

# Effects of NRCS Conservation Practices - National

## Multi-Story Cropping

Existing or planted stands of trees or shrubs that are managed as an overstory with an understory of woody and/or non-woody plants that are grown for a variety of products.

Code: 379

Units: ac

Typical Landuse:

AL-Aso Land  
O-Other  
W-Water  
D-Developed  
FS-Farmstead  
PI-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	1	Vegetation and surface litter reduce raindrop impact and slow runoff water increasing infiltration.
Soil Erosion - Wind Erosion	1	Trees or shrubs create turbulence, reduce erosive wind velocities and provide a stable area which stops saltating particles.
Soil Erosion - Ephemeral Gully Erosion	1	Canopy and soil cover reduce erosive energy of concentrated water flows limiting the detachment of soil particles.
Soil Erosion - Classic Gully Erosion	1	Canopy and soil cover reduce erosive energy of concentrated water flows limiting the detachment of soil particles.
Soil Erosion - Streambank, Shoreline, Water Conveyance C	0	Not Applicable
<u>Soil Quality Degradation</u>		
Organic Matter Depletion	5	Increase in biological activity, roots and vegetative matter cycling from permanent vegetation increases surface and SOM organic components.
Compaction	2	Root penetration, organic matter cycling, and biological activity help to restore soil structure.
Subsidence	1	Canopy cover and organic matter provide soil buffer during extended tropical droughts to reduce OM oxidation and loss.
Concentration of Salts or Other Chemicals	1	Plants may take up some salts, and increased root penetration improves infiltration that may lead to increased leaching.
<u>Excess Water</u>		
Excess Water - Seeps	1	Plants uptake excess water; increased OM holds 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	1	Plants uptake excess water; increased OM holds 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	Crops must be adapted and managed to account for use of available water by trees.
<u>Water Quality Degradation</u>		
Pesticides in Surface Water	3	Management of mixed multistoried crops reduces need for chemicals to manage pests. Also, pesticide degradation may be improved by interception of chemical drift by varied canopy layers.
Pesticides in Groundwater	1	Management of mixed multistoried crops reduces need for chemicals to manage pests. Also, pesticide degradation may be improved by increased soil organic matter and biological activity.
Nutrients in Surface water	1	Plants and soil organisms uptake nutrients.
Nutrients in Groundwater	0	Plants and soil organisms uptake nutrients. Increase in tannins due to organic matter.
Salts in Surface Water	1	Varied canopy layers and surface cover and organic matter management increases infiltration and need for irrigation or chemical inputs..
Salts in Groundwater	0	Not Applicable
Excess Pathogens and Chemicals from Manure, Bio-solic	1	Management of multi layered canopy cover and organic matter impedes movement of harmful pathogens.
Excess Pathogens and Chemicals from Manure, Bio-solic	1	Management of multi layered canopy cover and organic matter results in increased plant vigor and microbial activity reduces harmful pathogens.

Excessive Sediment in Surface Water	1	Varied canopy layers and surface cover and organic matter management reduces sediment-laden runoff from reaching surface water conveyances.
Elevated Water Temperature	0	Not Applicable
Petroleum, Heavy Metals and Other Pollutants Transport	1	Management of diverse species and organic matter may promote increased uptake.
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<u>Air Quality Impacts</u>		
Emissions of Particulate Matter (PM) and PM Precursors	1	Permanent vegetation traps air and slows movement of air, reducing wind velocities and wind stress on crops while providing a stable area to intercept air particles.
Emissions of Ozone Precursors	0	Not Applicable
Emissions of Greenhouse Gases (GHGs)	2	Vegetation removes CO2 from the air and stores it in the form of carbon in living plants (stem, roots, foliage, etc.) and organic soil carbon components.
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	Plants selected are adapted and suited.
Excessive Plant Pest Pressure	3	Planned vegetation is installed and managed to control undesired species.
Wildfire Hazard, Excessive Biomass Accumulation	1	Management of multiple layers and surface organic matter reduce ladder fuel load buildup.
<u>Fish and Wildlife - Inadequate Habitat</u>		
Inadequate Habitat - Food	3	If suitable plant species are chosen and managed to enhance food value for target species.
Inadequate Habitat - Cover/Shelter	1	Suitable plant species are selected and managed to enhance cover/shelter for wildlife.
Inadequate Habitat - Water	1	Not Applicable
Inadequate Habitat - Habitat Continuity (Space)	1	Multiple cover densities and canopy layers establish diverse habitat structure, spatially and temporally.
<u>Livestock Production Limitation</u>		
Inadequate Feed and Forage	3	Forage species can be favored on a long-term basis to maintain practice function.
Inadequate Shelter	1	Multiple-canopy layers can be desired to improve shelter function when domestic animals are used.
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

<b>CPPE Practice Effects:</b>	<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>