

Effects of NRCS Conservation Practices - National

Riparian Forest Buffer

An area predominantly trees and/or shrubs located adjacent to and up-gradient from watercourses or water bodies.

Code: 391

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	3	Vegetation and surface litter reduces erosive water energy on the planted site.
Soil Erosion - Wind Erosion	2	Vegetation creates a wind shadow and reduces erosive wind velocities and provides a stable area which stops saltating particles.
Soil Erosion - Ephemeral Gully Erosion	1	Vegetation reduces erosive energy of concentrated flows.
Soil Erosion - Classic Gully Erosion	3	Reduces runoff and erosion.
Soil Erosion - Streambank, Shoreline, Water Conveyance C	4	Roots of vegetation binds the soil making it resistant to water flow erosion.
<u>Soil Quality Degradation</u>		
Organic Matter Depletion	4	Increased vegetative matter and its breakdown increases soil organic matter.
Compaction	4	Root penetration and organic matter helps restore soil structure.
Subsidence	0	Not Applicable
Concentration of Salts or Other Chemicals	1	Increased vegetation will increase salt uptake and increased organic matter may tie up salts and other chemicals.
<u>Excess Water</u>		
Excess Water - Seeps	1	Plants uptake excess water.
Excess Water - Runoff, Flooding, or Ponding	-1	Trees or shrubs increase infiltration but may retard flood water movement from the site.
Excess Water - Seasonal High Water Table	2	Plants uptake excess water.
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	3	Trees, shrubs and other vegetation reduce runoff, trap adsorbed pesticides, take up pesticide residues and may intercept pesticide drift.
Pesticides in Groundwater	1	Trees, shrubs, and other vegetation take up pesticide residues. Also, pesticide degradation may be improved by increased soil organic matter and biological activity.
Nutrients in Surface water	5	Plants and soil organisms in the buffer will utilize nutrients. The buffer will filter out suspended particles to which nutrients are attached.
Nutrients in Groundwater	5	Permanent vegetation will uptake excess nutrients.
Salts in Surface Water	1	The action increases infiltration and reduces runoff.
Salts in Groundwater	1	The action may result in some uptake by plants.
Excess Pathogens and Chemicals from Manure, Bio-solic	3	Riparian areas capture and delay pathogen movement and thereby increase their mortality.
Excess Pathogens and Chemicals from Manure, Bio-solic	1	Riparian areas capture and delay pathogen movement and increase pathogen mortality. Soil microbial activity enhances competition with pathogens.

Excessive Sediment in Surface Water	5	Vegetation protects soil surface and traps sediment, nutrients and other materials.
Elevated Water Temperature	5	Riparian forest canopy shades streams and rivers, moderating water temperatures.
Petroleum, Heavy Metals and Other Pollutants Transport	3	The action filters sediment, and some plants may take up heavy metals.
Petroleum, Heavy Metals and Other Pollutants Transport	1	The action may result in metal uptake by some plants.
<u>Air Quality Impacts</u>		
Emissions of Particulate Matter (PM) and PM Precursors	1	Vegetation reduces erosive wind velocities and provides a stable area which stops saltating particles.
Emissions of Ozone Precursors	0	Not Applicable
Emissions of Greenhouse Gases (GHGs)	3	Vegetation 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	5	Plants are selected and managed to maintain optimal productivity and health.
Inadequate Structure and Composition	5	Buffer establishment and management creates or maintains the desired plant community.
Excessive Plant Pest Pressure	3	Vegetation is installed and managed to control undesired species.
Wildfire Hazard, Excessive Biomass Accumulation	0	Not Applicable
<u>Fish and Wildlife - Inadequate Habitat</u>		
Inadequate Habitat - Food	5	Improved plant diversity and quality and quantity of vegetation provides food for wildlife.
Inadequate Habitat - Cover/Shelter	5	Improved plant diversity and quality and quantity of vegetation provides cover for wildlife.
Inadequate Habitat - Water	3	Water can be temporarily trapped in the riparian area. Warm-season water is cooled.
Inadequate Habitat - Habitat Continuity (Space)	5	Buffers can restore desired habitats/space.
<u>Livestock Production Limitation</u>		
Inadequate Feed and Forage	1	These sites may be used as feed and forage by livestock if the intended purpose is maintained.
Inadequate Shelter	1	Buffers can provide shade and protection from wind.
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>