

CONSERVATION PRACTICE PHYSICAL EFFECTS WORKSHEET

STATE	Nebraska	FIELD OFFICE	Any	DATE	12/27/2011
PRACTICE: Fuel Break 383		Baseline Setting:			
		Appropriate Land Use(s): All Land Uses			
RESOURCES, CONSIDERATIONS AND CONCERNS	PHYSICAL EFFECTS	RATIONALE			
SOIL - EROSION					
Sheet and Rill	Slight to Moderate Worsening	An area of land with a reduction in vegetative cover and surface litter has potential for increases in erosive water energy.			
Wind	Slight to Moderate Worsening	An area of land with a reduction in vegetative cover and surface litter has potential for increases in erosive water energy.			
Ephemeral Gully	Slight to Moderate Worsening	An area of land with a reduction in vegetative cover and surface litter has potential for increases in erosive water energy.			
Classic Gully	Slight to Moderate Worsening	An area of land with a reduction in vegetative cover and surface litter has potential for increases in erosive water energy.			
Streambank	Not Applicable	Not applicable.			
Shoreline	Not Applicable	Not applicable.			
Irrigation Induced	Not Applicable	Not applicable.			
Mass Movement	Slight to Moderate Worsening	Reduction in vegetation diminishes binding force of live roots on mass-movement prone sites.			
Road, Roadsides, and Construction Sites	Not Applicable	Not applicable.			
SOIL – CONDITION					
Organic Matter Depletion	Moderate to Substantial Worsening	Nutrient cycling is diminished on areas with reduced vegetation.			
Rangeland Site Stability	Not Applicable	Not applicable.			
Compaction	Slight to Moderate Worsening	Equipment used to treat vegetation can compact soils.			
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	Slight Worsening	If chemical methods are used to apply the practice, pesticide			

		residues may remain in the soil.
Damage from Sediment Deposition	Slight Worsening	Deposition is increased due to a reduction in vegetation.
WATER – QUANTITY		
Rangeland Hydrologic Cycle	Slight to Moderate Worsening	Runoff is increased due to a reduction in vegetation.
Excessive Seepage	Not Applicable	Not applicable.
Excessive Runoff, Flooding, or Ponding	Not Applicable	Not applicable.
Excessive Subsurface Water	Slight Worsening	Removal of vegetation reduces uptake of subsurface water.
Drifted Snow	Not Applicable	Not applicable.
Inadequate Outlets	Not Applicable	Not applicable.
Inefficient Water use on Irrigated Land	Not Applicable	Not applicable.
Inefficient Water use on Non-Irrigated Land	Not Applicable	Not applicable.
Reduced Capacity of Conveyances by Sediment Deposition	Slight Worsening	Runoff and sediment are increased due to a reduction in vegetation.
Reduced Storage of Water Bodies by Sediment Accumulation	Slight Worsening	Runoff and sediment are increased due to a reduction in vegetation.
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	Some herbicides, if used, require a petroleum-based carrier. Use of heavy equipment may lead to fuel or lubricant spills.
In Surface Water:		
• Harmful Levels of Pesticides	Slight Worsening	Herbicides, if used, could reach surface water.
• Excessive Nutrients and Organics	Not Applicable	Not applicable.
• Excessive Suspended Sediment and Turbidity	Slight Worsening	Areas with reduced vegetation are subject to increased 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)	Not Applicable	Not applicable.
Particulate Matter less than 2.5 Micrometers in Diameter (PM 2.5)	Not Applicable	Not applicable.
Excessive Ozone	Slight Improvement	There is a minimal reduction of

		ozone precursors through reduced incidence of wildfire.
Excessive Greenhouse Gas:		
• CO ₂ (Carbon Dioxide)	Moderate to Substantial Improvement	Risk of wildfire and release of CO ₂ is diminished.
• 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	Residual plants are adapted and suited.
PLANTS - CONDITION		
Productivity, Health, and Vigor	Slight to Moderate Improvement	Fewer residual plants are using site resources.
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	Slight to Moderate Worsening	Undesired species can colonize areas where vegetation has been treated.
Forage Quality and Palatability	Moderate to Substantial Improvement	Access to forage increases for grazing and browsing animals.
Wildfire Hazard	Substantial Improvement	Fuel loadings are isolated.
ANIMALS - FISH AND WILDLIFE		
Inadequate Food	Slight to Moderate Improvement	The treated area can provide additional food sources.
Inadequate Cover/Shelter	Slight to Moderate Worsening	Vegetation is treated and reduced in quantity.
Inadequate Water	Not Applicable	Not applicable.
Inadequate Space	Neutral	Breaks in vegetative cover may interrupt continuity of habitat for certain wildlife species and create diversity for other species\.
Habitat Fragmentation	Slight Worsening	Breaks in vegetative cover may interrupt habitat connectivity.
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	Neutral	Activities are designed, installed, and mitigated to an extent to

Endangered Species Act		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	Forage species can be favored on a long-term basis to maintain practice function.
Inadequate Shelter	Slight to Moderate Worsening	Vegetation is reduced in quantity.
Inadequate Stock Water	Not Applicable	Not applicable.
Stress and Mortality	Not Applicable	Not applicable.
HUMAN – ECONOMICS		
Land - Change in Land Use	Substantial	Substantial, conversion of cropland or other land to fuel break.
Land – Land in Production	Slight decrease.	
Capital – Change in Equipment	Slight to moderate increase.	
Capital - Total Investment Cost	Moderate to substantial.	
Capital – Annual Cost	Slight to moderate increase.	
Capital – Credit and Farm Program Eligibility	Situational.	
Labor - Labor	Slight to moderate increase.	
Labor – Change in Management Level	Slight increase.	
Risk - Yield	Slight to Moderate Decrease	Slight to moderate decrease in risk of fire damage.
Risk - Flexibility	Slight to Moderate Decrease	Slight to moderate decrease in risk.
Risk - Timing	Not applicable.	Not applicable.
Risk – Cash Flow	Slight to Moderate Decrease	Slight to moderate decrease in risk due to improved fire protection.
Profitability – Change in Profitability	Slight to Moderate Decrease	Negligible to moderate decrease.
HUMAN - CULTURAL		
Cultural Resources and/or Historic Properties Present or Suspected to be PRESENT	Slight to Substantial	Use of heavy equipment may impact buried archaeological remains
HUMAN – ENERGY		
Depletion of Fossil Fuel Resources	Slight Increase	Energy is required to implement this practice.
Underutilization of Non-Fossil Energy Resources	Slight 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.