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.

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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).

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☐ After 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

OREGON SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY E420B

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Additional Documentation Requirements for Oregon

In addition to the documentation requirements specified in the National E420B Enhancement Activity, the following additional documentation requirements apply in Oregon:

Prior to implementation, complete the Oregon Pollinator or Oregon Monarch Wildlife Habitat Evaluation Guide (WHEG). Planned WHEG score must meet or exceed 0.75. Enhancement parameters should target addition/augmentation with plant species that address a period of inadequate bloom (nectar and/or pollen) or other resources (i.e. nesting habitat) as identified by the WHEG.

Target Pollinator Species: _____
Present WHEG Score:_____
Planned WHEG Score:_____

eFOTG: Section 3: Oregon Conservation Planning Documents: Wildlife Habitat Inventory Documents:

Document seed mix and planting dates in the in the table below

Seed Mix and Rate					
Site Preparation:					
Seeding Method:			Seeding Equipment:		
Seeding Date:			Seed Carrier/Filler:		
Seeding Conditions:					
Species	Base Seeding Rate (lbs/ac)	% of Mix	Seeding Rate (lbs/ac)	Bloom Period	Total lbs/ field
Total:					

Document in the practice specification how this enhancement will establish pollinator habitat..

Statewide

- Oregon & Washington Guide for Conservation Seedings and Plantings
- Use the Oregon Flora Garden portal - https://oregonflora.org/garden/ - to select potential species to use and see photos and descriptions of the species. Start by selecting, on the left-side panel, the characteristics that you need for your planting, in this case, "wildlife support" - select pollinator and/or beneficial insects. Also, select the ecoregion of your project site and select any other parameters that fit the project site. The plant selections on your right will narrow as you select attributes on the left-hand panel. This site only includes native plants.
- Oregon Plant Materials Technical Note Note 13 - Plants for Pollinators in Oregon

Western Oregon:

- Native Plants for Willamette Valley Yards Booklet. 2018. Metro. : https://www.oregonmetro.gov/native-plants-willamette-valley-yards-booklet
- For MLRAs 1, 2, 4, and 5, refer to: 420 OR OTH Wildlife Habitat Planting Files
- Enhancements for Native Bees in Western Oregon and Washington Cranberry Production

Eastern Oregon

- Description, Propagation and Establishment of Wetland Plant Species and Grasses for Riparian Areas in the Intermountain West
- Conservation Plant Species for the Intermountain West
- Plants for Pollinators in the Inland Northwest
- Monarch Butterfly Habitat: Development and Maintenance
- For MLRAs 6, 7 and 8, refer to: 327 OR GD

Xerces Monarch Nectar Plant Guides

Milkweeds are best established from rhizomes, plugs, or container plants. It is difficult to establish milkweeds from direct seeding. Please refer to information about milkweeds that occur in Oregon and which are suitable to the region of your project in "A Guide to the Native Milkweeds of Oregon" at: https://www.xerces.org/publications/id-monitoring/guide-to-native-milkweeds-of-oregon

Very little information is currently available that documents the use and importance of various flowers as nectar resources for adult Monarch butterflies across the Northwest region. The following tables show best estimates for good nectar plants for monarch habitat. Below you will find estimates on seeding rates and plant spacing when using bare-root, plugs or container plants. If planting small areas, highest success and shortened site preparation timing (although higher plant costs) will occur by planting plants (bare-root, plugs, container plants) over seeding areas. When establishing large plantings, seeding is the most economical way to establish habitat. If funds are available, planting higher rates of plants or seeds is advised.

All plant materials used to establish Monarch habitat should originate within the ecoregion where the project will occur (or from an adjacent ecoregion with harsher climate).

Please refer to the Xerces monarch Nectar plant guides for **general information** about recommended plants for:

The Maritime Northwest:

https://xerces.org/publications/plant-lists/monarch-nectar-plants-maritime-northwest

The Inland Northwest:

https://xerces.org/publications/plant-lists/monarch-nectar-plants-inland-northwest

Or the Great Basin:

https://xerces.org/publications/plant-lists/monarch-nectar-plants-great-basin

Design Approvals & Acknowledgements:

Design Approval	Date	Job Approval Authority
Designed by:		
Approved by:		

Client's Acknowledgement Statement:

The client acknowledges:

- I have received a copy of the specification and understand the contents and requirements.
- It is my responsibility to obtain all necessary permits and/or rights and to comply with all ordinances and laws pertaining to the application of this practice.
- I will not begin installation of this practice until I have received appropriate approval to do so. I understand NRCS also has Federal and state laws to comply with that may take some time to address (e.g. cultural resources).

Client's Signature	Date

Certification Documentation:

☐	Field Evaluation: Post-treatment inventory, measurements, notes, as-built, and supporting documentation (document completion in conservation plan), as required.
☐	Map(s): Including field numbers, fields treated, and units treated (may document on conservation plan map), as required.
☐	Photos or other supporting documentation (e.g., seed tags, soil tests, receipts, invoices, spray records, fertilizer records, etc.)
Brief Description of Work Accomplished (types of equipment used, date of application, extents and quantities installed, etc.)	

Certification Statement:

The employee certifies the implementation of this conservation practice:

- Meets the purpose, general criteria, and any required additional criteria as documented in the conservation practice standard and/or enhancement sheet.
- Meets the specifications contained herein and is complete.
- Conforms to my existing Job Approval Authority controlling factors and levels.

Name	Date	Job Approval Authority

Field Level Certification – For multiple applications of this design.				
Land Unit/ Contract Item Number	Date	Unit(s)	Amount Installed	Certifier