

Effects of NRCS Conservation Practices - National

Saturated Buffer 604

Redirecting subsurface drainage water discharges onto a riparian buffer for treatment and removal of nitrate

Code: 604

Units: ft.

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

Typical Landuse:

C P FS O AL

<u>Soil Erosion</u>	<u>Effect</u>	<u>Rationale</u>
Soil Erosion - Sheet and Rill Erosion	0	Not Applicable
Soil Erosion - Wind Erosion	0	Not Applicable
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	2	Maintaining water table in the root zone decreases oxidation of organic matter. Lowering water table can increase oxidation in certain situations.
Compaction	0	Not Applicable
Subsidence	2	Reducing oxidation of organic matter will reduce the opportunity for subsidence.
Concentration of Salts or Other Chemicals	0	If the water table is kept high, salt build up may occur.
<u>Excess Water</u>		
Excess Water - Seeps	1	Water table is managed to prevent excessive seepage.
Excess Water - Runoff, Flooding, or Ponding	-2	Runoff is controlled to create ponding or flooding conditions.
Excess Water - Seasonal High Water Table	2	Subsurface water is managed to limit periods of saturation compatible with the present or intended land use.
Excess Water - Drifted Snow	0	Not Applicable
<u>Insufficient Water</u>		
Insufficient Water - Inefficient Use of Irrigation Water	0	Not Applicable
Insufficient Water - Inefficient Moisture Management	0	Not Applicable
<u>Water Quality Degradation</u>		
Pesticides in Surface Water	2	Drainage reduces runoff and erosion.
Pesticides in Groundwater	2	Drainage increases aerobic pesticide degradation in the root zone during the periods when crops are growing.
Nutrients in Surface water	1	The rate of water release is slower than under natural conditions, allowing more time for some nutrients in solution to volatilize and for sediment-attached nutrient to settle out.
Nutrients in Groundwater	-1	The action increases groundwater elevation which moves it closer in proximity to nutrients. This increases the potential to contaminate groundwater.
Salts in Surface Water	0	The action can reduce the rate at which salt-contaminated water is released, but has no effect on the amount of salt.
Salts in Groundwater	0	Not Applicable
Excess Pathogens and Chemicals from Manure, Bio-solic	1	Water releases are controlled, lowering the overall amount of drainage water released.
Excess Pathogens and Chemicals from Manure, Bio-solic	1	The action will alter the timing and possibly amount of drainage. Holding water in root zone may contribute to pathogen die-off.

Excessive Sediment in Surface Water	0	Not Applicable
Elevated Water Temperature	0	Not Applicable
Petroleum, Heavy Metals and Other Pollutants Transport	2	Water releases are controlled giving less opportunity for heavy metal-laden sediment to enter surface water.
Petroleum, Heavy Metals and Other Pollutants Transport	0	Changing the soil water level can affect soil chemistry, which can increase the solubility of some metals. This may make them more or less susceptible to leaching.
<u>Air Quality Impacts</u>		
Emissions of Particulate Matter (PM) and PM Precursors	2	Managing drainage water can keep the soil surface moist, reducing the potential for wind erosion.
Emissions of Ozone Precursors	0	Not Applicable
Emissions of Greenhouse Gases (GHGs)	1	Provides for conditions to promote plant growth. Increased plant growth removes CO2 from the air and stores it in the form of carbon in the plants and soil.
Objectionable Odors	0	Not Applicable
<u>Degraded Plant Condition</u>		
Undesirable Plant Productivity and Health	2	Drainage provides conditions for optimum plant growth.
Inadequate Structure and Composition	0	Not Applicable
Excessive Plant Pest Pressure	0	Not Applicable
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	Seasonal flooding provides water for some species.
Inadequate Habitat - Habitat Continuity (Space)	2	Seasonal flooding provides habitat for some species.
<u>Livestock Production Limitation</u>		
Inadequate Feed and Forage	4	Optimum moisture is maintained for forage production.
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	0	Not Applicable

<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>