Effects of NRCS Conservation Practices - National

Windbreak/Shelterbelt Renovation

Code: 650
Units: ft.

Replacing, releasing and/or removing selected trees and shrubs or rows within an existing windbreak or shelterbelt, adding rows to the windbreak or shelterbelt or removing selected tree and shrub branches.

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

Soil Erosion	*Effect*	*Rationale*
Soil Erosion - Sheet and Rill Erosion	1	Vegetation restored across the slope and surface litter reduces erosive water energy.
Soil Erosion - Wind Erosion	5	Restoration of tall vegetation reestablishes a wind shadow, reduces erosive wind velocities and provides a stable area which stops saltating particles.
Soil Erosion - Ephemeral Gully Erosion	2	Vegetation restored across the slope reduces erosive energy of concentrated flows.
Soil Erosion - Classic Gully Erosion	0	Not Applicable
Soil Erosion - Streambank, Shoreline, Water Conveyance C	0	Not Applicable
Soil Quality Degradation		
Organic Matter Depletion	4	Restored roots and vegetative matter and its breakdown increases organic matter.
Compaction	2	Restored root penetration and organic matter helps restore soil structure.
Subsidence	0	Not Applicable
Concentration of Salts or Other Chemicals	1	Most woody species take up limited quantities of salts.
Excess Water		
Excess Water - Seeps	2	Restored plants uptake excess water.
Excess Water - Runoff, Flooding, or Ponding	0	Trees or shrubs increase infiltration but may retard flood water movement from the site.
Excess Water - Seasonal High Water Table	2	Restored plants uptake excess water.
Excess Water - Drifted Snow	5	Snow is captured within and down wind of restored tree/shrub rows.
Insufficient Water		
Insufficient Water - Inefficient Use of Irrigation Water	5	Restored tall vegetation reduces wind speeds and evapotranspiration allowing more efficient use of available water.
Insufficient Water - Inefficient Moisture Management	3	Shelting effect of windbreak reduces evapotranspiration allowing more efficient use of available water.
Water Quality Degradation		
Pesticides in Surface Water	3	The action reduces soil erosion from wind and may intercept pesticide drift.
Pesticides in Groundwater	0	Not Applicable
Nutrients in Surface water	1	Restored plants and soil organisms uptake nutrients.
Nutrients in Groundwater	1	Restored vegetation will uptake excess nutrients.
Salts in Surface Water	0	Not Applicable
Salts in Groundwater	0	The action may increase vegetative uptake in the shelterbelt.
Excess Pathogens and Chemicals from Manure, Bio-solic	0	Not Applicable
Excess Pathogens and Chemicals from Manure, Bio-solic	0	Not Applicable

Excessive Sediment in Surface Water	**1**	**Restored vegetation traps sediment preventing it from being deposited elsewhere.**
Elevated Water Temperature	**0**	**Not Applicable**
Petroleum, Heavy Metals and Other Pollutants Transporte	**1**	**The action reduces wind erosion, reducing transport of heavy metals attached to particulates. Some plants may take up heavy metals..**
Petroleum, Heavy Metals and Other Pollutants Transporte	**0**	**Not Applicable**
Air Quality Impacts		
Emissions of Particulate Matter (PM) and PM Precursors	**2**	**Windbreaks can be very effective in reducing particulate emissions associated with wind erosion. They are also effective in filtering particulate matter and ammonia from the air.**
Emissions of Ozone Precursors	**0**	**Not Applicable**
Emissions of Greenhouse Gases (GHGs)	**1**	**Vegetation removes CO2 from the air and stores it in the form of carbon in the plants and soil. Renovation of a windbreak/shelterbelt will not provide as much vegetation growth as newly established windbreaks/shelterbelts.**
Objectionable Odors	**2**	**Vegetation will reduce wind movement and intercept VOCs, fine particulates, and fugitive dust.**
Degraded Plant Condition		
Undesirable Plant Productivity and Health	**5**	**Plants are renovated and managed to maintain optimal productivity and health.**
Inadequate Structure and Composition	**1**	**Renovation maintains adapted and suited plants.**
Excessive Plant Pest Pressure	**1**	**Vegetation is installed and managed to control undesired species.**
Wildfire Hazard, Excessive Biomass Accumulation	**0**	**Not Applicable**
Fish and Wildlife - Inadequate Habitat		
Inadequate Habitat - Food	**3**	**Improved plant diversity and quality and quantity of vegetation provides food for wildlife.**
Inadequate Habitat - Cover/Shelter	**3**	**Improved plant diversity and quality and quantity of vegetation provides cover for wildlife.**
Inadequate Habitat - Water	**1**	**Not Applicable**
Inadequate Habitat - Habitat Continuity (Space)	**3**	**Renovated tall vegetation creates vertical habitat structure and enhanced space for wildlife.**
Livestock Production Limitation		
Inadequate Feed and Forage	**1**	**The quality and quantity of feed and forage plants is enhanced by improving the microclimate.**
Inadequate Shelter	**5**	**Restored tall vegetation provides shelter.**
Inadequate Water	**0**	**Not Applicable**
Inefficient Energy Use		
Equipment and Facilities	**3**	**Reduces heating around farmsteads**
Farming/Ranching Practices and Field Operations	**1**	**Less water stress on crops. Potential biomass.**

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