

Effects of NRCS Conservation Practices - National

Irrigation Water Management

Irrigation water management is the process of determining and controlling the volume, frequency, and application rate of irrigation water in a planned, efficient manner.

Code: 449

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	2	Managing water to maintain surface moisture reduces soil detachment by wind.
Soil Erosion - Ephemeral Gully Erosion	0	Not Applicable
Soil Erosion - Classic Gully Erosion	0	Not Applicable
Soil Erosion - Streambank, Shoreline, Water Conveyance C	0	Not Applicable
<u>Soil Quality Degradation</u>		
Organic Matter Depletion	1	The action promotes optimum biomass production.
Compaction	0	Not Applicable
Subsidence	0	Not Applicable
Concentration of Salts or Other Chemicals	2	Water can be managed to leach salts and chemicals below the root zone
<u>Excess Water</u>		
Excess Water - Seeps	0	Not Applicable
Excess Water - Runoff, Flooding, or Ponding	0	Not Applicable
Excess Water - Seasonal High Water Table	1	Management of irrigation water will help reduce excess subsurface water.
Excess Water - Drifted Snow	0	Not Applicable
<u>Insufficient Water</u>		
Insufficient Water - Inefficient Use of Irrigation Water	2	Managed application of water for irrigation will increase the efficiency of use.
Insufficient Water - Inefficient Moisture Management	0	Not Applicable
<u>Water Quality Degradation</u>		
Pesticides in Surface Water	2	Controlling the volume, frequency, and application rate of irrigation water reduces runoff and erosion that may carry pesticides into surface water.
Pesticides in Groundwater	2	Controlling the volume, frequency, and application rate of irrigation water reduces deep percolation.
Nutrients in Surface water	2	Water is applied at rates that reduce the potential for erosion and detachment, and minimize nutrient transport to surface water.
Nutrients in Groundwater	2	Water is applied at rates and times that minimize nutrient transport to ground water.
Salts in Surface Water	2	Water is applied at rates that minimize salinity transport to surface water.
Salts in Groundwater	2	Water is applied at rates that minimize salinity transport to ground water.
Excess Pathogens and Chemicals from Manure, Bio-solic	2	Water is applied at rates that minimize pathogens transport to surface water
Excess Pathogens and Chemicals from Manure, Bio-solic	2	Water is applied at rates that minimize pathogen transport to ground water.

Excessive Sediment in Surface Water	2	Water is applied at rates that minimize soil erosion.
Elevated Water Temperature	0	Conservation irrigation systems minimize affects to surface water quality.
Petroleum, Heavy Metals and Other Pollutants Transport	2	Water is applied at rates that minimize heavy metals transport to surface water.
Petroleum, Heavy Metals and Other Pollutants Transport	2	Water is applied at rates that minimize heavy metal transport to ground water.
<u>Air Quality Impacts</u>		
Emissions of Particulate Matter (PM) and PM Precursors	2	Maintaining adequate soil moisture content reduces the potential soil erodibility and increases crop growth and residue production.
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
<u>Degraded Plant Condition</u>		
Undesirable Plant Productivity and Health	2	Managed application of water 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
<u>Fish and Wildlife - Inadequate Habitat</u>		
Inadequate Habitat - Food	0	Not Applicable
Inadequate Habitat - Cover/Shelter	0	Not Applicable
Inadequate Habitat - Water	0	Not Applicable
Inadequate Habitat - Habitat Continuity (Space)	0	Not Applicable
<u>Livestock Production Limitation</u>		
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
<u>Inefficient Energy Use</u>		
Equipment and Facilities	0	Not Applicable
Farming/Ranching Practices and Field Operations	2	Improvement of Irrigation Efficiency can result in reduced energy use for pumping.

<u>CPPE Practice Effects:</u>	<i>0 No Effect</i>
<i>5 Substantial Improvement</i>	<i>-1 Slight Worsening</i>
<i>4 Moderate to Substantial Improvement</i>	<i>-2 Slight to Moderate Worsening</i>
<i>3 Moderate Improvement</i>	<i>-3 Moderate Worsening</i>
<i>2 Slight to Moderate Improvement</i>	<i>-4 Moderate to Substantial Worsening</i>
<i>1 Slight Improvement</i>	<i>-5 Substantial Worsening</i>