

Effects of NRCS Conservation Practices - National

Irrigation System, Surface & Subsurface

A system in which all necessary earthwork, multi-outlet pipelines, and water-control structures have been installed for distribution of water by surface means, such as furrows, borders, and contour levees, or by subsurface means through water table control

Code: 443

Units: ac.

Typical Landuse:

AL-Aso Land
O-Other
W-Water
D-Developed
FS-Farmstead
Pr-Protected
P-Pasture
R-Range
F-Forest
C-Crop

<u>Soil Erosion</u>	<u>Effect</u>	<u>Rationale</u>
Soil Erosion - Sheet and Rill Erosion	0	Not Applicable
Soil Erosion - Wind Erosion	1	Wetting the surface reduces soil detachment by wind.
Soil Erosion - Ephemeral Gully Erosion	0	Not Applicable
Soil Erosion - Classic Gully Erosion	-1	Tailwater runoff may cause gully erosion.
Soil Erosion - Streambank, Shoreline, Water Conveyance C	-1	Over land return flows cause erosion on streambanks.
<u>Soil Quality Degradation</u>		
Organic Matter Depletion	0	Not Applicable
Compaction	-1	Increased soil moisture in the profile may result in increased compaction during field operations.
Subsidence	0	Not Applicable
Concentration of Salts or Other Chemicals	0	The action should allow better management of salts, but the degree of impact depends on water management.
<u>Excess Water</u>		
Excess Water - Seeps	1	Because of more uniform infiltration.
Excess Water - Runoff, Flooding, or Ponding	1	More uniform applications reduces ponding and excessive tailwater runoff.
Excess Water - Seasonal High Water Table	1	A more uniform and efficient irrigation prevents losses to deep percolation.
Excess Water - Drifted Snow	0	Not Applicable
<u>Insufficient Water</u>		
Insufficient Water - Inefficient Use of Irrigation Water	2	Water is applied more efficiently and uniformly.
Insufficient Water - Inefficient Moisture Management	0	Not Applicable
<u>Water Quality Degradation</u>		
Pesticides in Surface Water	1	Efficient and uniform irrigation reduces runoff and erosion.
Pesticides in Groundwater	1	Efficient and uniform irrigation reduces deep percolation.
Nutrients in Surface water	1	Efficient and uniform irrigation reduces transport of nutrients to surface water.
Nutrients in Groundwater	1	The action improves water use efficiency resulting in decreased deep percolation.
Salts in Surface Water	1	The action allows more efficient application of irrigation water, which reduces the potential for runoff from the field.
Salts in Groundwater	1	Efficient and uniform irrigation reduces transport to ground water.
Excess Pathogens and Chemicals from Manure, Bio-solic	1	Efficient and uniform irrigation reduces transport to surface water
Excess Pathogens and Chemicals from Manure, Bio-solic	1	Efficient and uniform irrigation reduces transport to ground water.

Excessive Sediment in Surface Water	0	Not Applicable														
Elevated Water Temperature	0	Conservation irrigation systems minimize affects to surface water quality.														
Petroleum, Heavy Metals and Other Pollutants Transport	1	Efficient and uniform irrigation reduces transport to surface water.														
Petroleum, Heavy Metals and Other Pollutants Transport	1	Efficient and uniform irrigation reduces transport to ground water.														
<i>Air Quality Impacts</i>																
Emissions of Particulate Matter (PM) and PM Precursors	1	An irrigation application moistens the soil surface and reduces the erodibility of the soil. Increased production from irrigation lowers the soil wind erodibility group by one class.														
Emissions of Ozone Precursors	0	Not Applicable														
Emissions of Greenhouse Gases (GHGs)	1	Increased vegetative growth from irrigation can improve carbon sequestration in a reduced tillage system.														
Objectionable Odors	0	Not Applicable														
<i>Degraded Plant Condition</i>																
Undesirable Plant Productivity and Health	2	Increased water availability and managed application enhances plant growth, health and vigor.														
Inadequate Structure and Composition	0	Not Applicable														
Excessive Plant Pest Pressure	1	Improved irrigation efficiency improves crop health and vigor which decreases weed competition.														
Wildfire Hazard, Excessive Biomass Accumulation	0	Not Applicable														
<i>Fish and Wildlife - Inadequate Habitat</i>																
Inadequate Habitat - Food	0	Not Applicable														
Inadequate Habitat - Cover/Shelter	0	Not Applicable														
Inadequate Habitat - Water	0	Water is temporarily provided during the irrigation season.														
Inadequate Habitat - Habitat Continuity (Space)	0	Not Applicable														
<i>Livestock Production Limitation</i>																
Inadequate Feed and Forage	4	Production will be improved with uniform and consistent application of water.														
Inadequate Shelter	0	Not Applicable														
Inadequate Water	0	Not Applicable														
<i>Inefficient Energy Use</i>																
Equipment and Facilities	0	Not Applicable														
Farming/Ranching Practices and Field Operations	2	Improvement of Distribution Uniformity can result in reduced energy use for pumping.														
		<table border="1"> <thead> <tr> <th colspan="2"><i>CPPE Practice Effects:</i></th> </tr> </thead> <tbody> <tr> <td>5 Substantial Improvement</td> <td>0 No Effect</td> </tr> <tr> <td>4 Moderate to Substantial Improvement</td> <td>-1 Slight Worsening</td> </tr> <tr> <td>3 Moderate Improvement</td> <td>-2 Slight to Moderate Worsening</td> </tr> <tr> <td>2 Slight to Moderate Improvement</td> <td>-3 Moderate Worsening</td> </tr> <tr> <td>1 Slight Improvement</td> <td>-4 Moderate to Substantial Worsening</td> </tr> <tr> <td></td> <td>-5 Substantial Worsening</td> </tr> </tbody> </table>	<i>CPPE Practice Effects:</i>		5 Substantial Improvement	0 No Effect	4 Moderate to Substantial Improvement	-1 Slight Worsening	3 Moderate Improvement	-2 Slight to Moderate Worsening	2 Slight to Moderate Improvement	-3 Moderate Worsening	1 Slight Improvement	-4 Moderate to Substantial Worsening		-5 Substantial Worsening
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