

CONSERVATION PRACTICE PHYSICAL EFFECTS WORKSHEET

STATE	Nebraska	FIELD OFFICE	Any	DATE	12/27/2011
PRACTICE: Forest Slash Treatment 384	Baseline Setting:				
	Appropriate Land Use(s): Forest, Grazed Forest, Crop (horticulture), Mined, Native or Naturalized Pasture, Natural Area, Recreation, Urban, Watershed Protection, Wildlife				
RESOURCES, CONSIDERATIONS AND CONCERNS	PHYSICAL EFFECTS		RATIONALE		
SOIL - EROSION					
Sheet and Rill	Slight to Moderate Improvement		Some slash is disposed of and the remainder redistributed to control erosion.		
Wind	Slight to Moderate Improvement		Some slash is disposed of and the remainder redistributed to control erosion.		
Ephemeral Gully	Slight to Moderate Improvement		Some slash is disposed of and the remainder redistributed to control erosion.		
Classic Gully	Slight Improvement		Some slash is disposed of and the remainder redistributed to control erosion and initiation of head-cutting.		
Streambank	Not Applicable		Not applicable.		
Shoreline	Not Applicable		Not applicable.		
Irrigation Induced	Not Applicable		Not applicable.		
Mass Movement	Not Applicable		Not applicable.		
Road, Roadsides, and Construction Sites	Not Applicable		Not applicable.		
SOIL – CONDITION					
Organic Matter Depletion	Slight to Substantial Improvement		Some slash is disposed of and the remainder redistributed close to the ground or incorporated to facilitate decomposition.		
Rangeland Site Stability	Not Applicable		Not applicable.		
Compaction	Slight to Moderate Worsening		Use of heavy equipment compacts soil.		
Subsidence	Not Applicable		Not applicable.		
Contaminants:					
• Salts and other Chemicals	Not Applicable		Not applicable.		
• Animal Waste and other Organics - N	Not Applicable		Not applicable.		
• Animal Waste and other Organics - P	Not Applicable		Not applicable.		
• Animal Waste and other Organics - K	Not Applicable		Not applicable.		
• Commercial Fertilizer - N	Not Applicable		Not applicable.		
• Commercial Fertilizer – P	Not Applicable		Not applicable.		
• Commercial Fertilizer – K	Not Applicable		Not applicable.		
• Residual Pesticides	Not Applicable		Not applicable.		
Damage from Sediment Deposition	Slight to Moderate Improvement		Residual woody debris traps sediment.		
WATER – QUANTITY					

Rangeland Hydrologic Cycle	Not Applicable	Not applicable.
Excessive Seepage	Not Applicable	Not applicable.
Excessive Runoff, Flooding, or Ponding	Not Applicable	Not applicable.
Excessive Subsurface Water	Not Applicable	Not applicable.
Drifted Snow	Not Applicable	Not applicable.
Inadequate Outlets	Neutral	Residual debris is arranged to not impede outlets.
Inefficient Water use on Irrigated Land	Not Applicable	Not applicable.
Inefficient Water use on Non-Irrigated Land	Slight Improvement	Excess woody debris that can tie up water is removed.
Reduced Capacity of Conveyances by Sediment Deposition	Slight Improvement	Residual woody debris traps sediment on-site.
Reduced Storage of Water Bodies by Sediment Accumulation	Slight Improvement	Residual woody debris traps sediment on-site.
Aquifer Overdraft	Not Applicable	Not applicable.
Insufficient Flows in Water Courses	Not Applicable	Not applicable.
WATER – QUALITY		
In Groundwater:		
• Harmful Levels of Pesticides	Not Applicable	Not applicable.
• Excessive Nutrients and Organics	Not Applicable	Not applicable.
• Excessive Salinity	Not Applicable	Not applicable.
• Harmful Levels of Heavy Metals	Not Applicable	Not applicable.
• Harmful Levels of Pathogens	Not Applicable	Not applicable.
• Harmful Levels of Petroleum	Slight Worsening	Use of heavy equipment may lead to fuel or lubricant spills.
In Surface Water:		
• Harmful Levels of Pesticides	Not Applicable	Not applicable.
• Excessive Nutrients and Organics	Not Applicable	Not applicable.
• Excessive Suspended Sediment and Turbidity	Slight Improvement	Distribution of residual slash reduces sediment delivery.
• Excessive Salinity	Not Applicable	Not applicable.
• Harmful Levels of Heavy Metals	Not Applicable	Not applicable.
• Harmful Temperatures	Not Applicable	Not applicable.
• Harmful Levels of Pathogens	Not Applicable	Not applicable.
• Harmful Levels of Petroleum	Not Applicable	Not applicable.
AIR – QUALITY		
Particulate Matter less than 10 Micrometers in Diameter (PM 10)	Slight Worsening	Exhaust from equipment operation and dust from mechanical activities add particulate matter to the air.
Particulate Matter less than 2.5 Micrometers in Diameter (PM 2.5)	Slight Worsening	Exhaust from equipment operation and dust from mechanical activities add particulate matter to the air.
Excessive Ozone	Slight Improvement	There is a minimal reduction of ozone precursors through reduced incidence of wildfire.
Excessive Greenhouse Gas:		
• CO ₂ (Carbon Dioxide)	Slight to Substantial Improvement	Risk of wildfire and release of CO ₂ is diminished and decomposition of residual slash eventually becomes SOM.

• N ₂ O (Nitrous Oxide)	Not Applicable	Not applicable.
• CH ₄ (Methane)	Not Applicable	Not applicable.
Ammonia (NH ₃)	Not Applicable	Not applicable.
Chemical Drift	Not Applicable	Not applicable.
Objectionable Odors	Not Applicable	Not applicable.
Reduced Visibility	Not Applicable	Not applicable.
Undesirable Air Movement	Not Applicable	Not applicable.
Adverse Air Temperature	Not Applicable	Not applicable.
PLANTS – SUITABILITY		
Plants not Adapted or Suited	Moderate to Substantial Improvement	Site is altered to allow establishment or planting of more suited and desired species.
PLANTS - CONDITION		
Productivity, Health, and Vigor	Substantial Improvement	Site is altered to allow more suitable species to grow resulting in increased productivity, improved health and vigor.
Threatened or Endangered Plant Species:		
• Plant Species Listed or Proposed for Listing Under the Endangered Species Act	Neutral	When threatened or endangered plants are present, protection and recovery are addressed in the planning process.
• Declining Species, Species of Concern	Neutral	When threatened or endangered plants are present, protection and recovery are addressed in the planning process.
Noxious and Invasive Plants	Moderate to Substantial Improvement	Site conditions are managed to minimize undesired vegetation.
Forage Quality and Palatability	Moderate to Substantial Improvement	Access to forage increases for grazing and browsing animals.
Wildfire Hazard	Moderate to Substantial Improvement	Activities reduce fuel load buildup.
ANIMALS - FISH AND WILDLIFE		
Inadequate Food	Neutral	Temporary site conditions may decrease food species used by wildlife.
Inadequate Cover/Shelter	Neutral	Temporary site conditions may decrease cover/shelter for wildlife.
Inadequate Water	Not Applicable	Not applicable.
Inadequate Space	Neutral	Conditions created are temporary. The action is designed to recreate woody habitat/space.
Habitat Fragmentation	Neutral	Conditions created are temporary. The action is designed to recreate/reconnect woody habitat.
Imbalance Among and Within Populations	Neutral	Activities have a variable effect depending on species.
Threatened and Endangered Fish and Wildlife Species:		

• Fish and Wildlife Species Listed or Proposed for Listing Under the Endangered Species Act	Neutral	Activities are designed, installed, and mitigated to an extent to maintain or enhance species of concern.
• Declining Species, Species of Concern	Neutral	Activities are designed, installed, and mitigated to an extent to maintain or enhance species of concern.
ANIMALS – DOMESTIC		
Inadequate Quantities and Quality of Feed and Forage	Moderate to Substantial Improvement	Removal of slash increases forage access.
Inadequate Shelter	Not Applicable	Not applicable.
Inadequate Stock Water	Not Applicable	Not applicable.
Stress and Mortality	Not Applicable	Not applicable.
HUMAN – ECONOMICS		
Land - Change in Land Use	Not applicable.	Not applicable.
Land – Land in Production	Not applicable.	Not applicable.
Capital – Change in Equipment	Negligible to moderate increase.	
Capital - Total Investment Cost	Negligible to moderate.	
Capital – Annual Cost	Slight increase.	
Capital – Credit and Farm Program Eligibility	Situational.	
Labor - Labor	Negligible to slight increase.	
Labor – Change in Management Level	Slight increase.	
Risk - Yield	Slight to Substantial Decrease	Slight to substantial decrease in risk to productive soils, plants, and animals.
Risk - Flexibility	Slight Increase	Slight increase in risk due to need for appropriate timing of treatment.
Risk - Timing	Slight Increase	Slight increase in risk due to need for appropriate timing of treatment.
Risk – Cash Flow	Situational	Slight increase to substantial decrease in risk.
Profitability – Change in Profitability	Situational	Slight decrease to moderate increase.
HUMAN - CULTURAL		
Cultural Resources and/or Historic Properties Present or Suspected to be PRESENT	Slight to moderate increase	Use of heavy equipment may impact buried remains
HUMAN – ENERGY		
Depletion of Fossil Fuel Resources	Slight Increase	Energy is required to implement this practice.
Underutilization of Non-Fossil Energy Resources	Moderate to Substantial Decrease	This practice could provide a source of biomass that could be used for energy production.

Human Considerations Explanation

Considerations	Physical effects indicate:
Land - Change in Land Use	The degree to which implementing the conservation practice is expected to cause a change from one land use to another.
Land - Land in Production	The degree to which implementing the conservation practice is expected to cause an increase or decrease in the amount of land in production.
Capital - Change in Equipment	The degree to which implementing the conservation practice is expected to cause an increase or decrease in the amount of capital equipment required for farm or ranch operations.
Capital - Total Investment Cost	A qualitative measure of the increase in total investment dollars required in order to implement the conservation practice.
Capital - Annual Cost	A qualitative measure of the expected change in annual capital costs required in order to operate and maintain the conservation practice.
Capital - Credit & Farm Program Eligibility	Included to make conservation planners aware of the potential availability of funding for implementing conservation practices.
Labor – Labor	The degree to which implementing the conservation practice is likely to cause an increase or decrease in the total amount of overall farm or ranch labor required for operations.
Labor - Change in Management Level	The degree to which implementing the conservation practice is likely to cause an increase or decrease in the total amount of required active management on a farm or ranch.
Risk – Yield	The degree to which risk, as related to crop or livestock yields, is expected to increase or decrease as a result of implementing the conservation practice.
Risk – Flexibility	The degree to which risk, as related to the flexibility of farm or ranch operations, is expected to increase or decrease as a result of implementing the conservation practice. For example, converting from flood irrigation to a sprinkler system gives a farmer an increase in flexibility of irrigation, which results in a decrease in the level of risk associated with inflexibility of operations.
Risk – Timing	The degree to which risk, as related to the timing of farm or ranch operations, is expected to increase or decrease as a result of implementing the conservation practice.
Risk - Cash Flow	The degree to which risk, as related to cash flow in farm or ranch operations, is expected to increase or decrease as a result of implementing the conservation practice.
Profitability - Change in Profitability	The degree to which farm or ranch profitability is expected to increase or decrease as a result of implementing the conservation practice.
Cultural Resources and/or Historic Properties Present or Suspected to be Present	The degree to which implementation of the conservation practice is expected to increase or decrease the risk of cultural resource disturbance, degradation, or loss.
Depletion of Fossil Fuel Resources	Inefficient use of fossil-originated energy sources (diesel, gasoline, propane, natural gas, coal), lubricants, and other materials.
Underutilization of Non-Fossil Energy Sources	Available and cost-effective alternative energy sources (solar, wind, biofuel, hydroelectric, geothermal) are not being used or are being used inefficiently.