Effects of NRCS Conservation Practices - National

Irrigation System, Sprinkler

Code: 442
Units: ac.

An irrigation system in which all necessary equipment and facilities are installed for efficiently applying water by means of nozzles operated under pressure.

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

Soil Erosion	*Effect*	*Rationale*
Soil Erosion - Sheet and Rill Erosion	0	Not Applicable
Soil Erosion - Wind Erosion	2	Wetting the surface 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
Soil Quality Degradation		
Organic Matter Depletion	0	Not Applicable
Compaction	-1	There will be crusting of soil surface during seed germination and wheel compaction due to movement of the irrigation system.
Subsidence	0	Not Applicable
Concentration of Salts or Other Chemicals	2	Improved irrigation allows the leaching of salt below the root zone.
Excess Water		
Excess Water - Seeps	0	Properly applied sprinkler irrigation will not increase groundwater.
Excess Water - Runoff, Flooding, or Ponding	2	Conversion from surface to sprinkler will reduce surface runoff.
Excess Water - Seasonal High Water Table	1	More uniform applications reduces subsurface flows.
Excess Water - Drifted Snow	0	Not Applicable
Insufficient Water		
Insufficient Water - Inefficient Use of Irrigation Water	5	More uniform application of water.
Insufficient Water - Inefficient Moisture Management	0	Not Applicable
Water Quality Degradation		
Pesticides in Surface Water	2	Efficient and uniform irrigation reduces runoff and erosion.
Pesticides in Groundwater	2	Efficient and uniform irrigation reduces deep percolation.
Nutrients in Surface water	2	Erosion and runoff are reduced by the efficient application of irrigation water.
Nutrients in Groundwater	1	The action improves water use efficiency resulting in decreased deep percolation.
Salts in Surface Water	2	The action allows more efficient application of irrigation water, which reduces the potential for runoff from the field.
Salts in Groundwater	2	Efficient and uniform irrigation reduces transport to ground water.
Excess Pathogens and Chemicals from Manure, Bio-solic	2	Reduced runoff because of more efficient application
Excess Pathogens and Chemicals from Manure, Bio-solic	1	Uniform water application reduces the potential for deep percolation.

Excessive Sediment in Surface Water	**1**	**Installation of irrigation system limits or eliminates surface erosion and resulting sedimentation.**
Elevated Water Temperature	**0**	**Reduced runoff of higher temperature water is likely.**
Petroleum, Heavy Metals and Other Pollutants Transporte	**1**	**More efficient application reduces potential runoff.**
Petroleum, Heavy Metals and Other Pollutants Transporte	**1**	**Uniform water application reduces the potential for deep percolation.**
Air Quality Impacts		
Emissions of Particulate Matter (PM) and PM Precursors	**2**	**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**
Degraded Plant Condition		
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 decrease weed competition.**
Wildfire Hazard, Excessive Biomass Accumulation	**0**	**Not Applicable**
Fish and Wildlife - Inadequate Habitat		
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**
Livestock Production Limitation		
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**
Inefficient Energy Use		
Equipment and Facilities	**2**	**Requires less water and lower pressure pumping. Reduces water applied due to an increase in application uniformity.**
Farming/Ranching Practices and Field Operations	**2**	**Improvement of Distribution Uniformity can result in reduced energy use for pumping.**

CPPE Practice Effects:	
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