desired.

3. Herbicide usage on adjacent agricultural lands should be applied carefully to prevent drift and harm to shrub thickets.

4. Utilization of a slow creeping fire through the shrub thickets will have similar effects and stimulate new growth. Some plants may be killed at the ground level, but new branches and stems will be created.

C. Eliminating predator perches and opening escape paths in and near shrub thickets.

1. All trees found growing within, or close to shrub thickets create predator perches, and eliminates escape routes for bird species which may flush from the shrub thicket.

2. Any trees found growing within shrub thickets shall be removed. Immediate stump treatment to prevent regrowth may be desired for some species.

3. Undesirable trees found adjacent to shrubs (within 50 feet) will also be removed. Stump treatment to prevent regrowth may be desired for some species.

4. Hinge-cutting trees with numerous branches adjacent to thickets can provide additional shrubby type cover. Prepare the ground by creating bare ground prior to dropping and leaving trees. Large tall trees with few branches are not desirable for hinge cutting, and should be removed from the site to prevent creating predator habitat.

D. Additional maintenance activities

1. Exclusion of livestock may be warranted immediately following management activities.

2. Avoid damage (chemical and mechanical) done by adjacent agricultural practices.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide a map showing the location of proposed shrub thickets to be managed with notes on land use adjacent to proposed areas to discuss with NRCS staff.
- ☐ During implementation, follow management guidance provided by NRCS in the state specifications for NRCS Conservation Practice Standard Cover Upland Wildlife Habitat (Code 645).
- ☐ After implementation, provide a list of management and/or maintenance activities carried out to manage the habitat areas and the dates on which those activities occurred.

NRCS will:

- ☐ Prior to implementation, assess habitat condition using the appropriate state Wildlife Habitat Evaluation Guide (WHEG) to calculate current WHEG score and anticipated WHEG score after implementation of Enhancement. **Benchmark WHEG score = _____ Planned Post Implementation WHEG score = _____**
- ☐ Prior to implementation, identify target wildlife species and appropriate desired conditions for existing shrub thickets for target species. Document on the state approved Wildlife Habitat Management Plan.
- ☐ Prior to implementation, provide and explain State specifications for NRCS Conservation Practice Standard Upland Wildlife Habitat (Code 645).
- ☐ After implementation, verify successful completion of management (per criteria above).

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

E645B

Manage existing shrub thickets to provide adequate shelter for wildlife

Conservation Practice 645: Upland Wildlife Habitat Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 year

State Criteria

Work with a wildlife biologist to identify the target wildlife species and to identify the actions needed to provide wildlife habitat benefits on the (formerly known as NE-CPA-14) 645 NE IR Upland Wildlife Habitat Management 2007 Plan. The WHEW commonly to be used may be Cropland Habitat Evaluation Worksheet 2006 or Rangeland Habitat Evaluation Worksheet 2006; or a species-oriented Habitat Evaluation Tool such as the Northern Bobwhite Quail Habitat Evaluation Tool 2009. Other models may be used including a Habitat Suitability Index.

The ideal managed shrub thicket will have bare ground under and around the thicket, and low hanging branches near to the ground. Multiple shrub thickets may be counted to reach the minimum 750 square feet of canopy cover if they are with ¼ mile of each other. To measure size of thickets, use the average width times the length of the planned thicket. Each planned 1500 square foot of managed shrub thicket can impact 0.5 acres, which should be used to calculate the minimum planned area.

Multiple activities (spraying and pruning) may be needed to adequately manage the existing shrub thickets. Continued maintenance of the shrub for the life of the contract is expected to prolong the effectiveness of the management activities.

United States Department of Agriculture

Conservation Enhancement Activity

E645C

CONSERVATION STEWARDSHIP PROGRAM

Edge feathering for wildlife cover

Conservation Practice: 645 Upland Wildlife Habitat

APPLICABLE LAND USE: Crop (Annual & Mixed), Crop (Perennial), Range, Pasture, Forest, Associated Ag Land, Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Selected trees are cut, and brush clipped along the border between a wooded area and a grassland, cropland, or idle land, creating a dense woody cover of interlocking branches at ground level. The feathered edge will be an average of 30 feet wide and a minimum of 50 feet long, resulting in an area of 1500 square feet. The width of the strip will vary to follow topographic features and to create a wavy border; the design will also consider aesthetics. Vegetative composition and cover will vary within the edge, ranging from areas with no trees and shrubs to areas with scattered trees and extensive shrub cover. The variation in vegetation structure along with variable width of the edge will create feathering. The edge may include shrub plantings for wildlife food and aesthetics.

Criteria

- Select an area to edge-feather where many of the existing trees can be cut without damaging the ecological or economic value of the property.
- Design the configuration of the edge to correspond with topographic variation, so that the edge may be wider on ridgetops, narrower in valleys, and discontinuous to allow for forested riparian buffers.
- Treat invasive plant and animal species and noxious weeds if present on the area to be edge feathered. Where possible, control will be limited to that necessary to

control undesirable species while still protecting habitat that benefit native pollinators and other fish and wildlife species that depend on the site for food, cover, and water.

CONSERVATION STEWARDSHIP PROGRAM

- Limit disturbance during wildlife nesting and rearing seasons.
- Mark trees to retain in the feathered edge, selecting from among mast producing species, wolf trees, trees with cavities and/or loose bark, or other trees with desirable habitat or aesthetical characteristics. Consider the location of retained trees so they blend gradually with the adjacent forest, being taller and more closely spaced on the side toward the forest. Cut all other trees over 12 feet tall in the area to be edge feathered using hand tools such as chainsaws. Woody residue will be left lying in the feathered edge to provide wildlife cover.
- Treat cut stumps of undesirable hardwood trees with an approved herbicide. Leave native shrub species if they are less than 12 feet tall. If they are taller than 12 feet, cut them at ground level but DO NOT treat the shrub stumps.
- Exclude livestock from edge feathered areas. Use prescribed fire to manage and maintain feathered edges in appropriate forest types.
- Inspect edge feathered areas on an annual basis to determine maintenance activities. Treat invasive and/or undesirable plant species and noxious weeds as needed. Add woody debris to the site as the wood decomposes and is worn down.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation, provide a map showing the location and design of proposed edge-feathering.

☐ Prior to implementation, select a suite of desired wildlife species that benefit from feathered edges, with the aid of NRCS or a biologist.

☐ Mark trees to be retained in the feathered edge with the assistance of NRCS, or a biologist and/or forester.

☐ During implementation, follow management guidance provided by NRCS in the state specifications for NRCS Conservation Practice Standard Upland Wildlife Habitat (Code 645).

☐ During implementation, follow and document progress on the state approved Implementation Requirements sheet.

☐ Following implementation, provide NRCS with photo documentation.

☐ Following implementation, inspect edge feathered area on an annual basis and carry out maintenance activities as needed.

NRCS will:

☐ Prior to implementation, identify a desired suite of wildlife species and appropriate desired conditions for edge feathered areas. Document on the state approved Implementation Requirement sheets.

☐ Prior to implementation provide technical assistance on site selection, tree species selection, design, and other specifics.

☐ Prior to implementation, provide and explain State specifications for NRCS Conservation Practice Standard Upland Wildlife Habitat (Code 645).

☐ Prior to implementation, provide and explain the state approved Implementation Requirements sheet for this practice.

☐ After implementation, verify successful completion of management (per criteria above).

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E645C

Edge feathering for wildlife cover

Conservation Practice 645: Upland Wildlife Habitat Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Work with a wildlife biologist to identify the target wildlife species and to identify the actions needed to provide wildlife habitat benefits on the (formerly known as NE-CPA-14), 645 NE IR Upland Wildlife Habitat Management 2007 Plan. The WHEW commonly to be used may be Cropland Habitat Evaluation Worksheet 2006 or Rangeland Habitat Evaluation Worksheet 2006; or a species-oriented Habitat Evaluation Tool such as the Northern Bobwhite Quail Habitat Evaluation Tool 2009. Other models may be used including a Habitat Suitability Index.

To calculate size of planned area for payment, take the minimum average width (30 feet) by length (minimum of 50 feet). An area of 1500 square foot of edge feathering impacts 1 acre, which should be used to calculate the minimum planned area.

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E645D

CONSERVATION STEWARDSHIP PROGRAM

Enhanced Wildlife Habitat Management for Upland Landscapes

CONSERVATION PRACTICE: 645 - Upland Wildlife Habitat Management

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Animals (Inadequate Fish & Wildlife Habitat)

ENHANCEMENT LIFE SPAN: 1 years

Enhancement Description

Enhance existing upland wildlife foraging, breeding or overwintering habitat (currently meeting minimum wildlife habitat planning criteria) for locally breeding and migratory wildlife species.

Criteria

- Appropriate locations for this enhancement will be provided by the NRCS State Office who will base locations on current distribution of the targeted species and potential expansion into adjacent habitat for the target species.

- Create a supplement to an existing Wildlife Habitat Management Plan listing management actions that will provide locally breeding or migratory wildlife species with enhanced foraging, breeding, or overwintering habitat. The supplement will identify management activities, locations where they will be applied, the amount in which they'll be applied and the time they will be applied to meet the targeted wildlife needs.

- Use a Wildlife Habitat Evaluation Guide (WHEG), appropriate to target species and land use, to document that implementation of the Enhancement will improve wildlife habitat value above minimum planning criteria. The following may be used to meet this criterion:
    - [For circumstances where planning criteria for wildlife habitat is equal to 0.5] Post implementation, planning criteria for wildlife habitat is equal to or greater than 0.6.
    - [For circumstances where planning criteria for wildlife habitat is greater than 0.5] Post implementation, planning criteria for wildlife habitat increases at least 0.1.

- States will apply general criteria from NRCS National Conservation Practice Standard (NCPS) Upland Wildlife Habitat Management (Code 645) as well as additional criteria either already contained in the State's Specification or determined by the NRCS State Office. Examples of State criteria are:
    - No nitroguanidine neonicotinoids (clothianidin, dinotefuran, imidacloprid, and thiamethoxam) will be applied in any manner to the acres covered by this enhancement.
    - No insecticides allowed from February 1 – September 30th or while resident plants are in bloom on cropland, orchard, or vineyards.
    - All existing or newly installed vertical pipes used for any purpose, will be capped (e.g., fence post construction, vents for irrigation or water storage, wildlife structure placement).
    - Disturbance to key migratory, nesting, rearing, or hiding locations are controlled, almost eliminated, when target wildlife species are using locations.
    - To assess efficacy and support adaptive management, contracted areas are monitored using NRCS State Office approved monitoring approaches.

- Operations and Maintenance actions will include:
    - Regular use of a WHEG to evaluate habitat conditions and to adapt the habitat management supplement and schedule of implementation if necessary. If planned habitat conditions do not materialize as expected explore additional alternatives to reach desired wildlife habitat conditions.
    - Follow all required Operations and Maintenance actions required by NCPS Upland Wildlife Habitat Management (Code 645) and all facilitating practices planned/contracted to address the limiting habitat elements/ factors.
    - Annually inspect and repair structural or vegetative components associated with this enhancement.

- Use of fertilizers, pesticides and other chemicals shall not compromise the habitat management objectives and will adhere to the State's Upland Wildlife Habitat Management (Code 645) specifications.

- Use criteria in other NRCS Conservation Practice Standards to facilitate the management of wetland wildlife habitat associated with the uplands as appropriate for the site.

- Depending on site conditions, facilitating practices may be used to implement this enhancement. The NRCS Conservation Practice Standards may include, but are not limited to: Wildlife Habitat Planting (Code 420), Hedgerow Planting (Code 422), Fence (Code 382), Restoration of Rare or Declining Plant Communities (Code 643), Field Border (Code 386),

Filter Strip (code 393), Grade Stabilization Structure (Code 410), Riparian Herbaceous Cover (Code 390), Shallow Water Development and Management (Code 646), Stream Crossing (code 578), Structure for Water Control (Code 587).

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, review NRCS Conservation Practice Standard Upland Wildlife Habitat Management (Code 645), including any State approved implementation requirements, job sheets or work sheets.

- ☐ Prior to implementation, provide NRCS with any relevant information related to onsite operations and management for inclusion in the Wildlife Habitat Management Plan.

- ☐ Prior to implementation, meet with NRCS to review results of wildlife habitat assessment conducted by NRCS and discuss range of management alternatives that would improve wildlife habitat conditions.

- ☐ Prior to implementation, meet with NRCS to obtain and review Wildlife Habitat Management Plan.

- ☐ During implementation, follow the Wildlife Habitat Management Plan.

- ☐ During implementation, maintain field log to include:
  - Date/time of each field visit and document any required monitoring activities from the supplement
  - Digital photographs to document habitat provided through the management actions intended to reduce the impacts of human disturbance.

- ☐ After implementation, provide the field log to NRCS for review to verify enhancement was implemented to meet criteria.

NRCS will:

- ☐ As needed, provide additional technical assistance to the participant.

- ☐ Prior to implementation, provide and explain State NRCS Conservation Practice Standard Upland Wildlife Habitat Management (Code 645) as it relates to implementing this enhancement.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ Prior to implementation, assess habitat condition using Wildlife Habitat Evaluation Guide to calculate current WHEG score and anticipated WHEG score after implementation of Enhancement; **Existing WHEG score =_____Planned Post Implementation WHEG score =_____.**
- ☐ Prior to implementation, review results of wildlife habitat evaluation with participant and discuss range of management alternatives that would improve wildlife habitat conditions.
- ☐ Prior to implementation, develop Wildlife Habitat Management Plan for wildlife habitat on land type for targeted suite of species using those habitats.
- ☐ Prior to implementation, review and explain the Wildlife Habitat Management Plan to the participant.
- ☐ After implementation, reassess habitat condition using the Wildlife Habitat Evaluation Guide; **Post Implementation WHEG score =_____.**
- ☐ After implementation, review field log to verify enhancement was implemented to meet criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E645D

Enhanced Wildlife Habitat Management for Upland Landscapes

Conservation Practice 645: Upland Wildlife Habitat Management

APPLICABLE LAND USE: Cropland; Range; Forest; Pasture; Associated Ag Lands; Farmstead

RESOURCE CONCERN ADDRESSED: Inadequate Fish & Wildlife Habitat

ENHANCEMENT LIFE SPAN: 1 year

State Criteria

Work with a wildlife biologist to determine appropriate use of this enhancement. A wildlife biologist is required to approve and develop or assist in the development of the wildlife habitat management plan, and in completing the appropriate WHEW's (Wildlife Habitat Evaluation Worksheet). Use a WHEW which is appropriate for the land use type or features of the proposed project site such as Pastureland Habitat Evaluation Worksheet 2006 or Rangeland Habitat Evaluation Worksheet 2006; or a species-oriented Habitat Evaluation Tool such as Greater Prairie Chicken Habitat Evaluation Tool 2009 or Plains Sharp-tailed Grouse Habitat Evaluation Tool 2009. The minimum WHEW/WHEG score after implementation should be 0.6 or an improvement by at least 0.1, whichever is greater.

Primary target species should be species found on the Nebraska Natural Legacy Project, focusing on those which are considered upland wildlife species. Secondary target species can be upland wildlife or upland game species. Activities to directly benefit the target species will be implemented in addition to activities needed to meet the minimum implemented WHEW/WHEG score if deem appropriate by a wildlife biologist (i.e. planting shrub thickets for loggerhead shrike, removing invasive trees, ect). Document the target species and plan outline on the IR Upland Wildlife Habitat Management 2007. Additional documentation may be needed for complex projects. Be sure to include additional and appropriate documents when utilizing other practice codes to complete this project (i.e. NE IR Prescribed Burn Management Plan (NE-CPA-72) 2019).

Follow the minimum practice standards when utilizing other Conservation Practices, while also considering the needs of the target wildlife species and 645 Upland Wildlife Habitat Management. Other practices that can be utilized include but may not be limited to: Wildlife Habitat Planting (Code 420), Fence (Code 382), Restoration of Rare or Declining Plant Communities (Code 643), Field Border (Code 386), Filter Strip (code 393), Grade Stabilization Structure (Code 410), Prescribed Burning (Code 338), Riparian Herbaceous Cover (Code 390), Shallow Water Development and Management (Code 646), Stream

Crossing (code 578), Structure for Water Control (Code 587). It would be preferable to discuss a rough draft of the wildlife plan before offer submission if considering these or other additional practices.

A monitoring plan is required as part of this enhancement. Work with a wildlife biologist to develop a monitoring plan. The plan shall include if both pre- and post- monitoring is required and how to document the monitoring activities. Monitoring activities may include but are not limited to: photo points, bird call surveys, and vegetation surveys.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E646D

CONSERVATION STEWARDSHIP PROGRAM

Manipulate vegetation and maintain closed structures for shorebird late summer habitat

Conservation Practice 646: Shallow Water Development and Management

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERNS: Animals

PRACTICE LIFE SPAN: 5 years

Enhancement Description:

Suitable shorebird habitat is limited during the summer and fall as birds migrate south post-breeding. Providing shallow water and mud flat habitat will benefit a variety of shorebird species. Optimal conditions are created when water levels are slowly reduced through evaporation, which allows for propagation of invertebrates (typically insect larvae) used as food by shorebirds. Manipulation of vegetation, preferably through rolling, creates open conditions required by this suite of birds as a means to detect and avoid predators, and provides nutrient inputs for invertebrate production.

Criteria:

This enhancement applies to crop land use acres with leveed fields that are capable of holding 8 to 18 inches of water mid-spring with capabilities for retaining that water until August 31, and will have less than 25 percent woody cover.

- Develop a wildlife habitat management plan for the targeted species suite.
- Water control structures are to remain closed in order to catch and hold all available precipitation until late-summer (i.e., August 31).

- Sites must contain 8 to 18 inches of water.
- Manipulate vegetation on the site, if after June 15, the site becomes dry with emergent vegetation covering 50 percent or more, at a height of 6 inches or more. Manipulation by rolling or disking to bring the majority (75 percent or more) of the vegetation at or below the soil surface. Rolling is the preferred method of manipulation to maintain soil quality.
- The need for vegetative manipulation will be triggered by the above stated scenario. However, multiple manipulations may be needed to achieve the desired habitat response.
- A Wildlife Habitat Evaluation Guide (WHEG) specific to shallow water habitat on cropland must be used to show that implementation of the Enhancement will improve wildlife habitat value from fair (planning criteria = 0.5) to good (planning criteria greater than 0.5 and less than or equal to 0.6) or from good to very good (planning criteria greater than 0.6).

Note: This Enhancement may be grouped with E646B - Extend retention of captured rainfall for waterfowl and wading bird late winter habitat.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant Will:

- ☐ Prior to implementation, ensure water control structures are in proper working order.
- ☐ Prior to implementation, meet with NRCS to review results of the wildlife habitat assessment conducted by NRCS and discuss range of management alternatives that would improve wildlife habitat conditions.
- ☐ Prior to implementation, meet with NRCS to obtain and review the Wildlife Habitat Management Plan.
- ☐ During implementation, follow the Wildlife Habitat Management Plan including opening / closing water control structures as specified to hold water at the proper time and at the proper depth.
- ☐ During implementation, maintain the field log to include:
  - Crops grown and the harvest date for the crops grown on the applicable acres;
  - Date/time the water control structure was closed;
  - Date/time of each field visit and observed water levels or percent holding capacity and average water depths;
  - Date/time when the water control structures were opened;
  - Digital photographs documenting the condition of the structures and the habitat provided.
- ☐ After implementation, provide the field log to NRCS for review to verify enhancement was implemented to meet criteria.

NRCS Will:

- ☐ As needed, provide additional technical assistance to the participant.
- ☐ Prior to implementation, verify this enhancement will be applied to cropland acres with leveed fields capable of holding 8 to 18 inches of water mid-spring with capabilities for retaining that water until August 31, and will have less than 25 percent woody cover.
- ☐ Prior to implementation, assess habitat condition using the Wildlife Habitat Evaluation Guide to calculate current WHEG score and anticipated WHEG score after implementation of Enhancement; **Existing WHEG score = _____ Planned Post Implementation WHEG score = _____**

CONSERVATION STEWARDSHIP PROGRAM

- ☐ Prior to implementation, review results of the wildlife habitat evaluation with participant and discuss range of management alternatives that would improve wildlife habitat conditions.
- ☐ Prior to implementation, develop the Wildlife Habitat Management Plan for targeted suite of species.
- ☐ Prior to implementation, meet with participant to review the Wildlife Habitat Management Plan.
- ☐ After implementation, reassess habitat condition using Wildlife Habitat Evaluation Guide; **Post Implementation WHEG score = _____**
- ☐ After implementation, review the field log to verify enhancement was implemented to meet criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number_____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E646D

Manipulate vegetation and maintain closed structures for shorebird late summer habitat

Conservation Practice 646: Shallow Water Development and Management

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERNS: Animals

ENHANCEMENT LIFE SPAN: 5 years

State Criteria

Areas that may be eligible are effectively drained or non-functioning playas. This may be due to man-made alterations such as fill placement and/or those drained with an excavated pit. It may also include those with excessive sedimentation. A certified wetland determination is not required to determine if the site is eligible. Use historic aerial photos and LiDAR to identify potential sites. A soil profile analysis may be needed to determine the proper amount of fill/sediment excavation needed to leave an appropriate amount of A horizon over the Bt horizon.

The vegetated buffer planted around the renovated wetland must be a minimum of 35 feet wide and will be established using the (393) Filter Strip standard. All seedings must contain forbs and/or legumes at a seeding rate of 10% to 25% of the grass mixture (4 PLS/ft^2 to 10 PLS/ft^2). Document recommended site preparation, planting method, seed mixture, seeding rates and other pertinent information on the Herbaceous Vegetation Seeding Design Worksheet 2020.

The following activities are allowed for operation/maintenance and management of the filter strip:
Haying (including harvest for biomass) is permitted up to once per three year period (following establishment) provided it is conducted after July 15 and prior to September 1.
Grazing is permitted once per three year period (following establishment) provided it is conducted after July 15 and does not exceed a 30 day period during the growing season OR a 60 day period during the dormant season.

Work with a wildlife biologist, as needed, to identify the actions needed to provide wildlife habitat benefits on the NE-CPA-14, 645 NE IR Upland Wildlife Habitat Management 2007 Plan including those needed in the 5 year contract period.

Management activities should be prescribed for the wetland to maintain quality habitat conditions. This can include haying or grazing if deemed beneficial to the vegetation.

Determine the area eligible for payment by identifying the entire wetland area and also the surrounding buffer zone. Recommended restoration and management actions should be commensurate with payment rates and adequate to address the habitat needs of the wetland.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E647C

CONSERVATION STEWARDSHIP PROGRAM

Maintain most soil vegetation on cropland edges to enhance waterfowl and shorebird habitat

Conservation Practice 647: Early Successional Habitat Development /Management

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN ADDRESSED: Animal

ENHANCEMENT LIFE SPAN: 5 year

Enhancement Description:

The wetter or more water saturated portions of cropland fields such as areas adjacent to field drains, have the potential to produce a significant amount of moist soil plants which are a tremendously valuable source of forage and cover for many waterfowl, shorebird and wading bird species, especially during a period when such plants may be limited. Under normal cropland production, the native vegetation is restricted on these sites through mechanical and/or chemical control. These maintained moist soil plants also will provide filtering and improve water quality.

Criteria:

This enhancement applies to cropland acres on soils that are hydric and/or significantly water saturated during the growing season and are located on the low side or down slope portion of a field that receives hydrologic surface flow from the remainder of the field. Surface flow could be a result of irrigation or rainfall. Selected areas should be capable of being flooded using a water control structure or other means.

- Develop a habitat management plan targeting waterfowl, shore birds and wading birds for the area enrolled under this enhancement.

CONSERVATION STEWARDSHIP PROGRAM

- Maintain naturally occurring vegetation on the appropriate, selected area (minimum 20 feet wide and 500 feet long) to provide forage and cover for waterfowl, shorebirds and wading birds.
- Manipulation (light disking, burning, mowing, or rolling) of the selected area will be allowed during early fall to increase attractiveness and use by targeted species. Otherwise, all mechanical disturbance and chemical treatments shall be excluded from the selected area and care should be taken to ensure that the area is not impacted by agricultural operations in the adjacent crop.
- Control of invasive species may be allowed with approval from local NRCS staff.
- A Wildlife Habitat Evaluation Guide (WHEG) specific to shallow water habitat on cropland must be used to show that implementation of the Enhancement will improve wildlife habitat value from fair (planning criteria = 0.5) to good (planning criteria greater than 0.5 and less than or equal to 0.6) or from good to very good (planning criteria greater than 0.6).

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant Will:

- ☐ Prior to implementation, meet with NRCS to review results of wildlife habitat assessment conducted by NRCS and discuss range of management alternatives that would improve wildlife habitat conditions.
- ☐ Prior to implementation, meet with NRCS to obtain and review Wildlife Habitat Management Plan.
- ☐ During implementation, follow Wildlife Habitat Management Plan.
- ☐ During implementation, maintain field log to include:
  - o Crops grown and the harvest date for the crops grown on the applicable acres;
  - o Date/time and description of all habitat management actions taken;
  - o Digital photographs documenting the condition of the habitat provided
- ☐ After implementation, provide the field log to NRCS for review to verify enhancement was implemented to meet criteria.

NRCS Will:

- ☐ As needed, provide additional technical assistance to the participant.
- ☐ Prior to implementation, verify this enhancement will be applied to crop acres on soils that are hydric and/or significantly water saturated during the growing season and are located on the low side or down slope portion of a field that receives hydrologic surface flow from the remainder of the field. Surface flow could be a result of irrigation or rainfall. Selected areas should be capable of being flooded through the use of a water control structure or other means.
- ☐ Prior to implementation, assess habitat condition using Wildlife Habitat Evaluation Guide to calculate current WHEG score and anticipated WHEG score after implementation of Enhancement. **Existing WHEG score = _____ Planned Post Implementation WHEG score = _____**
- ☐ Prior to implementation, review results of wildlife habitat evaluation with participant and discuss range of management alternatives that would improve wildlife habitat conditions
- ☐ Prior to implementation, develop Wildlife Habitat Management Plan for targeted suite of species
- ☐ Prior to implementation, meet with participant to review Wildlife Habitat Management Plan

CONSERVATION STEWARDSHIP PROGRAM

- ☐ After implementation, reassess habitat condition using Wildlife Habitat Evaluation Guide; **Post Implementation WHEG score = _____**
- ☐ After implementation, review field log to verify enhancement was implemented to meet criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E647C

Maintain most soil vegetation on cropland edges to enhance waterfowl and shorebird habitat

Conservation Practice 647: Early Successional Habitat Development/Management

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN ADDRESSED: Animal

ENHANCEMENT LIFE SPAN: 5 year

State Criteria

Areas that may be eligible are those which are currently cropland (routinely planted) but frequently are impacted by saturation or ponding/flooding and have the potential to produce moist soil plants including smartweeds, barnyard grass, and other annuals/perennials considered beneficial to waterfowl, shore birds, and wading birds. Identify areas where this enhancement applies from historic aerial photography showing crop stress, flooded crops, and similar features in a majority of years reviewed. It is acceptable to include areas where irrigation water causes similar results.

Areas where this enhancement applies must be a minimum of 20 feet wide and 500 feet long and consist of a contiguous area at least 0.25 acre in size. Multiple areas within a field or tract may be selected. These areas will be counted as "buffers or odd areas" on the Cropland Habitat Evaluation Worksheet 2006.

Target habitat areas may be planted to crops, if desired by the producer for convenience, but cannot be harvested. No herbicide use or tillage will occur during the growing season in these areas in order to allow the natural plant community to develop. Any management of vegetation in the fall must be approved as part of the wildlife habitat development and management plan. If the enhancement is planned for multiple years in succession, it may be necessary to include some type of disturbance (i.e. light disking) into the management plan to help maintain suitable ve

Work with a wildlife biologist, as needed, to identify the target wildlife species and to identify the actions needed to provide wildlife habitat benefits on the NE-CPA-14, 645 NE IR Upland Wildlife Habitat Management 2007 Plan.

The field containing this enhancement must meet a minimum of 0.5 score as planned condition and also must increase in score from present to planned condition by at least 0.10. The most likely habitat assessment is the Cropland Habitat Evaluation Worksheet 2006 but other appropriate tools may be used.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E647D

CONSERVATION STEWARDSHIP PROGRAM

Establish and maintain early successional habitat in ditches and bank borders

Conservation Practice 647: Early Successional Habitat Development /Management

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 year

Enhancement Description:

This enhancement is to encourage the establishment of early successional, naturally occurring vegetation in ditches, side slope and bank borders to provide cover, critical nesting and brood rearing habitat as well as filtering overland flow and improving water quality. Ditches perform the critical function of removing water from agricultural lands. Allowing naturally occurring vegetation to develop along ditches, including side slopes, banks and borders, will help provide food and cover for wildlife while enhancing aquatic habitat and improving water quality. Ditches and ditch borders provide a foundation that supports a diverse wildlife community including Northern Bobwhite (Colinus virginianus) and other birds preferring early successional cover. Rabbits, furbearers, amphibians and many other species that inhabit agriculture areas will use this vegetative cover. These areas can also provide critical nesting habitat for the Mottled Duck (Anas fulvigula).

Criteria:

This enhancement applies to crop, pasture, or range land use acres with existing ditches and ditch borders where adequate naturally occurring vegetation is not present.

- Develop a wildlife habitat management plan for the suite of species targeted.
- Allow ditches and bank borders to re-vegetate to naturally occurring vegetation.

- Ditch borders will be a minimum of 20 feet wide and a maximum 60 feet wide.
- In circumstances where woody vegetation exists immediately adjacent to a farm ditch (e.g., such as along a spoil bank), an adjoining minimum 20 feet early successional, native vegetative border will also be established.
- Once established, ditches and borders may not be treated more than once every two years and may not be mowed, disked, grazed, dredged, cleaned, or sprayed with broadcast herbicides, or otherwise disturbed between treatments.
- Encroaching undesired woody vegetation may be controlled between the two treatment periods through spot spraying with approved herbicides.
- For the two approved treatments, light disking, mowing or herbicides may be used to control vegetation next to designated ditches, along ditch banks and borders.
    - These treatments must be applied outside of the primary wildlife ground nesting season.
    - Only herbicides approved for appropriate site conditions shall be applied.
    - Herbicides shall be applied following manufacturers label requirements.
- Grazing is not permitted unless a grazing management plan is in effect.
- Multiple ditch borders on the same property must have varying maintenance schedules.
- Invasive species such as kudzu, cogongrass, Chinese tallow tree, etc. that may become established in the border area must be controlled by spot spraying with an approved herbicide.
- A Wildlife Habitat Evaluation Guide (WHEG) specific to shallow water habitat on cropland, must be used to show that implementation of the Enhancement will improve wildlife habitat value from fair (planning criteria = 0.5) to good (planning criteria greater than 0.5 and less than or equal to 0.6) or from good to very good (planning criteria greater than 0.6).

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant Will:

- ☐ Prior to implementation, meet with NRCS to review results of the wildlife habitat assessment conducted by NRCS and discuss range of management alternatives that would improve wildlife habitat conditions.
- ☐ Prior to implementation, meet with NRCS to obtain and review the Wildlife Habitat Management Plan.
- ☐ During implementation, follow the Wildlife Habitat Management Plan.
- ☐ During implementation, maintain field log to include:
  - o Type of crop(s) grown.
  - o Harvest date of crops grown on the applicable acres.
  - o Date/time and description of all habitat management actions taken.
  - o Digital photographs documenting the condition of the habitat provided.
- ☐ After implementation, provide the field log to NRCS for review to verify enhancement was implemented to meet criteria.

NRCS Will:

- ☐ As needed, provide additional technical assistance to the participant.
- ☐ Prior to implementation, verify this enhancement will be applied to crop, pasture, or range acres with existing ditches and ditch borders where adequate naturally occurring vegetation is not present.
- ☐ Prior to implementation, assess habitat condition using the Wildlife Habitat Evaluation Guide to calculate current WHEG score and anticipated WHEG score after implementation of Enhancement. **Existing WHEG score = _____ Planned Post Implementation WHEG score = _____**
- ☐ Prior to implementation, review results of the wildlife habitat evaluation with the participant and discuss range of management alternatives that would improve wildlife habitat conditions.
- ☐ Prior to implementation, develop a Wildlife Habitat Management Plan for targeted suite of species.
- ☐ Prior to implementation, meet with the participant to review the Wildlife Habitat Management Plan.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ After implementation, reassess habitat condition using Wildlife Habitat Evaluation Guide; **Post Implementation WHEG score = _____**
- ☐ After implementation, review field log to verify enhancement was implemented to meet criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E647D

Establish and maintain early successional habitat in ditches and bank borders

Conservation Practice 647: Early Successional Habitat Development/Management

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 5 year

State Criteria

Areas that may be eligible are man-made drainage ditches which are currently cropland or adjacent to cropland. It is acceptable to include roadside ditches and irrigation ditches, as appropriate, based on management. The area eligible for payment through this enhancement must be under the control of the producer (i.e. county road right-of-way ditch is not eligible for payment but the buffer zone within the crop field adjacent to it is eligible).

The zone left unmanaged to re-vegetate must be a minimum of 20 feet wide at all points measured from the typical flow line of the ditch outward and can include side slopes of the ditch if they are expected to be colonized by annual plants (and are under the control of the producer). These zones must be 500 feet long and consist of a contiguous area at least 0.25 acre in size. Multiple areas within a field or tract may be selected. These areas will be counted as “buffers or odd areas” on the Cropland Habitat Evaluation Worksheet 2006.

Areas currently dominated by sod-forming grasses such as smooth brome or reed canarygrass must be treated with herbicide in the fall and/or spring prior to the growing season in order to allow early successional plants to establish. Additional or ongoing management may be needed to prevent encroachment of these undesirable species.

No herbicide use or tillage will occur during the growing season in these areas (unless required to meet the wildlife habitat plan) in order to allow the natural plant community to develop.

Any management of vegetation in the fall must be approved as part of the wildlife habitat development and management plan including grazing of adjacent crop stubble during the fall/ winter. Grazing may be allowed during April, prior to planting, if it is expected that the early successional habitat in the following season will not be impacted.

Work with a wildlife biologist, as needed, to identify the target wildlife species and to identify the actions needed to provide wildlife habitat benefits on the NE-CPA-14, 645 NE IR Upland Wildlife Habitat Management 2007 Plan.

The field containing this enhancement must meet a minimum of 0.5 score as planned condition and also must increase in score from present to planned condition by at least 0.10. The most likely habitat assessment is the Cropland Habitat Evaluation Worksheet 2006 but other appropriate tools may be used.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E666A

Maintaining and improving forest soil quality.

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Soil, Air

ENHANCEMENT LIFE SPAN: 10 Years

Enhancement Description

Adopts guidelines for maintaining and improving soil quality on sites where forest management activities are practiced. These guidelines will increase soil organic matter content, improve nutrient cycling, and increase infiltration and retention of precipitation. Avoiding soil compaction will allow for greater root development and tree growth, limit windthrow, and reduce drought stress. Increasing carbon storage on site will maintain the soil microbial community and provide wildlife benefits.

Criteria

- States will apply general criteria from the NRCS National Conservation Practice Standard Forest Stand Improvement (Code 666) as listed below, and additional criteria as required by the NRCS State Office.
- Update or modify the Forest Management Plan to include the following guidelines for forest soil quality management, as appropriate for the site.
    - Limit the area of compacted soils
        - Operate equipment on established roads and trails and minimize travel into the general forest area
        - Operate equipment on woody debris (slash) in areas with sensitive or wet soils
        - Sequence forest management activities (back to front) to limit the number of equipment passes

- Use smaller and lighter equipment, track equipment, low PSI tires, and lighter loads. Where appropriate, use mules, draft horses or other animals for moving harvested trees
- Restore heavily compacted areas (e.g., by sub-soiling or other mechanical method)

o Limit impacts of roads and landings

- Avoid disturbing natural drainage channels (e.g., design road locations to minimize stream crossings and diversions)
- Roads and landings occupy 5% or less of total wooded acreage
- Establish cover on roads and landings that are not in use

o Limit soil disturbance and control erosion

- Avoid disturbing forest litter and the soil surface
- Protect roads using water bars/rolling dips
- Establish cover on disturbed areas
- Retain downed tops and other unharvested materials for ground cover, nutrient recycling, and organic matter retention

o Maintain favorable conditions for forest growth

- Control the amount of road use, and off-road travel, to prevent erosion, compaction, and disturbance of the soil surface
- Establish cover on any disturbed areas
- Monitor the forest area for signs of insect damage, tree diseases, invasive plants, or other impacts on forest growth and health

o Retain and enhance carbon storage to support soil ecologic functions

- Follow stocking guidelines to maintain tree canopy cover (i.e., between the A and B lines of stocking guides at a minimum; preferably closer to the A line). See the stocking chart shown below.
- Add woody material to the soil by girdling or cutting non-merchantable trees or trees of undesired species
- Use extended rotations to keep carbon on the site for a longer period

CONSERVATION STEWARDSHIP PROGRAM

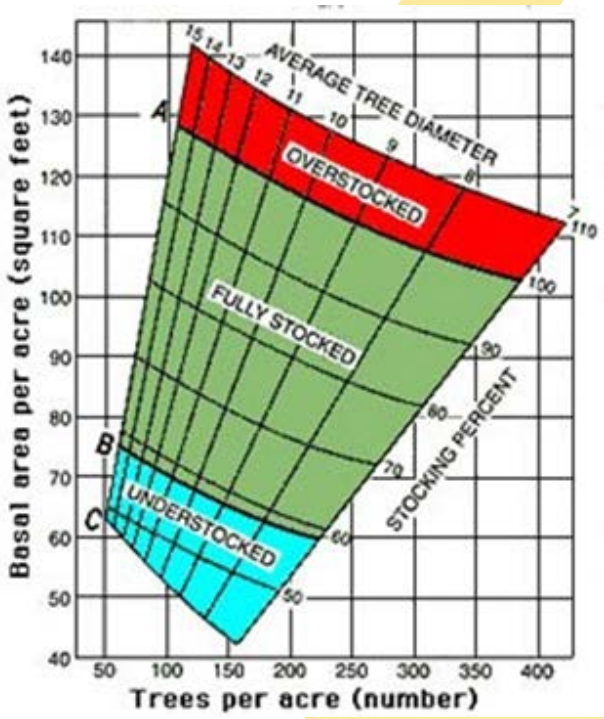
- Retain fallen trees, branches, snags, downed tops and other unharvested materials for ground cover, nutrient recycling, and organic matter retention, in quantities as specified below, or by the NRCS State Office.
  - For western conifer forests, maintain coarse woody residue:
    - that is greater than 3" in diameter,
    - left lying on the soil surface, and
    - which meets the post-harvest target levels of the following chart:

	Habitat Type	Target tons per acre of coarse woody debris
Dry Forests	Ponderosa pine types	5-13 tons/acre
⇕	Douglas-fir types	7-14 tons/acre
	Grand fir types	7-14 tons/acre
Moist Forests	Western hemlock types	16-33 tons/acre

- Maintain soil productivity by soil testing and fertilization if needed (including options for fertilizing with manure, biochar, or other organic materials).
- Identify and retain preferred tree and understory species to achieve all planned purposes and landowner objectives.
- Use available guidelines for species and species groups to determine spacing, density, size-class distribution, number of trees, and amount of understory species to be retained. Schedule treatments to avoid overstocked conditions using approved silvicultural/ stocking guides.
- Describe the current and desired future condition of each stand that will be treated. Include the species, cover type, and size-class distribution. Stocking will be described in terms of crop trees per acre, basal area per acre, trees per acre, between-tree spacing, or by any other appropriate and professionally accepted density or stocking protocol.

- Refer to WIN-PST criteria in NRCS Conservation Practice Standard Integrated Pest Management (Code 595) and comply with applicable State and local laws if an herbicide will be used.
- Time tree girdling or felling to avoid buildup of insect or disease populations.
- Implement forest stand improvement activities in ways that avoid or minimize soil erosion, compaction, rutting, and damage to remaining vegetation, and that maintain hydrologic conditions.
- Protect site resources by selecting the method, felling direction and timing of tree felling, and heavy equipment operation. For temporary access use NRCS Conservation Practice Standard Forest Trails and Landings (Code 655) to protect soil and site resources from vehicle impacts. Use NRCS Conservation Practice Standard Access Road (Code 560), for more heavily used roads associated with forest stand improvement activities.

Figure 1: Stocking Chart *showing tree size and density scales indicating when forests are overstocked (too crowded), fully stocked (providing good growth), and understocked (trees do not fully utilize the site). Stocking guides were developed by Gingrich (1967).*



CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

- ☐ Prior to implementation, review the NRCS Conservation Practice Standard Forest Stand Improvement (Code 666) conservation practice standard or appropriate state Job Sheet and use this information to meet the criteria of this enhancement.

- ☐ Prior to implementation, have a current or updated Forest Management Plan (FMP) that includes activities required to implement this enhancement. The FMP will include guidelines for rehabilitating existing soil resource damage including compaction, ruts, puddling, erosion, downslope soil movement, exposed mineral soil, and depletion of the forest floor. It will also address rehabilitation for any water resource concerns such as diverted streams or intermittent flows. It will assess road layout and provide guidance on practices to correct any erosion or hydrologic impacts. Have the FMP available for NRCS review.

- ☐ Prior to implementation, arrange for soil tests to be conducted, one per each five acres. The FMP will include guidance for correcting any significant nutrient deficiencies.

- ☐ Prior to implementation, arrange for a forestry specialist to evaluate the stand and perform site-specific marking of areas to be seeded with cover plantings, locations where water control is needed, and trees that are to be girdled for snag creation.

- ☐ Prior to implementation, be aware of the state's Forestry Best Management Practices (BMP's) so they can be followed to protect the site and maintain soil and water quality.

- ☐ Prior to implementation, be aware of the current stocking level of trees on the site and the target level of stocking to maintain as part of this enhancement. This information should be detailed in the Forest Management Plan.

- ☐ During implementation, maintain the stand in a fully stocked condition using the appropriate stocking chart, between the A and B lines (see figure 1). The target stocking level should be between the A and B line, but closer to the A line.

- ☐ During implementation, follow state BMP guidelines and any additional guidance from the NRCS State Office to protect trails, roads and landings from soil loss or damage. Re-vegetate these disturbed areas or close them off to traffic to allow natural vegetation to grow on these areas.

- ☐ During implementation, spread tops and limbs across the site during any tree reduction operations to protect the soil.
- ☐ After implementation, provide the following information to NRCS; dates completed, methods used, representative post-treatment photos, and a map delineating the treated acres.

NRCS will:

- ☐ Prior to implementation, aid with interpretation of a current or updated FMP on acres targeted by this enhancement.
  - o Prior to implementation, provide and explain the following NRCS Conservation Practice Standards as they relate to implementing this enhancement.
  - o Forest Stand Improvement (Code 666)
  - o Integrated Pest Management (Code 595)
  - o Forest Trails and Landings (Code 655)
  - o Access Road (Code 560)
- ☐ As needed, prior to implementation, NRCS will provide technical assistance in:
    - o Preparing specifications for applying this enhancement for each site using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation, and will discuss the details with the participant.
- ☐ Prior to implementation, discuss the requirement to follow the state's Forestry Best Management Practices (BMPs).
- ☐ During implementation, provide technical assistance if requested by the participant.
- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ After implementation, verify that the enhancement was completed according to the NRCS Conservation Practice Standard Forest Stand Improvement (CPS 666) specifications and the enhancement criteria.

CONSERVATION STEWARDSHIP PROGRAM

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E666A

Maintaining and improving forest soil quality

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Soil, Air

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

A current Forest Management Plan must be developed or already in place and approved by a qualified forester in order for this enhancement to apply. This plan must outline the prescribed management activities to be implemented on the enrolled CSP area.

In order to qualify for this enhancement, the forest area to be treated must have been impacted in the past 10 years with heavy equipment travel and/or roads; or be planned for stand management due to less than optimal stocking levels along with a lack of coarse woody debris.

The areas eligible for payment are those areas: which are treated by removing roads and sub-soiling areas of compaction and/or which are treated to modify stocking levels and additional coarse woody debris is added to the forest floor.

Coordinate with a forester, as needed, to identify what actions must be taken for this enhancement to address the noted resource concern and meet the requirements of the enhancement.

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E666D

CONSERVATION STEWARDSHIP PROGRAM

Forest management to enhance understory vegetation

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Plants, Animals, Water

ENHANCEMENT LIFE SPAN: 10 Years

Enhancement Description:

Forest stand improvement that manages the structure and composition of overstory and understory vegetation to:

- Reduce vulnerability to damage by insects and diseases of forest trees. Canopy gaps and open understory allow for air circulation that reduces the incidence of disease, and the improved health of the residual trees increases their ability to withstand insect attacks
- Managing the understory vegetation will also reduce the risk of wildfire and promote development of herbaceous plants that benefit wildlife.
- Capture additional moisture and filters the water through the vegetation and soil.
- Managing the understory vegetation will increase available water to plants, minimize run-off and erosion, improve water quality, and limit nutrient entry into ground water.
- Reducing the number of trees per acre provides canopy openings that allow sunlight to reach the forest floor and promote the growth of herbaceous plants, improving wildlife shelter and cover in the forest understory.

This enhancement provides for management of the understory vegetation in a forested area by mechanical, chemical and/or manual methods to improve the plant species mix and the health of the residual vegetation. Managing the understory vegetation increases available water to the plants, minimizes runoff and erosion, and improves water quality. An adequately stocked forest provides inputs of leaves, needles, and woody twigs and stems to the forest floor, adding to soil organic matter and contributing to forest soil health. Desirable tree species and understory vegetation, with spacing that allows ground cover to develop, will allow moisture to infiltrate and be stored in the soil, releasing moisture over longer periods of time.

Criteria:

CONSERVATION STEWARDSHIP PROGRAM

States will apply general criteria from the NRCS National Conservation Practice Standard Forest Stand Improvement (Code 666) as listed below, and additional criteria as required by the NRCS State Office.

- The enhancement will be applied to sites which have an uncharacteristically dense understory of shrubs and small trees that limit development of ground cover.
- Develop or update a forest management plan in consultation with NRCS personnel and a professional forester to direct the management of the property.
- Describe the current and desired future condition of each stand that will be treated. Include the species, cover type, and size-class distribution. Stocking will be described in terms of crop trees per acre, basal area per acre, trees per acre, between-tree spacing, or by any other appropriate and professionally accepted density or stocking protocol.
- Identify and retain preferred tree and understory species to achieve all planned purposes and landowner objectives.
- Use available guidelines for species and species groups to determine spacing, density, size-class distribution, number of trees, and amount of understory species to be retained. Schedule treatments to avoid overstocked conditions using approved silvicultural/stocking guides.
- Vegetation may be treated by chemical methods such as spraying or single stem treatments, or mechanical methods like a heavy-duty brush cutter or similar equipment. Refer to criteria in NRCS Conservation Practice Standard Integrated Pest Management (Code 595), Brush Management (Code 314), and Herbaceous Weed Control (Code315).
- Time tree felling to avoid buildup of insect or disease populations.
- Implement forest stand improvement activities in ways that avoid or minimize soil erosion, compaction, rutting, and damage to remaining vegetation, and that maintain hydrologic conditions. Protect site resources by selecting the method, felling direction and timing of tree felling, and heavy equipment operation. For temporary access use NRCS Conservation Practice Standard Forest Trails and Landings (Code 655), to protect soil and site resources from vehicle impacts.
- Where slash and debris will be generated, use NRCS Conservation Practice Standard Woody Residue Treatment (Code 384) to appropriately treat slash and debris, as necessary, to assure that it will not present an unacceptable fire, safety, environmental, or pest hazard.

CONSERVATION STEWARDSHIP PROGRAM

Remaining woody material will be placed so that it does not interfere with the intended purpose or other management activities. Do not burn vegetative residues except where fire hazard or threats from diseases and insects are of concern or when other management objectives are best achieved through burning. When slash and other debris will be burned onsite use NRCS Conservation Practice Standard Prescribed Burning (Code 338).

- The acres planned must have an "acceptable growing stock" level of at least the B line on an appropriate stocking chart.
- This enhancement requires implementation of the following activities (a through d) in the area where the enhancement applies.
  a. Excessive volatile live vegetation and woody debris –When volatile, live grasses and shrubs and/or woody debris are present, a reduction of these fuels may be accomplished by using heavy duty brush cutters or similar equipment.
  b. Closed canopy – When trees form a continuous closed canopy, thin the stand to allow for heat escape and to improve the health of residual trees and understory vegetation. Open the canopy by cutting or killing selected trees to allow sunlight to reach the forest floor. Reduce slash from the cut trees by cutting off the limbs as needed. An alternative is to use single tree injections to reduce the density of poor-quality trees and open up the canopy.
  c. Ladder fuels – When ladder fuels form connections between the ground and the higher levels of the canopy, thus increasing the risk of fire spreading into tree crowns, break the continuity of fuel between the ground and the upper canopy. Complete removal is not required provided the fuel continuity is disrupted.
  d. Undesirable Vegetation – Use control measures to reduce or eliminate undesirable vegetation and favor desirable vegetation for the site.
- Minimize damage to residual trees during the treatment process.
- If machinery is being used, operate under dry conditions when the machinery will not cause rutting and/or soil compaction.
- The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.

Documentation and Implementation Requirements:

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

- ☐ Prior to implementation, review NRCS Conservation Practice Standard Forest Stand Improvement (Code 666) which contains information needed to meet criteria for this enhancement.
- ☐ Prior to implementation, develop an understanding of management practices that reduce a dense understory of small trees and brush, and the types of understory vegetation that will be encouraged by these practices. (Request NRCS technical assistance, as needed.)
- ☐ Prior to implementation, work with a professional forester to prepare or update a current Forest Management Plan (FMP) that includes activities required to implement this enhancement. The FMP will include guidelines for thinning the stand and maintaining fully stocked conditions as specified in enhancement criteria. Depending on the resource concern addressing the FMP will also include recommended practices for managing understory vegetation to:
  - o Minimize risks of insect and disease outbreaks.
  - o Include recommended practices for managing understory vegetation to favor moisture infiltration.
  - o The FMP will also include recommended practices for managing understory vegetation to favor wildlife cover and shelter.
  - o Include recommended practices for managing understory vegetation to capture nutrients.
- ☐ Prior to implementation, recognize that other NRCS Conservation Practice Standards may be needed to apply this enhancement. These may include:
  - o Brush Management (Code 314)
  - o Forest Trails and Landings (Code 655)
  - o Herbaceous Weed Control (Code 315)
  - o Integrated Pest Management (Code 595)
  - o Woody Residue Treatment (Code 384)
  - o Prescribed Burning (Code 338)
- ☐ Prior to implementation, acquire all necessary approvals and permits (i.e. local, state, or federal, as applicable).
- ☐ Prior to implementation, work with a professional forester who will mark trees and groups of trees to be removed or killed, and who will develop a strategy for controlling undesirable understory vegetation.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ Prior to implementation, take pre-treatment photos of the site to show representative conditions.
- ☐ During implementation, follow FMP guidelines, criteria in NRCS Conservation Practice Standard Forest Stand Improvement (Code 666), and specifications provided by NRCS, to ensure that:
  - o Trees are removed, killed, or retained to achieve all planned purposes and landowner objectives.
  - o The desired spacing, density, size-class distribution, number of trees, and amount of understory is achieved.
  - o The operation avoids or minimizes damage to desirable vegetation.
- ☐ During implementation, follow state-approved Forestry Best Management Practices (BMPs) to protect streams, water quality, and minimize soil loss.
- ☐ During implementation, reduce stand stocking to correspond with the B-line of an appropriate stocking chart, retaining trees with larger, healthy crowns and undamaged trunks. If tree removal is not an option, reduce density by killing selected trees through girdling and/or chemically treatments.
- ☐ During implementation, control undesirable competing vegetation using appropriate methods for the tree species and site conditions. If prescribed burning will be used, work with NRCS and a professional forester or biologist to obtain a state approved prescribed burn plan. If using chemical methods, follow application and timing recommendations from an approved source.
- ☐ During implementation, limit the size of debris piles to minimize wildfire hazards.
- ☐ During implementation, as needed, evaluate and review with NRCS any planned changes to verify they meet the enhancement criteria.
- ☐ After implementation, take digital photos showing representative post-treatment conditions.
- ☐ After implementation, notify NRCS that the work has been completed and make treatment documentation records available for NRCS review and certification.

NRCS will:

- ☐ Prior to implementation, assist with interpretation of a current or updated FMP for sites where this enhancement will be applied.
- ☐ Prior to implementation, provide and explain the following NRCS Conservation Practice Standards as they relate to implementing this enhancement.

CONSERVATION STEWARDSHIP PROGRAM

- o Brush Management (Code 314)
- o Herbaceous Weed Control (Code 315)
- o Forest Stand Improvement (Code 666)
- o Woody Residue Treatment (Code 384)
- o Forest Trails and Landings (Code 655)
- o Integrated Pest Management (Code 595)
- o Prescribed Burning (Code 338)

- ☐ Prior to implementation, provide and explain the state's Forestry BMP guidelines.
- ☐ During implementation, provide technical assistance if requested by the participant.
- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ During implementation, provide technical assistance if requested by the participant.
- ☐ After implementation, review treatment documentation records and certify that the enhancement was completed according to specifications in this enhancement, and in NRCS Conservation Practice Standard Forest Stand Improvement (Code 666).

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E666D

Forest management to enhance understory vegetation

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Plants, Animals, Water

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

A current Forest Management Plan must be developed or already in place and approved by a qualified forester in order for this enhancement to apply. This plan must outline the prescribed management activities to be implemented on the enrolled CSP area.

In order to qualify for this enhancement, the forest area to be treated must have an excessive amount of understory vegetation that needs treated to improve forest health. Often, this will consist of invasive, non-native, or undesirable species such as European buckthorn, Siberian elm, Eastern red cedar, etc. which are detracting from the growth of the overstory and suppressing the herbaceous community on the forest floor.

The areas eligible for payment are those areas which are treated by removing excessive understory species and appropriately treating slash and debris to address forest health. Treatment methods may be mechanical or chemical (or both) and prescribed burning may be a useful addition.

Coordinate with a forester, as needed, to identify what actions must be taken for this enhancement to address the noted resource concern and meet the requirements of the enhancement.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E666E

CONSERVATION STEWARDSHIP PROGRAM

Reduce height of the forest understory to limit wildfire risk

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Plants

ENHANCEMENT LIFE SPAN: 10 Year

Enhancement Description

Forest stand improvement that manages forest structure to reduce the risk of wildfire and creates conditions that facilitate prescribed burning. The fire risk reduction is accomplished by reducing the height of the woody understory and midstory, creating space between the ground cover and the tree canopy. This enhancement provides for management of the understory vegetation in a forested area, using mechanical, chemical or manual methods to improve the plant species mix and the health of the residual vegetation, and reduce the risk of wildfire. In appropriate stands, the treatment creates conditions that favor prescribed burning. Forest stand improvement (FSI) activities are used to remove trees of undesirable species, form, quality, condition, or growth rate. The quantity and quality of forest for wildlife and/or timber production will be increased by manipulating stand density and structure. These treatments can also reduce wildfire hazards, improve forest health, restore natural plant communities, and achieve or maintain a desired native understory plant community for soil health, wildlife, grazing, and/or browsing.

Criteria

States will apply general criteria from the NRCS National Conservation Practice Standard Forest Stand Improvement (Code 666) as listed below, and additional criteria as required by the NRCS State Office.

- The enhancement will be applied to sites which have an uncharacteristically dense understory of shrubs and small trees that limit development of ground cover.
- Develop or update a forest management plan in consultation with NRCS personnel and a professional forester to direct the management of the property.
- Describe the current and desired future condition of each stand that will be treated. Include the species, cover type, and size-class distribution. Stocking will be described in terms of crop trees per acre, basal area per acre, trees per acre, between-tree spacing, or by any other appropriate and professionally accepted density or stocking protocol.
- Identify and retain preferred tree and understory species to achieve all planned purposes and landowner objectives.
- Use available guidelines for species and species groups to determine spacing, density, size-class distribution, number of trees, and amount of understory species to be retained. Schedule treatments to avoid overstocked conditions using approved silvicultural/stocking guides.
- Vegetation may be treated by chemical methods such as spraying or single stem treatments, or mechanical methods like a heavy-duty brush cutter or similar equipment. Refer to criteria in NRCS Conservation Practice Standard Integrated Pest Management (Code 595), Brush Management (Code 314), or Herbaceous Weed Control (315).
- Time tree felling to avoid buildup of insect or disease populations.
- Implement forest stand improvement activities in ways that avoid or minimize soil erosion, compaction, rutting, and damage to remaining vegetation, and that maintain hydrologic conditions. Protect site resources by selecting the method, felling direction and timing of tree felling, and heavy equipment operation. For temporary access use NRCS Conservation Practice Standard Forest Trails and Landings (Code 655), to protect soil and site resources from vehicle impacts.
- Where slash and debris will be generated, use NRCS Conservation Practice Standard Woody Residue Treatment (Code 384) to appropriately treat slash and debris, as necessary, to assure that it will not present an unacceptable fire, safety, environmental, or pest hazard. Remaining woody material will be placed so that it does not interfere with the intended purpose or other management activities. Do not burn vegetative residues except where fire hazard or threats from diseases and insects are of concern or when other management objectives are best achieved through burning. When slash and

other debris will be burned onsite use NRCS Conservation Practice Standard Prescribed Burning (Code 338).

CONSERVATION STEWARDSHIP PROGRAM

- The acres planned must have an "acceptable growing stock" level of at least the B line on an appropriate stocking chart.
- This enhancement requires implementation of the following activities (a through d) in the area where the enhancement applies.

    a) Excessive volatile live vegetation and woody debris – When volatile, live grasses and shrubs and/or woody a reduction of these fuels may be accomplished by using heavy duty brush cutters or similar equipment.

    b) Closed canopy – When trees form a continuous closed canopy, thin the stand to allow for heat escape and to improve the health of residual trees and understory vegetation. Open the canopy by cutting or killing selected trees to allow sunlight to reach the forest floor. Reduce slash from the cut trees by cutting off the limbs as needed. An alternative is to use single tree injections to reduce the density of poor-quality trees and open up the canopy.

    c) Ladder fuels – When ladder fuels form connections between the ground and the higher levels of the canopy, thus increasing the risk of fire spreading into tree crowns, break the continuity of fuel between the ground and the upper canopy. Complete removal is not required as long as the continuity is disrupted.

    d) Undesirable Vegetation – Use control measures to reduce or eliminate undesirable vegetation and favor desirable vegetation for the site.

- Minimize damage to residual trees during the treatment process.
- If machinery is being used, operate under dry conditions when the machinery will not cause rutting and/or soil compaction.
- The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.

Documentation and Implementation Requirements:

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

- □ Prior to implementation, work with a professional forester to develop or update a forestry management plan for the property.
- □ Prior to implementation, work with a professional forester to include species, cover type, and size class distribution for both **current and desired** stands to be treated in the plan.
- □ Prior to implementation, work with a professional forester to include crop trees per acre, basal area per acre, trees per acre, between-tree spacing, or by any other appropriate and professionally accepted density or stocking protocol for both **current and desired** stands to be treated in the plan.
- □ Prior to implementation, work with a professional forester to include in the updated or developed plan to identify and retain preferred tree and understory species to achieve all planned purposes and landowner objectives to get from **current to desired** conditions for the stands to be treated. This would be part the silviculture prescription.
- □ Prior to implementation, work with professional forester and NRCS to delineate on a map the treatment areas and dates.
- □ Prior to implementation, discuss with professional forester or NRCS if the following NRCS Conservation Practice Standards will be necessary for access or to reduce erosion from vehicles/equipment:
    - Forest Trails and Landings (Code 655), Woody Residue Treatment (Code 384) and/or Prescribed Burning (Code 338).
- □ During implementation, notify NRCS of any planned changes to verify they meet the enhancement criteria.
- □ During implementation, keep evidence to support the treatment activities were completed using representative photos. Location of representative photos must be indicated on the map delineating treated areas.
- □ After implementation, notify NRCS that treatment has been completed and submit pictures and map to support this.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ Prior to implementation, provide and discuss with participant, as needed, NRCS Conservation Practice Standards Forest Trails and Landings (Code 655), Woody Residue Treatment (Code 384), and Prescribed Burning (Code 338).
- ☐ Prior to Implementation, verify that participant plan has been developed or updated by a professional forester.
- ☐ Prior to implementation, verify that participant plan has been developed or updated by a professional forester to include species, cover type, and size class distribution for both **current and desired** stands to be treated.
- ☐ Prior to implementation, verify that participant plan has been developed or updated by a professional forester to include crop trees per acre, basal area per acre, trees per acre, between-tree spacing, or by any other appropriate and professionally accepted density or stocking protocol for both **current and desired** stands to be treated.
- ☐ Prior to implementation, verify that participant plan has been developed or updated by a professional forester and identifies and retains preferred tree and understory species to achieve all planned purposes and landowner objectives to get from **current to desired** conditions for the stands to be treated. This would be part the silviculture prescription.
- ☐ Prior to implementation, assist the landowner, as needed, to delineate on a map the treatment areas and dates of treatment.
- ☐ During Implementation, verify any planned changes in plan will meet the enhancement criteria.
- ☐ After Implementation, verify that the treatment has been completed and meets enhancement criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E666E

Reduce height of the forest understory to limit wildfire risk

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Plants

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

Same as National Criteria.

A current Forest Management Plan must be developed or already in place and approved by a qualified forester in order for this enhancement to apply. This plan must outline the prescribed management activities to be implemented on the enrolled CSP area.

In order to qualify for this enhancement, the forest area to be treated must have an excessive amount of understory vegetation that needs treated to improve forest health and reduce wildfire risk. Often, this will consist of invasive, non-native, or undesirable species such as European buckthorn, Siberian elm, Eastern red cedar, etc. but may also include sapling trees of the overstory species which are detracting from the growth of the overstory and serving as ladder fuels.

The areas eligible for payment are those areas which are treated by removing excessive understory species and appropriately treating slash and debris to address forest health. Treatment methods may be mechanical or chemical (or both) and prescribed burning may be a useful addition.

Coordinate with a forester, as needed, to identify what actions must be taken for this enhancement to address the noted resource concern and meet the requirements of the enhancement.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY
E666F

CONSERVATION STEWARDSHIP PROGRAM

Reduce forest stand density to create open stand structure

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Plant, Animal

ENHANCEMENT LIFE SPAN: 10 Years

Enhancement Description:

Reducing forest stand density creates open forest conditions with a low basal area which promotes the health and vigor of the residual trees. The open stand structure allows a significant amount of sunlight to reach the forest floor and stimulates the growth of understory vegetation. Understory vegetation management, along with the wide spacing between trees or clumps of trees, provides visual appeal, lowers the risk of wildfire, and provides food, cover, and shelter for many at-risk and listed wildlife species. The enhancement creates conditions that facilitate a follow-up treatment with prescribed burning.

Criteria:

States will apply general criteria from the NRCS National Conservation Practice Standard Forest Stand Improvement (Code 666) as listed below, and additional criteria as required by the NRCS State Office.

- Develop or update a forest management plan in consultation with NRCS personnel and a professional forester to direct the management of the property.
- Thin the stand to a target basal area of 50 to 60 square feet/acre. This creates an open stand and stimulates the growth of herbaceous vegetation on the forest floor. Preferentially remove unhealthy individual trees, undesirable species, and trees with visible defects including forked or broken tops, thin crowns or damaged trunks. Retain desired species and individual trees with large healthy crowns and undamaged trunks.

CONSERVATION STEWARDSHIP PROGRAM

- The stand may have been previously thinned or may be in need of thinning. Merchantable trees may be sold. Reduce stand density sufficiently to get light to the forest floor. The overstory thinning must be completed prior to the understory treatment.

- Trees that cannot be sold may be cut or killed to reduce the canopy and allow sunlight to reach the forest floor. Use NRCS Conservation Practice Standard Woody Residue Treatment (Code 384) as needed to treat felled wood.

- Minimize damage to residual trees during the thinning process.

- Time tree felling to avoid buildup of insect or disease populations.

- Understory vegetation in fire-adapted forest types will receive the greatest benefit from treatment with prescribed burning. Use NRCS Conservation Practice Standard Prescribed Burning (Code 338), and follow all applicable federal, state and local laws. If prescribed burning is not feasible or not appropriate for the site, understory vegetation may be treated with mechanical methods like mulching, mowing, chainsaws, or small dozers.

- Control measures should be used on undesirable competing vegetation, to favor the development of desirable vegetative communities on the site. Vegetation may be treated by chemical methods such as spraying or single stem treatments, or mechanical methods like a heavy-duty brush cutter or similar equipment. Refer to criteria in NRCS Conservation Practice Standard Integrated Pest Management (Code 595) Brush Management (Code 314), or Herbaceous Weed Control (Code 315).

- Implement forest stand improvement activities in ways that avoid or minimize soil erosion, compaction, rutting, and damage to remaining vegetation, and that maintain hydrologic conditions. Protect site resources by selecting the method, felling direction and timing of tree felling, and heavy equipment operation. For temporary access use NRCS Conservation Practice Standard Forest Trails and Landings (Code 655), to protect soil and site resources from vehicle impacts.

- Where slash and debris will be generated, use NRCS Conservation Practice Standard Woody Residue Treatment (Code 384) to appropriately treat slash and debris, as necessary, to assure that it will not present an unacceptable fire, safety, environmental, or pest hazard. Remaining woody material will be placed so that it does not interfere with the intended purpose or other management activities. Do not burn vegetative residues except where fire hazard or threats from diseases and insects are of concern or when other management objectives are best achieved through burning. When slash and other debris will be burned onsite use NRCS Conservation Practice Standard Prescribed Burning (Code 338).

CONSERVATION STEWARDSHIP PROGRAM

- Where machinery is being used, operate under dry conditions when the machinery will not cause rutting and/or soil compaction.
- Do not conduct activities during the nesting season for ground nesting birds.
- The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.

Documentation and Implementation Requirements:

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

- ☐ Prior to implementation, use the NRCS Conservation Practice Standard Forest Stand Improvement (Code 666) conservation practice standard or appropriate state approved NRCS Conservation Practice Standard Forest Stand Improvement (Code 666) Job Sheet to meet the criteria of this enhancement.
- ☐ Prior to implementation, provide to NRCS a current or updated Forest Management Plan that includes activities addressing this enhancement.
- ☐ Prior to implementation, set guidelines to maintain the stand in a fully stocked condition along the B line on the site appropriate stocking chart. Reduce the overstory tree density to create open stand of trees allowing sunlight to the forest floor.
- ☐ Prior to implementation, develop a strategy to manage the understory vegetation to favor wildlife food producing plants using prescribed burning, chemical methods or mechanical methods. (If prescribed burning is used - have a prescribed burn plan in place, for chemical treatments – have recommendations from an approved source, and for mechanical methods follow state BMP guidelines).
- ☐ During implementation, thin the stand to the B line on the stocking chart to open the canopy while maintaining a fully stocked stand of trees. If thinning is not an option, reduce the canopy by chemically treating selected trees to open the canopy while maintaining a fully stocked stand of trees.
- ☐ During implementation, avoid making large areas of woody debris.
- ☐ During implementation, strive to minimize volatile vegetation and reduce ladder fuels if present.
- ☐ During implementation, control undesirable vegetation using prescribed burning, chemical treatments or mechanical methods. Follow the appropriate guidelines (prescribed burn plan, chemical recommendations or state BMP guidelines).
- ☐ After implementation, the participant will provide the date completed, acres treated, methods used and a map delineating treated acres.

NRCS will:

- ☐ Prior to Implementation, assist with interpretation and updates to the Forest Management Plan and activities recommended in the acres targeted for management.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ Prior to implementation, provide and explain guidance in the NRCS Conservation Practice Standard Forest Stand Improvement (Code 666) and how it relates to the use of this enhancement.
- ☐ Prior to implementation, provide assistance with the development of appropriate state approved NRCS Conservation Practice Standard Forest Stand Improvement (Code 666) Job Sheets and discuss the details with the participant.
- ☐ Prior to implementation, discuss the need for managing the understory vegetation along with the overstory. The understory should be managed using prescribed burning, chemical or mechanical treatments. Be sure that there is a prescribed burn plan, chemical recommendations or mechanical treatments following state BMP guidelines in implementing this enhancement.
- ☐ Prior to implementation, provide and explain the following NRCS Conservation Practice Standards (CPSs) as they relate to implementing this enhancement.
  - o Brush Management (Code 314)
  - o Forest Stand Improvement (Code 666)
  - o Forest Trails and Landings (Code 655)
  - o Herbaceous Weed Control (Code 315)
  - o Integrated Pest Management (Code 595)
  - o Woody Residue Treatment (Code 384)
  - o Prescribed Burning (Code 338)
- ☐ During implementation, provide technical assistance as requested by the participant.
- ☐ After Implementation, verify the enhancement was completed according to the enhancement criteria and NRCS Conservation Practice Standard Forest Stand Improvement (Code 666) practice specifications.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E666F

Reduce forest stand density to create open stand structure

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Plant, Animal

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

A current Forest Management Plan must be developed or already in place and approved by a qualified forester in order for this enhancement to apply. This plan must outline the prescribed management activities to be implemented on the enrolled CSP area.

In order to qualify for this enhancement, the forest area to be treated must contain significant stocking level of undesirable species and also contain adequate levels of the target desirable tree species. The forest management plan will identify the target desirable tree species and will also note the desired stocking level (number and size per acre) to match the suitability of the site to support the stand. The undesirable species will be significantly reduced but a diversity of tree and shrub species will be maintained.

The areas eligible for payment are those areas which are treated by removing undesired trees in competition with the target tree species. Treatment methods may be mechanical or chemical (or both) and prescribed burning may be a useful addition if the target tree species is fire tolerant. The slash and debris will be managed to address forest health.

Coordinate with a forester, as needed, to identify what actions must be taken for this enhancement to address the noted resource concern and meet the requirements of the enhancement.

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E666G

CONSERVATION STEWARDSHIP PROGRAM

Reduce forest density and manage understory along roads to limit wildfire risk and improve habitat

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Plant, Animal

ENHANCEMENT LIFE SPAN: 10 YEARS

Enhancement Description:

Opening the tree canopy along roads ("daylighting") and providing space between ground vegetation and tree crowns minimizes the spread of wildfires that often start along roads and improves wildlife habitat and food sources for many species. Some trees near a forest road are removed through harvesting, cutting, mulching, or another option available at the site, with the objective of creating a partially open forest canopy bordering the road. A semi-open canopy allows more sunlight to reach the forest floor to promote herbaceous understory plants and reduces maintenance needs by allowing moisture to evaporate from roads. The reduced canopy and herbaceous understory limit woodland fuel buildup and reduce fire intensity.

Criteria:

States will apply general criteria from the NRCS National Conservation Practice Standard (CPS) Forest Stand Improvement (Code 666) as listed below, and additional criteria as required by the NRCS State Office.

- Apply the enhancement to sites where vegetation on roadsides presents a fire risk, is inadequate for wildlife habitat, or is detrimental to road maintenance. Treat a strip of forest on both sides of the road, as needed and if feasible. Implement the enhancement for a distance of at least 35 feet into the forest stand from the edge of the road, and extend the distance as needed up to 100 feet based on slope, aspect, soils, fuel type, etc. Use criteria in NRCS CPS Fuel Break (Code 383).

- Implement forest stand improvement activities in ways that avoid or minimize soil erosion, compaction, rutting, and damage to remaining vegetation, and that maintain hydrologic conditions. Protect site resources by selecting the method, felling direction and timing of tree felling, and heavy equipment operation. For temporary access use NRCS Conservation

CONSERVATION ENHANCEMENT ACTIVITY

E666G

CONSERVATION STEWARDSHIP PROGRAM

Practice Standard Forest Trails and Landings (Code 655), to protect soil and site resources from vehicle impacts.

CONSERVATION STEWARDSHIP PROGRAM

- The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.
- Wetland compliance and highly erodible land regulations must be followed.
- Trees removed as part of the treatment process that have marketable quality may be sold. Retain desirable species with large healthy crowns, and trees and shrubs that provide a diversity of wildlife food sources. Remove trees that are:
    - At high risk of mortality or failure (unless retained as a wildlife tree at a safe distance from the road)
    - Of low crown vigor
    - Of poor stem form and quality
    - Less-desirable species.
- Trees that cannot be sold may be removed by cutting, mulching, firewood distribution, or other means to reduce the canopy and allow sunlight to reach the forest floor. Trees further away from the road may be killed and left standing as snags, if they will not fall onto the road.
- Minimize damage to residual trees during the daylighting process.
- Refer to criteria in NRCS Conservation Practice Standard Integrated Pest Management (Code 595) Brush Management (Code 314), or Herbaceous Weed Control (Code 315) to assist with site-specific strategies for pest prevention, pest avoidance, pest monitoring, and pest suppression. Time tree felling to avoid buildup of insect or disease populations.
- Where slash and debris will be generated, use NRCS Conservation Practice Standard Woody Residue Treatment (Code 384), to appropriately treat slash and debris, as necessary, to assure that it will not present an unacceptable fire, safety, environmental, or pest hazard. Remaining woody material will be placed so that it does not interfere with the intended purpose or other management activities. Do not burn vegetative residues except where fire hazard or threats from diseases and insects are of concern or when other management objectives are best achieved through burning. When slash and other debris will be burned onsite use NRCS Conservation Practice Standard Prescribed Burning (Code 338).

CONSERVATION STEWARDSHIP PROGRAM

- The understory vegetation can be maintained by prescribed burning where appropriate. Use NRCS CPS Prescribed Burning (Code 338). If prescribed burning is not an option, alternative methods may be used to manage the understory vegetation, such as mowing or fall disking.

- The daylighted area may be treated with herbicides to control noxious and invasive plants and undesirable woody vegetation to promote herbaceous plants. Vegetation may be treated by chemical methods such as spraying or single stem treatments, or mechanical methods like a heavy-duty brush cutter or similar equipment. Refer to criteria in NRCS Conservation Practice Standard Integrated Pest Management (Code 595), Brush Management (Code 314), or Herbaceous Weed Control (Code 315)

- No daylighting activities should take place during the nesting season for ground nesting birds.

Documentation and Implementation Requirements:

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

- Prior to implementation, review NRCS Conservation Practice Standard Forest Stand Improvement (Code 666) which contains information needed to meet criteria for this enhancement.
- Prior to implementation, develop an understanding of management practices that reduce tree density, and the types of understory vegetation that will be encouraged by these practices. (Request NRCS technical assistance, as needed.)
- Prior to implementation, recognize that other NRCS Conservation Practice Standards may be needed to apply this enhancement. These may include:
  - Brush Management (Code 314)
  - Herbaceous Weed Control (Code 315)
  - Integrated Pest Management (Code 595)
  - Woody Residue Treatment (Code 384)
  - Prescribed Burning (Code 338)
- Prior to implementation, acquire all necessary approvals and permits (i.e. local, state, or federal, as applicable).
- Prior to implementation, work with a professional forester who will mark trees and groups of trees to remove and will develop a strategy for controlling undesirable understory vegetation.
- Prior to implementation, if prescribed burning will be used, work with NRCS and a professional forester or biologist to obtain a prescribed burn plan. If chemical methods will be used, obtain recommendations from an approved source.
- Prior to implementation, take pre-treatment photos of the site to show representative conditions.
- During implementation, follow criteria in NRCS Conservation Practice Standard Forest Stand Improvement (Code 666) and specifications provided by NRCS, to ensure that:
  - Overstory trees are removed or retained to achieve all planned purposes and landowner objectives.
  - The desired spacing, density, size-class distribution, number of trees, and amount of understory is achieved.
  - The operation avoids or minimizes damage to desirable vegetation.

CONSERVATION STEWARDSHIP PROGRAM

- During implementation, follow state-approved Forestry Best Management Practices (BMPs) to protect streams, water quality, and minimize soil loss.
- During implementation, treat a strip of forest on both sides of the road, if needed and feasible. Implement the enhancement for a distance of at least 35 feet into the forest stand from the edge of the road, and extend the distance as needed up to 100 feet from the road based on slope, aspect, soils, fuel type, etc.
- During implementation, focus on retaining healthy trees and when available retain trees that provide wildlife benefits such as oaks, hickories, etc.
- During implementation, remove trees that are at risk of mortality, trees with low crown vigor, trees with poor form and quality, and less-desirable species.
- During implementation, control undesirable competing vegetation using appropriate methods for the tree species and site conditions.
- During implementation, limit the size of debris piles to minimize wildfire hazards.
- During implementation, as needed, evaluate and review with NRCS any planned changes to verify they meet the enhancement criteria.
- After implementation, take digital photos showing representative post-treatment conditions.
- After implementation, notify NRCS that the work has been completed and make treatment documentation available for NRCS review and certification.

NRCS will:

- Prior to implementation, provide and explain the following NRCS Conservation Practice Standards as they relate to implementing this enhancement.
  - Fuel Break (Code 383)
  - Brush Management (Code 314)
  - Herbaceous Weed Control (Code 315)
  - Forest Stand Improvement (Code 666)
  - Woody Residue Treatment (Code 384)
  - Forest Trails and Landings (Code 655)
  - Integrated Pest Management (Code 595)
  - Prescribed Burning (Code 338)
- As needed, prior to implementation, NRCS will provide technical assistance in:

CONSERVATION STEWARDSHIP PROGRAM

- Interpreting enhancement criteria relative to tree species to retain and remove or kill, and strategy for controlling undesirable understory vegetation.
- Preparing specifications for applying this enhancement for each site using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

- Prior to implementation, ensure that the participant has an appropriate prescribed burn plan, herbicide recommendations from an approved source and an understanding of how these practices will be applied on the property.
- Prior to implementation, provide and explain the state's Forestry BMP guidelines.
- During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- During implementation, provide technical assistance if requested by the participant.
- After implementation, review documentation and photographs to verify the enhancement was completed according to specifications in this enhancement and NRCS Conservation Practice Standard Forest Stand Improvement (Code 666).

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name_____Contract Number _____

Total Amount Applied_____Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E666G

Reduce forest density and manage understory along roads to limit wildfire risk and improve habitat

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Plant, Animal

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

A current Forest Management Plan must be developed or already in place and approved by a qualified forester in order for this enhancement to apply. This plan must outline the prescribed management activities to be implemented on the enrolled CSP area.

In order to qualify for this enhancement, the forest area to be treated must have an excessive amount of understory vegetation that needs treated to improve forest health and reduce wildfire risk. Often, this will consist of invasive, non-native, or undesirable species such as European buckthorn, Siberian elm, Eastern red cedar, etc. but may also include sapling trees of the overstory species which are detracting from the growth of the overstory and serving as ladder fuels.

The areas eligible for payment are those areas which are treated by removing excessive understory species and appropriately treating slash and debris to address forest health. Treatment methods may be mechanical or chemical (or both) and prescribed burning may be a useful addition.

Coordinate with a forester, as needed, to identify what actions must be taken for this enhancement to address the noted resource concern and meet the requirements of the enhancement.

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E666H

CONSERVATION STEWARDSHIP PROGRAM

Increase on-site carbon storage

CONSERVATION PRACTICE: 666 - Forest Stand Improvement

APPLICABLE LAND USE: Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Soil, Air

ENHANCEMENT LIFE SPAN: 10 years

Enhancement Description

Use forest management techniques to maintain and increase on-site carbon storage. These include, but are not limited to, applying uneven-aged management, using longer rotations, retaining cavity/den trees, snags, and down woody debris, and protecting or increasing soil organic matter.

Criteria

- Apply all of the following activities:
  - Retain all snags and downed woody debris of 6" diameter or larger at the base.
  - Identify leave-trees or clumps of trees that will be retained on site throughout their life span. These would ideally be trees that also provide wildlife habitat (e.g., future cavity/den trees, species that develop loose bark at older ages, mast producers, etc.).
  - Close unneeded roads and limit off-road vehicular traffic to avoid displacing the forest litter layer.

- Apply at least one activity from among the following as appropriate for the site:
  - Transition from even-aged to uneven-aged management.
  - Use regeneration methods (e.g., group selection, shelterwood, seed-tree, expanding gap) that call for retention of mature trees during the period when advanced regeneration develops.
  - Adopt techniques for maintaining and/or improving soil quality, specifically retention or organic carbon.
  - Maintain canopy cover to shade the forest floor and avoid hastening decomposition.

- During forest management activities, apply the following criteria:
    - Identify and retain preferred tree and understory species to achieve all planned purposes and landowner objectives.
    - Use available guidelines for species and species groups to determine spacing, density, size-class distribution, number of trees, and amount of understory species to be retained. Schedule treatments to maintain the stand, as much as possible, consistent with chosen regeneration method, in a fully stocked condition based on appropriate stocking guide.
    - Describe the current and desired future condition of each stand that will be treated. Include the species, cover type, and size-class distribution. Stocking will be described in terms of crop trees per acre, basal area per acre, trees per acre, between-tree spacing, or by any other appropriate and professionally accepted density or stocking protocol.
    - Implement forest stand improvement activities in ways that avoid or minimize soil erosion, compaction, rutting, and damage to remaining vegetation, and that maintain hydrologic conditions. Refer to Conservation Practice Standard Forest Trails and Landings (Code 655) and Road/Trail/Landing Closure and Treatment (Code 654).
    - The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.

Documentation and Implementation Requirements

Participant will:

☐ Prior to implementation:

- develop a new or updated forest management plan (FMP) that may reflect a change in management objectives.
- review NRCS Conservation Practice Standard Forest Stand Improvement (Code 666) that contains information needed to meet criteria for this enhancement.
- develop an understanding of the management that this is required to increase carbon storage appropriate for the resource setting to include the following activities:
    - implement forest management activities that begin a transition from even-aged to uneven-aged management.
    - retain dead wood and select trees or clumps of trees that are intended to be left on the site throughout their life span.
    - use regeneration methods (e.g., group selection, shelterwood, seed-tree, expanding gap) that require retention of mature trees during the period when advanced regeneration develops.
    - adopt techniques for maintaining and/or improving soil quality, specifically retention of organic carbon.

  - maintain canopy cover to shade the forest floor and avoid hastening decomposition.
- For forest lands, work with professional forester to prepare or update a current FMP that includes activities required to implement this enhancement. NRCS State Office will determine if a FMP will be required for Associated Ag Land or Farmstead settings. (Request NRCS technical assistance, as needed.)
- Arrange to have a professional forester or wildlife specialist, as part of developing or updating an FMP:
  - identify and map areas, selected trees, or groups of leave trees that can serve as wildlife habitat and that are intended to be left on site throughout their lifespan.
  - describe amounts and condition of standing snags and fallen woody debris with 6" or larger basal diameter.
  - identify and map trails or roads that can be planned for closure.
- Recognize that other NRCS Conservation Practice Standards may be needed to apply this enhancement. These may include:
  - Forest Trails and Landings (Code 655)
  - Road/Trial/Landing Closure and Treatment (Code 654)
  - Woody Residue Treatment (Code 384)
- Acquire all necessary approvals and permits (i.e., local, state, or federal, as applicable).

☐ During implementation:

- Follow FMP guidelines follow state-approved Forestry Best Management Practices (BMPs) to protect streams, water quality, and minimize soil loss.
- Follow FMP guidelines, criteria in NRCS Conservation Practice Standard Forest Stand Improvement (Code 666), and in specifications provided by NRCS, to ensure that:
  - overstory tree and understory species are retained to achieve all planned purposes and landowner objectives.
  - establish required spacing, density, size-class distribution, number of trees, and amount of understory species to be retained.
  - schedule treatments to maintain the stand, as much as possible, consistent with the chosen forest regeneration method, in a fully stocked condition based on appropriate stocking guide.
  - avoid or minimize soil erosion, compaction, rutting, and damage to remaining vegetation, and that maintain hydrologic conditions.
- Evaluate and review with NRCS any planned changes to verify they meet the enhancement criteria, as needed.

☐ After implementation:

- Ensure that retained leave areas are properly protected.
- Update the FMP to documentation treatment acres, completion dates and methods, and document representative treatments with digital photos.

- Notify NRCS that the work has been completed and make treatment documentation available for NRCS review and certification.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

☐ Prior to implementation:

- Provide and explain the following NRCS Conservation Practice Standards as they relate to implementing this enhancement:
  - Forest Stand Improvement (Code 666)
  - Woody Residue Treatment (Code 384)
- Provide technical assistance in, as needed:
  - Guiding the proper sequence and timing of planned FMP treatment activities to meet requirements to maintain and increase on-site carbon storage.
  - Preparing specifications for applying this enhancement for each site using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
- Ensure that the participant has a current and complete FMP describing all treatment activities for the resource setting.

☐ During implementation:

- Provide technical assistance if requested by the participant.
- Evaluate any planned changes to verify they meet the enhancement criteria.

☐ After Implementation:

- Verify the enhancement was implemented according to the NRCS Conservation Practice Standard Forest Stand Improvement Standard (Code 666) specifications and meets enhancement criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E666H

Increase on-site carbon storage

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Air, Soil

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

A current Forest Management Plan must be developed or already in place and approved by a qualified forester in order for this enhancement to apply. This plan must outline the prescribed management activities to be implemented on the enrolled CSP area.

In order to qualify for this enhancement, the forest area to be treated must support even-aged stands or lack standing and down woody debris or be managed with activities that reduce soil organic matter (i.e. sequential short-interval prescribed burning).

The areas eligible for payment are those areas which are treated by implementing an uneven-aged stand management strategies; creation of standing and down woody debris; and elimination of management that removes forest duff that contributes to soil organic matter.

Coordinate with a forester, as needed, to identify what actions must be taken for this enhancement to address the noted resource concern and meet the requirements of the enhancement.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E666I

CONSERVATION STEWARDSHIP PROGRAM

Crop tree management for mast production

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest, Associated Ag Land, Farmstead

RESOURCE CONCERN: Plant, Animal

ENHANCEMENT LIFE SPAN: 10 Years

Enhancement Description

Forest stand improvement using crop tree management techniques to increase mast production.

Criteria

- States will apply general criteria from the NRCS National Conservation Practice Standard Forest Stand Improvement (Code 666) as listed below, and additional criteria as required by the NRCS State Office.
- Identify the number of mast crop trees to be developed based on site productivity and spacing guidelines for the mast tree species. See State guidelines.
- Crop tree crowns should be in the upper level of the forest canopy (dominant and/or codominant trees), and not suppressed by other tree crowns.
- Cut or kill all trees whose crowns touch the crown of the crop tree on four sides (three sides if adjacent to another crop tree), and leave additional space for large crown development of mast crop trees. Crop trees will have >15 feet of space on all treated sides.
- Retain a diversity of tree species to reduce the potential impact of an epidemic event (e.g. insect outbreak) that may kill some/all trees.

- Trees that are below the crown of the crop tree or are not affecting crown development will be left to provide protection from wind damage, limit epicormic sprouting, and provide diversity for wildlife habitat.
- Trees removed that have marketable quality can be sold.
- All killed trees shall be left standing to provide wildlife habitat, except where snags will become a safety hazard (within 100 feet of a building, power line, road, etc.) or create a fire hazard. Snags that must be cut for safety reasons shall be left on site to become coarse woody debris on the forest floor (unless they create a fire hazard).
- As applicable, additional actions include:
    - Cutting damaging vines away from crop trees
    - Treatment of invasive plants that may be stressing crop trees
- Refer to criteria in NRCS Conservation Practice Standard Integrated Pest Management (Code 595) to assist with site-specific strategies for pest prevention, pest avoidance, pest monitoring, and pest suppression. Time tree felling to avoid buildup of insect or disease populations.
- Implement forest stand improvement activities in ways that avoid or minimize soil erosion, compaction, rutting, and damage to remaining vegetation, and that maintain hydrologic conditions. Protect site resources by selecting the method, felling direction and timing of tree felling, and heavy equipment operation. For temporary access use NRCS Conservation Practice Standard Forest Trails and Landings (Code 655), to protect soil and site resources from vehicle impacts.
- Use NRCS Conservation Practice Standard Access Road (Code 560), for more heavily used roads associated with forest stand improvement activities.
- Where slash and debris will be generated, use NRCS Conservation Practice Standard Woody Residue Treatment (Code 384) to appropriately treat slash and debris, as necessary, to assure that it will not present an unacceptable fire, safety, environmental, or pest hazard. Remaining woody material will be placed so that it does not interfere with the intended purpose or other management activities. Do not burn vegetative residues except where fire hazard or threats from diseases and insects are of concern or

when other management objectives are best achieved through burning. When slash and other debris will be burned onsite use NRCS Conservation Practice Standard Prescribed Burning (Code 338).

- The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, identify the number of dominant and/or codominant mast producing crop trees to be developed based on site productivity and spacing guidance for mast trees, as required in state specific guidelines. (NRCS will provide technical assistance, as needed.)
- ☐ During implementation, release all crop trees on all sides by killing competing trees within 15 feet of the crop tree's crown/canopy.
- ☐ During implementation, retain a diversity of tree species, cut damaging vines away from crop trees, and treat invasive plants that may stress crop trees.
- ☐ During implementation, leave all killed trees (unless removed as a merchantable product) standing to provide additional wildlife habitat, except where snags could become a safety hazard. Trees that must be cut for safety reasons will be left on site to become coarse woody debris on the forest floor.
- ☐ During implementation, protect the site from plant and animal pests, fire, and adverse impacts to the soil resource.

NRCS will:

- ☐ Prior to implementation, as needed, provide technical assistance in determining sites for enhancement implementation that meet specified criteria, including the number of crop trees per acre needed and the spacing of those trees.
- ☐ Prior to implementation, provide and explain the following NRCS Conservation Practice Standards as they relate to implementing this enhancement (as applicable for the site):
    - o Forest Stand Improvement (Code 666)
    - o Integrated Pest Management (Code 595)
    - o Forest Trails and Landings (Code 655)
    - o Access Road (Code 560)
    - o Woody Residue Treatment (Code 384)
    - o Prescribed Burning (Code 338)

CONSERVATION STEWARDSHIP PROGRAM

- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ After implementation, document the number of crop trees per acre and average spacing and verify the post treatment stand conditions meet the specifications developed for the crop tree release activity.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E666I

Crop tree management for mast production

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest, Associated Ag Land, Farmstead

RESOURCE CONCERN: Plant, Animal

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

A current Forest Management Plan must be developed or already in place and approved by a qualified forester in order for this enhancement to apply. This plan must outline the prescribed management activities to be implemented on the enrolled CSP area.

In order to qualify for this enhancement, the forest area to be treated must support a mast producing trees species (hard or soft mass) and have other tree species competing for resources with those mast producing trees. The forest management plan will identify the target mast producing species and will also note the desired stocking level (number and size per acre) to match the suitability of the site to support the stand.

The areas eligible for payment are those areas which are treated by removing undesired trees in competition with the target mast producing trees. Treatment methods may be mechanical or chemical (or both) and prescribed burning may be a useful addition if the target mast producing tree species is fire tolerant. The slash and debris will be managed to address forest health.

Coordinate with a forester, as needed, to identify what actions must be taken for this enhancement to address the noted resource concern and meet the requirements of the enhancement.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E666J

CONSERVATION STEWARDSHIP PROGRAM

Facilitating oak forest regeneration

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest, Associated Ag Land

RESOURCE CONCERN: Plants, Animals

ENHANCEMENT LIFE SPAN: 10 Years

Enhancement Description

Facilitate oak regeneration following a forest stand improvement treatment for natural oak regeneration (e.g., a regeneration cut). After a regeneration cut, competition from invasive brush and undesirable tree and shrub species often suppresses successful establishment of oak seedlings and saplings. This enhancement will release seedling and sapling oaks from competing invasive plants and other undesirable species, and thin stump sprouts. A forester will monitor site conditions, treat competition, protect seedlings, and recommend additional follow-up treatments as needed. The enhancement protects investments in oak regeneration by providing for follow-up activities that require the expertise of a professional forester.

Criteria

States will apply general criteria from the NRCS National Conservation Practice Standard Forest Stand Improvement (Code 666) as listed below, and additional criteria as required by the NRCS State Office.

- Develop or update a forest management plan (FMP) in consultation with NRCS personnel and a professional forester to direct the management of the property. The FMP will include guidelines for the amount of advanced oak regeneration needed to achieve the desired future condition. It will describe the types of competition or other stressors that threaten oak survival and recruitment in the area, and recommend facilitating controls such as prescribed burning, chemical, and mechanical treatments to achieve desired outcomes. The FMP will also include guidelines for future inspection and monitoring, types of forest health impacts or stand damage to look for during inspections, and potential supplementary activities that may be needed to achieve additional oak recruitment and regeneration.

This enhancement may be applied only to forest stands that have already had a seed tree, shelterwood, thinning, or other silvicultural treatment designed to regenerate oak. The stands must contain an adequate amount of oak regeneration in the seedling and/or sapling stages, sufficient to achieve stand objectives if they survive and become fully established. The stands must also have evidence that the oak regeneration is not "free to grow" due to the presence of competing species. This enhancement is not appropriate for stands that have reached the pole timber size class because they are considered fully established at that point and stand management activities will be different.

- A forestry specialist will inspect the stand and identify existing or potential species of harmful insects, tree diseases, and invasive plants, as well as other biotic and abiotic (i.e. ice storms, drought, flooding, etc.) impacts on forest growth, health, structure and/or composition.

- A forestry specialist will conduct regeneration surveys according to methods described in the NRCS National Forestry Handbook, Title 190, Section 636.2.

- The forestry specialist will make recommendations for short-term treatments as needed. A skilled laborer will implement appropriate activities such as applying mechanical and spot chemical treatments, and/or installing tree protection.

- In appropriate settings, prescribed burning may be used to control vegetative competition after oak root systems are sufficiently established to re-sprout after a fire. With the recommendation of a forestry specialist, use NRCS Conservation Practice Standard Prescribed Burning (Code 338), or CSP Enhancement E338B, Short-interval burn.

- The forestry specialist will recommend additional practices as needed to correct undesirable forest health conditions. Practices may include: NRCS Conservation Practice Standards Integrated Pest Management (Code 595), Brush Management (Code 314), Herbaceous Weed Control (Code 315).

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

- Prior to implementation, the participant will obtain a new or updated Forest Management Plan (FMP) that includes activities required to implement this enhancement. The FMP will identify regeneration needs, competition that impedes oak regeneration and recruitment, other forest health concerns, and activities recommended for implementation. The participant will make the FMP available for NRCS review.
- Prior to implementation, arrange for a forestry specialist to inspect the stand and perform the tasks identified in this enhancement.
- Prior to implementation, review the NRCS Conservation Practice Standard Forest Stand Improvement (Code 666) conservation practice standard and other applicable implementation documentation and use the information to meet the criteria of this enhancement.
- During implementation, the participant and the forestry specialist will ensure that regenerating oak trees are protected from any damage.
- During implementation, notify NRCS if there are any planned changes, to verify they meet the enhancement criteria.
- After implementation, notify NRCS that the work has been completed, and make the following information available to NRCS: dates that inspection was conducted, methods used, and the treatments applied to remove competition and protect young oaks.

NRCS will:

- Prior to implementation, verify the enhancement activity is planned for acres that meet the criteria within the enhancement guide sheet. Verify that a forest stand improvement treatment to initiate oak regeneration was previously applied, that regenerating seedling and/or sapling oaks are present, and that oak survival is threatened by competing species and/or other environmental stressors.
- Prior to implementation, provide assistance with interpretation of a new or updated FMP on acres targeted by this enhancement.
- Prior to implementation, provide and explain the following NRCS Conservation Practice Standards as they relate to implementing this enhancement:
    - Forest Stand Improvement (Code 666)

- Integrated Pest Management (Code 595)
- Prescribed Burning (Code 338)
- Brush Management (Code 314)
- Herbaceous Weed Control (Code 315)
- Tree/Shrub Establishment (Code 612)
- Tree/Shrub Site Preparation (Code 490)

☐ As needed, prior to implementation, NRCS will provide technical assistance by:

- Preparing specifications for applying this enhancement for each site using approved guide sheets, implementation requirements, technical notes, and narrative statements in the conservation plan, or other acceptable documentation, and discussing the details with the participant.
- Providing methods for conducting regeneration surveys.

☐ During implementation, provide technical assistance if requested by the participant.

☐ During implementation, as needed, evaluate any planned changes to verify they meet the enhancement criteria.

☐ After implementation, certify that the enhancement was completed according to the NRCS Conservation Practice Standard Forest Stand Improvement (CPS 666) specifications and the enhancement criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name_____Contract Number _____

Total Amount Applied_____Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E666J

Facilitating oak forest regeneration

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest, Associated Ag Land

RESOURCE CONCERN: Plants, Animals

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

A current Forest Management Plan must be developed or already in place and approved by a qualified forester in order for this enhancement to apply. This plan must outline the prescribed management activities to be implemented on the enrolled CSP area.

In order to qualify for this enhancement, the forest must consist of or historically consist of oak species. The forest area to be treated must be at least five acres in size and 100 feet or wider at all points. Removal of undesired species (i.e. cedar, locust, etc.) which are competing with young oak samplings is desired. At least 1 acre of opening must be created, with individual openings being at least 0.5 acres in size.

In stands in need of enrichment planting of oaks should reference the Tree/Shrub Establishment Planting Design Procedures (612DP) and Woodland/Forest Design Procedures (643DPb).

The addition of a regular prescribed fire schedule within the management plan is highly recommended as oak species are more resilient to fire treatments compared to competing species. Compatible CSP activities with prescribed fire include 338 Prescribed Burning or E338B, Short-interval burns to promote a healthy herbaceous plant community.

The areas eligible for payment are those areas which are treated to allow regeneration of oak species.

Coordinate with a forester, as needed, to identify what actions must be taken for this enhancement to address the noted resource concern and meet the requirements of the enhancement.

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E666K

CONSERVATION STEWARDSHIP PROGRAM

Creating structural diversity with patch openings

CONSERVATION PRACTICE: 666 - Forest Stand Improvement

APPLICABLE LAND USE: Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Animals, Plants

ENHANCEMENT LIFE SPAN: 10 years

Enhancement Description

Forest stand improvement that creates patch openings. Size, shape, location, and arrangement of patches will be based on natural features and emulate patches that would result from natural disturbance regimes of wind or fire, varying geographically by forest type and by tree species desired from natural regeneration. The treatment will create or maintain diversity in stand composition and structure, increase pest resistance, reduce wildfire risk, and enhance wildlife food availability. Openings may provide regeneration sites, restore natural plant communities, and achieve or maintain a desired understory plant community for wildlife habitat.

Criteria

- Develop or update a forest management plan in consultation with NRCS personnel and a professional forester to direct the management of the property.

- Apply treatment to one of the following forest stand conditions:
  - Existing stand is already at an "acceptable growing stock" level. For tree species with stocking charts, this is at the B line, the lowest level of a fully stocked stand. Must contain species for regeneration from the NRCS state list of suitable trees. Species on this list have the ability to regenerate from seed, sprouts, or other natural regeneration sources.
  - Dry Western forests that have been thinned in the last 5 years. Patch cutting seeks to restore variable and patchy structural conditions typical of benchmark ecological sites.

  - Closed canopy pine plantation monoculture with few native herbaceous or shrub plants in the understory. Select sites with >/= 50 square feet of basal area per acre and pine species included on the NRCS state list of pine species that have the ability to regenerate from seed.

- Create openings of varying sizes. Vary shapes of openings to correspond with land features (slope, aspect, soil moisture), or to utilize sunlight effectively to encourage regeneration within the opening, as needed.
  - The size of patches to be treated for wildlife can vary from .025 to 10 acres, be distributed throughout the forest, and cannot total more than 30% of the acres meeting the "acceptable growing stock" level.
  - Size of patches to be treated for degraded plant condition can vary from .025 to 10 acres, be distributed throughout the forest, and cannot total more than 50 percent of the acres meeting the "acceptable growing stock" level.

- Preferentially locate patch openings in areas that lack crop trees or wildlife trees. In dry western forests, locate patches in areas more open in the past due to higher fire frequency and intensity (on hills and knolls, and west- and south-facing slopes). Locate openings where there is an aggregation of trees that are:
  - At high risk of mortality or failure (unless retained as a wildlife tree)
  - Of low crown vigor
  - Of poor stem form and quality
  - Less-desirable species.

- Trees removed during patch development having marketable value can be sold.

- Where slash and debris will be generated, use NRCS Conservation Practice Standard Woody Residue Treatment (Code 384), to appropriately treat slash and debris, as necessary, to assure that it will not present an unacceptable fire, safety, environmental, or pest hazard. Remaining woody material will be placed so that it does not interfere with the intended purpose or other management activities. Do not burn vegetative residues except where fire hazard or threats from diseases and insects are of concern or when other management objectives are best achieved through burning. When slash and other debris will be burned onsite use NRCS Conservation Practice Standard Prescribed Burning (Code 338).

- Slash and cull trees must be managed if the material interferes with the production of wildlife food. The material may be managed as follows:
  - Windrowing or wildlife piles
  - Chipping or cutting for firewood

- In appropriate stands, prescribed burning may be used.

- Refer to criteria in NRCS Conservation Practice Standard Integrated Pest Management (Code 595) to assist with site-specific strategies for pest prevention, pest avoidance, pest monitoring, and pest suppression. Time tree felling to avoid buildup of insect or disease populations.

- Control measures may be used on undesirable competing vegetation, to favor the development of desirable vegetative communities on the site. Vegetation may be treated by chemical methods such as spraying or single stem treatments, or mechanical methods like a heavy-duty brush cutter or similar equipment. Refer to criteria in NRCS Conservation Practice Standard Integrated Pest Management (Code 595).

- For areas adjacent to patch openings, leave residual trees and shrubs that provide a diversity of wildlife food sources.

- Implement forest stand improvement activities in ways that avoid or minimize soil erosion, compaction, rutting, and damage to remaining vegetation, and that maintain hydrologic conditions. Protect site resources by selecting the method, felling direction and timing of tree felling, and heavy equipment operation. For temporary access use NRCS Conservation Practice Standard Forest Trails and Landings (Code 655), to protect soil and site resources from vehicle impacts.

- Use NRCS Conservation Practice Standard Access Road (Code 560), for more heavily used roads associated with forest stand improvement activities.

- The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.

- If management of the remaining forest area (between patch openings) provides a conservation benefit, management can be accomplished at the same time as patch opening creation. Use applicable criteria from NRCS Conservation Practice Standard Forest Stand Improvement (Code 666) when managing the general forest area.

Documentation and Implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

☐ Prior to implementation:
- work with NRCS or your forester to develop or update a forest management plan which will include management practices to address the documented resource concerns.
- select areas for patch openings that contain species for regeneration from the NRCS state list of suitable trees that have the ability to regenerate from seed, sprouts, or other natural means. Document that the trees are present and vigorous enough to regenerate.
- determine the resource concern, size, shape, location, and distribution of openings throughout the forest. In dry western forests, locate patches in areas more open in the past due to higher fire frequency and intensity (on hills and knolls, and west- and south-facing slopes). The size of each opening ranges from 0.25-10 acres, and the total acreage in openings will be less than 30% of eligible forest acres for wildlife openings and less than 50% of eligible forest acres for degraded plant condition based on stocking. Locate openings in areas that lack crop trees or wildlife trees and where there is an aggregation of trees that are:
  - At high risk of mortality or failure
  - Of low crown vigor
  - Of poor stem form or quality
  - Less-desirable species

☐ During implementation:
- manage slash and cull trees by windrowing, creating wildlife piles, chipping, cutting for firewood, and/or prescribed burning if appropriate.
- protect the site from plant and animal pests, fire, and adverse impacts to the soil resource.
- notify NRCS if there are any planned changes, to verify they meet the enhancement criteria.

☐ After implementation:
- provide NRCS a map showing the location of patches and photos documenting that patch cuts were completed according to specifications.

NRCS will:

☐ Prior to implementation:
- verify the enhancement activity is planned for acres that meet the criteria within the enhancement guide sheet.

- provide technical assistance in:
  - preparing specifications for applying this enhancement for each site using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation, and will discuss the details with the participant.
  - determining size, shape, location, and distribution of openings, including percentage of the stand that will be in openings, to meet the criteria within the enhancement guide sheet.
  - evaluating stocking and acceptable growing stock for both pre- and post-treatment stand conditions.
  - identifying desired species to be regenerated in the openings, as needed.
- provide and explain the following NRCS Conservation Practice Standards as they relate to implementing this enhancement (as applicable for the site):
  - Forest Stand Improvement (Code 666)
  - Woody Residue Treatment (Code 384)
  - Prescribed Burning (Code 338)
  - Integrated Pest Management (Code 595)
  - Forest Trails and Landings (Code 655)
  - Access Road (Code 560)

☐ During implementation:

- evaluate any planned changes to verify they meet the enhancement criteria.
- provide technical assistance if requested by the participant.

☐ After Implementation:

- verify the planned patch openings were established to specifications developed for the site and the enhancement criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E666K

Creating structural diversity with patch openings

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest, Associated Ag Land, Farmstead

RESOURCE CONCERN: Plant, Animals

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

A current Forest Management Plan must be developed or already in place and approved by a qualified forester in order for this enhancement to apply. This plan must outline the prescribed management activities to be implemented on the enrolled CSP area.

In order to qualify for this enhancement, the forest area to be treated must be at least five acres in size and 100 feet or wider at all points. Individual openings must be at least 0.5 acres in size and each forest stand must have at least one acre of opening created within it. To some degree, the use of multiple techniques will be used to fell trees including pushing over to dislodge roots, cutting near the base and hinge cutting at higher levels.

The areas eligible for payment are those areas which are treated by felling trees to create the opening. Treatment methods must result in some level of woody debris in all size classes remaining within the created opening.

Coordinate with a forester, as needed, to identify what actions must be taken for this enhancement to address the noted resource concern and meet the requirements of the enhancement.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E666L

CONSERVATION STEWARDSHIP PROGRAM

Forest Stand Improvement to rehabilitate degraded hardwood stands

Conservation Practice 666: FOREST STAND IMPROVEMENT

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Plant, Animal

ENHANCEMENT LIFE SPAN: 10 Years

Enhancement Description

Hardwood forestland has been subject to poor logging practices ("high-grading") for decades. Without professional forestry assistance the best species and individual trees are removed, often before maturity ("diameter-limit cutting"), leaving the poorest species and individual trees to regenerate the stand. Reversing this process requires cutting or killing poor quality trees while retaining any desirable species that might still be present. A combination of 3 silvicultural methods are applied: crop tree release, group selection (all trees removed from an area 0.25 to 1.0 acre in size) and small clear-cuts (all trees removed from an area 1-3 acres in size).

Criteria

States will apply general criteria from the NRCS National Conservation Practice Standard Forest Stand Improvement (Code 666) as listed below, and additional criteria as required by the NRCS State Office.

- Identify tree species (crop trees) that meet objectives for the stand (timber, wildlife, visual quality, etc.). Some crop tree species will meet multiple objectives (oak, cherry, black walnut, tulip-poplar, pine, spruce).
- Crop trees will receive a crown-touching release: any undesirable trees touching a crop tree crown will be cut or killed.

- Areas of 0.25 acre or more with no crop trees will be clear-cut, up to 3 acres in size.
- Forest stand improvement activities will be planned and applied in a manner to meet the habitat requirements for wildlife species of concern as determined by the state's NRCS Wildlife Habitation Evaluation Guide (WHEG) and will be managed to achieve or maintain a value of 0.75 or greater.
- Invasive species will be controlled before tree cutting begins or concurrently with the cut.
- Refer to criteria in NRCS Conservation Practice Standard Integrated Pest Management (Code 595) to assist with site-specific strategies for pest prevention, pest avoidance, pest monitoring, and pest suppression. Time tree felling to avoid buildup of insect or disease populations.
- Treatment activities will be conducted during periods of the year that accommodate reproduction and other life-cycle requirements of the targeted wildlife and pollinator species.
- Retain a diversity of tree species, where possible, to reduce the potential impact of an epidemic event (e.g. insect outbreak) that may kill trees of some species.
- Trees removed that have marketable quality can be sold.
- Killed trees that do not interfere with tree regeneration shall be left standing to provide wildlife habitat, except where snags will become a safety hazard (within 100 ft. of a building, power line, road, etc.) or create a fire hazard. Snags that must be cut for safety reasons shall be left on site to become coarse woody debris on the forest floor (unless they create a fire hazard).
- As applicable, cut damaging vines away from crop trees
- Implement forest stand improvement activities in ways that avoid or minimize soil erosion, compaction, rutting, and damage to remaining vegetation, and that maintain hydrologic conditions. Protect site resources by selecting the method, felling direction and timing of tree felling, and heavy equipment operation. For temporary access use NRCS Conservation Practice Standard Forest Trails and Landings (Code 655), to protect soil and site resources from vehicle impacts.
- Use NRCS Conservation Practice Standard Access Road (Code 560), for more heavily used roads associated with forest stand improvement activities.

CONSERVATION STEWARDSHIP PROGRAM

- Where slash and debris will be generated, use NRCS Conservation Practice Standard Woody Residue Treatment (Code 384) to appropriately treat slash and debris, as necessary, to assure that it will not present an unacceptable fire, safety, environmental, or pest hazard. Remaining woody material will be placed so that it does not interfere with the intended purpose or other management activities. Do not burn vegetative residues except where fire hazard or threats from diseases and insects are of concern or when other management objectives are best achieved through burning. When slash and other debris will be burned onsite use NRCS Conservation Practice Standard Prescribed Burning (code 338).
- The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

- ☐ Prior to implementation, work with professional forester to develop forest management plan documenting which of the three methods will be used (crop tree release, group selection, or clear cut) and in what stands they will be implemented.
- ☐ Prior to implementation, work with professional forester and/or NRCS to determine ways to implement the enhancement that avoid or minimize soil erosion, compaction, rutting, and damage to remaining vegetation, and that maintain hydrologic conditions.
- ☐ Prior to implementation, work with professional forester and/or NRCS to protect site resources by selecting the method, felling direction and timing of tree felling, and heavy equipment operation.
- ☐ Prior to implementation, work with professional forester and/or NRCS if temporary access use NRCS Conservation Practice Standard Forest Trails and Landings (Code 655), to protect soil and site resources from vehicle impacts.
- ☐ Prior to implementation, work with professional forester and/or NRCS to delineate areas to be treated on a map (s).
- ☐ Prior to implementation, work with professional forester and/or NRCS to complete an Implementation Requirements sheet for NRCS Conservation Practice Standard Forest Stand Improvement (Code 666). Depending on method(s) specified in the plan, address:
    - o Identify tree species (crop trees) that meet objectives for the stand (timber, wildlife, visual quality, etc.).
    - o Identify areas of 0.25 to 1 acre in size that will have group selection.
    - o Identify areas of 1-3 acres in size that will be clear cut.
    - o Specify how undesirable trees and shrubs will be cut or killed.

Stand #	Treatment Option

- ☐ Invasive species will be treated prior to implementation or concurrently with the cut.

- ☐ During implementation, notify NRCS of any planned changes to verify they meet the enhancement criteria.
- ☐ During implementation, verify that killed trees/snags that do not interfere with regeneration are left standing or cut and left on site (if safety hazard).
- ☐ During implementation, cut damaging vines away from crop trees.
- ☐ After implementation, notify NRCS that implementation has been completed.

NRCS will:

- ☐ Prior to implementation, provide and explain the following NRCS Conservation Practice Standards as they relate to implementing this enhancement.
  - o Integrated Pest Management (Code 595)
  - o Woody Residue Treatment (Code 384)
  - o Prescribed Burning (Code 338)
  - o Access Road (Code 560)

- ☐ Prior to Implementation, provide and explain, as needed, NRCS Conservation Practice Standard Forest Stand Improvement (Code 666) and assist the participant in completing an Implementation Requirements sheet. Depending on method(s) specified in the plan address:
  - o Identify tree species (crop trees) that meet objectives for the stand (timber, wildlife, visual quality, etc.).
  - o Identify areas of 0.25 to 1 acre in size that will have group selection.
  - o Identify areas of 1-3 acres in size that will be clear cut.
- ☐ Prior to implementation, assist landowner to determine ways to implement the enhancement that avoid or minimize soil erosion, compaction, rutting, and damage to remaining vegetation, and that maintain hydrologic conditions.
- ☐ Prior to implementation, assist landowner to protect site resources by selecting the method, felling direction and timing of tree felling, and heavy equipment operation. Provide and document with Participant on NRCS Conservation Practice Standard Forest Stand Improvement (Code 666) Implementation requirements sheet.
- ☐ Prior to implementation, if temporary access is needed, provide participant with NRCS Conservation Practice Standard Forest Trails and Landings (Code 655), to protect soil and site resources from vehicle impacts.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ Prior to implementation, as needed, provide assistance in delineating treatment area on a map(s).
- ☐ Prior to implementation, verify that invasive species have been treated or treating concurrently with cut.
- ☐ Prior to implementation, Wildlife Habitat Evaluation Guide (WHEG) or State equivalent must be completed. **Existing condition WHEG score:_____ Planned after implementation WHEG score:_____**
- ☐ During implementation, as needed, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ After implementation, verify that killed trees/snags that do not interfere with regeneration are left standing or cut and left on site (if safety hazard).
- ☐ After implementation verify that damaging trees have been removed from crop trees.
- ☐ After implementation, Wildlife Habitat Evaluation Guide (WHEG) or State equivalent must be completed and have a value of 0.75 or greater. **After implementation WHEG score:_____**
- ☐ After Implementation, verify the enhancement was implemented according to the NRCS Conservation Practice Standard Forest Stand Improvement (Code 666) specifications and meets enhancement criteria.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E666L

Forest stand improvement to rehabilitate degraded hardwood stands

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest

RESOURCE CONCERN: Plant, Animal

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

Same as National Criteria.

A current Forest Management Plan must be developed or already in place and approved by a qualified forester in order for this enhancement to apply. This plan must outline the prescribed management activities to be implemented on the enrolled CSP area.

In order to qualify for this enhancement, the forest area to be treated must contain significant stocking level of undesirable species and also contain adequate levels of the target desirable tree species. The forest management plan will identify the target desirable tree species and will also note the use of three silvicultural methods in appropriate portions of the enrolled acres (each will be shown on a plan map). The undesirable species will be significantly reduced but a diversity of tree and shrub species will be maintained.

The areas eligible for payment are those areas which are treated by removing undesired trees in competition with the target tree species. Treatment methods may be mechanical or chemical (or both) and prescribed burning may be a useful addition if the target tree species is fire tolerant. The slash and debris will be managed to address forest health.

Document the target wildlife species and the actions needed to provide benefits on the 645 NE IR Upland Wildlife Habitat Management - NE-CPA-14, Wildlife Habitat Development/Management Plan.

The most suitable WHEW may be the Woodland Habitat Evaluation Worksheet 2006 or a Habitat Suitability Index for a target wildlife species. The planned score must equal or exceed 0.75 on the habitat evaluation for the entire woodland or forest area.

Coordinate with a forester, as needed, to identify what actions must be taken for this enhancement to address the noted resource concern and meet the requirements of the enhancement.

Change from 2023 to 2024: Updated reference to controlling invasives to be either before tree cutting or during the cut.

United States Department of Agriculture

Conservation Enhancement Activity

CONSERVATION STEWARDSHIP PROGRAM

E666O

Snags, den trees, and coarse woody debris for wildlife habitat

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest, Associated Ag Land, Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 10 Years

Enhancement Description

Improve wildlife habitat through creation and retention of snags, den trees, wolf trees, forest stand structural diversity, and coarse woody debris on the forest floor, to provide cover, shelter, and other habitat features for native wildlife species.

Criteria

- States will apply general criteria from the NRCS National Conservation Practice Standard Forest Stand Improvement (Code 666) as listed below, and additional criteria as required by the NRCS State Office.
- Identify desired wildlife species that use snags, den trees, wolf trees, coarse woody debris, and/or brush piles for shelter, cover, perches, nest sites, rearing sites, etc.
- Manage for specific tree species, or a selected mix of species, size-classes, and stocking rates at the appropriate scale to meet desired wildlife habitat requirements.
- Create, recruit, and maintain sufficient snags, wolf trees, nest trees, cavity/den trees, and coarse woody debris to meet requirements of desired species. Arrange downed woody material into brush piles as appropriate for desired wildlife species. Refer to criteria in NRCS Conservation Practice Standard Upland Wildlife Habitat Management (Code 645) for manipulation of vegetation.

- The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.
- When determining which trees will be killed for snag creation, and/or used to create cavities/dens or perches, consider effects on the remaining stand.
    - Identify and retain preferred tree and understory species to achieve all planned purposes and landowner objectives.
    - Use available guidelines for species and species groups to determine spacing, density, size-class distribution, number of trees, and amount of understory species to be retained.
    - Refer to criteria in NRCS Conservation Practice Standard Integrated Pest Management (Code 595) to assist with site-specific strategies for pest prevention, pest avoidance, pest monitoring, and pest suppression.
    - Consider using downed woody material to create brush piles for additional wildlife habitat.

Documentation and Implementation Requirements:

Participant will:

- Prior to implementation, participant will work with NRCS to identify the desired wildlife species that use snags, den trees, coarse woody debris, perches, and/or brush piles for shelter, cover, nest sites, and/or rearing sites, and are likely to benefit from the enhancement.
- Prior to Implementation, participant will work with professional forester or NRCS to delineate on a map the acres that the enhancement would be applied.
- Prior to implementation, participant will work with professional forester or NRCS to estimate how many snags, wolf trees, den trees, coarse woody debris, and/or brush piles are present per acre on the acres identified.
- Prior to implementation, work with NRCS to determine how many snags per acre per size class would be needed in addition to those present that will benefit the wildlife species.

Desired Wildlife Species

Snags and Woody Residue size classes	Estimated Snags/Den Trees per Acre	Desired Snags/Den Trees per Acre	# of Snags/Den Trees per Acre to be Created
Snags 6-10 inch diameter at breast height.		2 or more	
Snags 10-20 inch diameter at breast height		2 or more	
Snags >20 inch diameter at breast height		2 or more	
Large Woody Debris >20 inch diameter		1 or more	
Brush piles		1	

- During implementation, notify NRCS if any planned changes to verify they meet the enhancement criteria.
- During implementation, keep a written log and take digital photos of snag/den trees created and approximate locations on a map.

- After implementation, notify NRCS that the work has been completed; submit digital photos.
- After implementation, retain digital photos for NRCS to verify practice has been completed.

NRCS Will:

- Prior to implementation, provide and explain the following NRCS Conservation Practice Standards as they relate to implementing this enhancement.
    - Forest Stand Improvement (Code 666)
    - Upland Wildlife Habitat Management (Code 645)
- Prior to implementation, assist participant in determining which wildlife species will benefit from snags, den trees, coarse woody debris, and/or brush piles for shelter, cover, nest sites, and/or rearing sites.
- Prior to implementation, assist the landowners to delineate on a map the acres that the enhancement would be applied.
- Prior to implementation, assist the participant to determine the number of snags (by size class), den trees, coarse woody debris, and/or brush piles exist on the acres delineated by the enhancement. Determine the desired number, with the difference being the # of snags, den trees, coarse woody debris, and/or brush piles need to be created to meet criteria of the enhancement.
- During implementation, as needed, evaluate any planned changes to verify they meet the enhancement criteria.
- After implementation, verify that the number of snags, den trees, coarse woody debris, and/or brush piles have been created.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name_____Contract Number _____

Total Amount Applied_____Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E666O

Snags, den trees, and coarse woody debris for wildlife habitat

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

A current Forest Management Plan must be developed or already in place and approved by a qualified forester in order for this enhancement to apply. This plan must outline the prescribed management activities to be implemented on the enrolled CSP area.

In order to qualify for this enhancement, the forest area to be treated must contain enough mature trees to serve as suitable snags or den trees for wildlife (trees greater than 20 inches in diameter). Trees that contain hollow trunks (especially cottonwood, boxelder, etc.) should be protected from impacts to serve as den trees. Snags can be created by cutting through the bark and cambium to kill the tree and leave standing. Select undesirable trees for use as snags and to cut and leave on the forest floor to serve as coarse woody debris. If brush piles are being constructed, reference Structures for Wildlife Standard (649) and the Structures for Wildlife 649 Jobsheet.

The areas eligible for payment are those areas which are treated by creating snags, protecting den trees, and increasing coarse woody debris on the forest floor. Treatment methods must result in some level of snags and woody debris in all size classes.

Coordinate with a forester and biologist, as needed, to identify what actions must be taken for this enhancement to address the noted resource concern and meet the requirements of the enhancement.

USDA United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E666P

CONSERVATION STEWARDSHIP PROGRAM

Summer roosting habitat for native forest-dwelling bat species

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest, Associated Ag Land, Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 10 Years

Enhancement Description

Create new potential roost trees within upland and riparian forests to achieve desired summer habitat for forest-dwelling bat species.

Criteria

- States will apply general criteria from the NRCS National Conservation Practice Standard Forest Stand Improvement (Code 666) as listed below, and additional criteria as required by the NRCS State Office.
- These criteria and any tree removal activities will be coordinated with U.S. Fish and Wildlife Service (USFWS). This includes the establishment of minimum criteria to meet the habitat requirements of the bat species of concern while avoiding potentially detrimental disturbances during the maternity period.
- Create additional snags within the forested acres by girdling/killing live trees. When choosing trees to kill, consider that the majority of snag-roosting bats prefer the largest available snags, which often extend above the forest canopy and retain bark for a longer period of time. Also focus on killing trees that are undesirable for quality forest products due to species or form.
- Promote use of live trees with loose or exfoliating bark by killing all trees adjacent (canopies within 15 feet of habitat tree) to trees determined to have desired bark characteristics, as defined by NRCS state technical staff. Larger diameter trees should be considered as habitat trees, as desirable bark characteristics tend to improve with the

size and age of the tree. Large/mature trees also develop splits, breaks, dead limbs, and cavities that serve as roosting areas.

- Habitat trees should be distributed evenly across the treated acres.
- The combined snags and live, loose bark trees should be created or maintained at a combined rate as determined to be necessary to meet the habitat requirements of the bat species of concern and the specific forest type, as defined by the USFWS and NRCS state technical staff.
- The enhancement will comply with all applicable federal, state, and local laws and regulations, and with States' Forestry Best Management Practices for Water Quality.
- When determining which trees will be killed for snag creation, and/or used to create loose/exfoliating bark, consider effects on the remaining stand.
    - Identify and retain preferred tree and understory species to achieve all planned purposes and landowner objectives.
    - Use available guidelines for species and species groups to determine spacing, density, size-class distribution, number of trees, and amount of understory species to be retained. Schedule treatments to avoid overstocked conditions using approved silvicultural stocking guides.
    - Implement forest stand improvement activities in ways that avoid or minimize soil erosion, compaction, rutting, and damage to remaining vegetation, and that maintain hydrologic conditions.

CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

- ☐ Prior to implementation, work with NRCS to complete a wildlife habitat evaluation guide or State equivalent.
- ☐ Prior to implementation, obtain a wildlife habitat management plan for the targeted species suite which includes:
  - Wildlife Habitat Evaluation Guide scores for benchmark and desired conditions.
  - The minimum criteria to meet the targeted species habitat requirements.
  - A plan map indicating the stands and individual trees selected for the treatment.
  - A list of NRCS Conservation Practice Standards that will be applied to reach the desired habitat conditions
- ☐ During implementation, keep a field log which includes:
  - Treatment dates
  - Count of treated (girdled) trees and treatment actions completed (i.e. removal of canopies within 15 feet of habitat tree).
- ☐ During implementation, notify NRCS of any planned changes, notify NRCS of any planned changes to verify they meet the enhancement criteria.
- ☐ After implementation, notify NRCS that implementation has been completed.
- ☐ After implementation, make the follow items available for NRCS review to verify implementation of the enhancement:
  - Wildlife Habitat Management Plan.
  - Wildlife habitat plan treatment map.
  - Field log.
  - Digital photographs.

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ Prior to implementation, assist the participant in completing the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG) or State equivalent. **Target Bat Species of concern: _____**
  Current/Existing Condition WHEG score:_____
  Planned WHEG score after implementation:_____

- ☐ Prior to implementation, provide participant assistance in the development of a wildlife habitat management plan.

- ☐ Prior to implementation, provide participant with additional technical assistance to the, as requested.

- ☐ During implementation, as needed, evaluate any planned changes to verify they meet the enhancement criteria.

- ☐ After implementation, verify implementation of the wildlife habitat management plan, by reviewing field log records kept and digital photographs taken during enhancement implementation.

- ☐ After implementation, complete the state's approved NRCS Wildlife Habitat Evaluation Guide (WHEG) or State equivalent. **WHEG score after implementation:_____**

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____
NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E666P

Summer roosting habitat for native forest-dwelling bat species

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

A current Forest Management Plan must be developed or already in place and approved by a qualified forester in order for this enhancement to apply. This plan must outline the prescribed management activities to be implemented on the enrolled CSP area.

In order to qualify for this enhancement, the forest area to be treated must contain enough mature trees to serve as suitable roost trees for bats and contain species with exfoliating bark. Trees that contain hollow trunks and "splits" (especially cottonwood, boxelder, etc.) should be protected from impacts to since they contain desired cavities used by bats. Snags can be created by cutting through the bark and cambium to kill the tree and leave standing. Select undesirable trees and those species which retain bark for an extended time for use as snags

The areas eligible for payment are those areas which are treated by creating snags and protecting cavity trees. Treatment methods must result in some level of snags and in all size classes.

Coordinate with a forester, as needed, to identify what actions must be taken for this enhancement to address the noted resource concern and meet the requirements of the enhancement.

United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E666R

CONSERVATION STEWARDSHIP PROGRAM

Forest songbird habitat maintenance

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest, Associated Ag Land, Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 10 Years

Enhancement Description

Adopts guidelines and methods developed by the Forest Bird Initiative of the Vermont Audubon Society, to preserve habitat features following a forest stand improvement treatment designed to create habitat for a suite of forest-dwelling neotropical migratory songbirds. It includes developing or updating a forest management plan, inspecting and tending forest habitat, and monitoring bird populations. It protects investments in habitat creation by providing for follow-up activities that require the expertise of a professional forester or biologist. This enhancement is appropriate for states in forest songbird flyways, and is applicable in middle-aged, older-aged, or all-aged forests.

Criteria

States will apply general criteria from the NRCS National Conservation Practice Standard (CPS) Forest Stand Improvement (Code 666) as listed below, and additional criteria as required by the NRCS State Office.

- This enhancement is used periodically following an initial treatment designed to create habitat elements specifically for neotropical migratory forest songbirds; habitat creation may include forest gaps, snags, cavities, supplemental plantings of trees or shrubs, removal of undesirable invasive species, etc. States will determine when to use the enhancement; one year following the initial treatment is the soonest it should be applied, and after that it should be used every three to five years to check for changed conditions.

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- Update the current Forest Management Plan (FMP) to include guidelines to maintain habitat for forest birds. The FMP will include guidelines for inspection and monitoring, identify the types of forest health impacts or stand damage to look for during inspections, and will describe the types of activities that may be needed to preserve existing habitat conditions.

- A forestry specialist will inspect the stand and identify species of harmful insects, tree diseases, invasive plants, as well as other biotic and abiotic (i.e. ice storms, drought, flooding, etc.) impacts on forest growth, health, structure and/or composition.

- The forestry specialist will make recommendations for short-term treatments as needed. A skilled laborer will implement appropriate activities, such as applying mechanical and spot chemical treatments.

- The forestry specialist will make recommendations for additional practices needed to correct undesirable forest health conditions. Practices may include: NRCS Conservation Practice Standards Integrated Pest Management (Code 595), Brush Management (Code 314), and Herbaceous Weed Control (Code 315).

- A forestry or wildlife specialist will evaluate and report on the condition of songbird habitat elements using protocols in "Bird Habitat Inventory Field Procedures" from Audubon Vermont (http://vt.audubon.org/sites/g/files/amh751/f/bidhab_protocol_web_0.pdf), or a similar set of protocols adopted by the respective state's wildlife management agency or equivalent state-level entity. The forestry specialist will recommend initial treatments and additional practices, if needed, to the participant(s) and NRCS.

- During the bird breeding season, a trained forestry or wildlife specialist will conduct a bird census according to protocols adopted by the respective state's wildlife management agency or equivalent state-level entity.

- The participant will control access to the stand as needed to prevent resource damage, and to reduce disturbance to songbirds and other wildlife.

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Documentation and Implementation Requirements:

Participant will:

- ☐ Prior to implementation, review the NRCS Conservation Practice Standard Forest Stand Improvement (Code 666) or appropriate state guidance document and use the information to meet the criteria of this enhancement. Also review Forest Bird Initiative guidance from the Vermont Audubon Society at http://vt.audubon.org/conservation/working-lands/forest-bird-initiative-1, or equivalent state-level guidance provided by NRCS.

- ☐ Prior to implementation, the participant will obtain a current or updated Forest Management Plan (FMP) that includes activities required to implement this enhancement. The FMP will include guidelines for inspection and monitoring, the types of forest health impacts or stand damage to look for during inspections, and potential activities that may be needed to preserve existing habitat conditions. The participant will make the FMP available for NRCS review.

- ☐ Prior to implementation, make arrangements for a forestry and/or wildlife specialist to inspect the stand and complete a habitat monitoring report, conduct a bird survey, and accomplish other tasks called for in the enhancement.

- ☐ During implementation, notify NRCS if there are any planned changes, to verify that they meet enhancement criteria.

- ☐ During implementation, keep a written log and take digital photos.

- ☐ After implementation, retain a map showing the location of activities, and photos. Make the map and photos available to NRCS for verification.

- ☐ After implementation, notify NRCS that the work was completed, and make the following information available to NRCS: dates that inspection was conducted, methods used, reports on bird surveys and habitat monitoring, photos, and a map showing bird monitoring points.

- ☐ After implementation, control access to the stand as needed to prevent resource damage, and to reduce disturbance to songbirds and other wildlife.

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NRCS will:

- ☐ Prior to implementation, verify the enhancement activity is planned for acres that meet the criteria in the enhancement guide sheet, by reviewing the existing FMP or other documentation of treatment objectives and implementation, and through field verification.
- ☐ Prior to implementation, assist with the interpretation of a current or updated FMP on acres targeted by this enhancement.
- ☐ Prior to implementation, provide and explain the following NRCS Conservation Practice Standards as they relate to implementing this enhancement:
    - Forest Stand Improvement (Code 666)
    - Integrated Pest Management (Code 595)
    - Brush Management (Code 314)
    - Herbaceous Weed Control (Code 315)
- ☐ As needed, prior to implementation, NRCS will provide technical assistance by:
    - Providing and explaining the Forest Bird Initiative guidance from the Vermont Audubon Society at http://vt.audubon.org/conservation/working-lands/forest-bird-initiative-1, or equivalent state-level guidance on habitat for migratory forest-dwelling birds.
    - Providing methods to be used for conducting bird surveys, using protocols adopted by the state wildlife management agency or equivalent state-level entity.
    - Preparing specifications for applying this enhancement for each site using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation, and will discuss the details with the participant.
- ☐ During implementation, provide technical assistance if requested by the participant.
- ☐ During implementation, evaluate any planned changes to verify they meet enhancement criteria.

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- ☐ After implementation, certify that the enhancement was completed according to the NRCS Conservation Practice Standard Forest Stand Improvement (Code 666) specifications and the enhancement criteria.

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NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

USDA United States Department of Agriculture

NEBRASKA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E666R

Forest songbird habitat maintenance

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest, Associated Ag Land, Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 10 years

State Criteria

A current Forest Management Plan must be developed or already in place and approved by a qualified forester or wildlife biologist in order for this enhancement to apply. This plan must outline the prescribed management activities to be implemented on the enrolled CSP area. The plan must also identify targeted forest songbird species to be managed for. Use the Nebraska Natural Legacy Project to aid in selection of target species.

A Woodland Habitat Evaluation Worksheet 2006 or a species-specific evaluation tool will be completed on each project site. A planned condition of at least 0.6 is required.

Management of the forest stand may include removal of invasive species, creating forest openings, creating snags, cavities, prescribed fire and/or supplemental plantings of appropriate species. Planting of additional species should reference the 612 NE GD Tree/Shrub Establishment 2011 (formerly named the Tree/Shrub Establishment Planting (612DP) Design Procedures) and 643 NE GD Restoration and Management of Rare or Declining Natural Communities Prairie 2019 (formerly names the Woodland/Forest Design Procedures (643DP)).