CONSERVATION PRACTICE PHYSICAL EFFECTS WORKSHEET

STATE	Nebraska	FIELD OFFICE	Any	DATE	10/14/2008

PRACTICE: Restoration and Management of Rare or Declining Habitats 643	Baseline Setting: Appropriate Land Use(s): Forest, Grazed Forest, Grazed Range, Mined, Native or Naturalized Pasture, Natural Area, Water, Watershed Protection, Wildlife

RESOURCES, CONSIDERATIONS AND CONCERNS	**PHYSICAL EFFECTS**	**RATIONALE**
SOIL - EROSION		
Sheet and Rill	Slight to Moderate Improvement	Establishing or improving native vegetative cover will reduce erosion by water.
Wind	Slight to Moderate Improvement	Establishing or improving native vegetative cover will reduce erosion by wind.
Ephemeral Gully	Slight to Moderate Improvement	Establishing or improving native vegetative cover will reduce erosion by water.
Classic Gully	Neutral	Effect will vary based upon initial land use.
Streambank	Neutral	Effect will vary based upon initial land use.
Shoreline	Neutral	Effect will vary based upon initial land use.
Irrigation Induced	Not Applicable	Not applicable.
Mass Movement	Not Applicable	Not applicable.
Road, Roadsides, and Construction Sites	Neutral	Effect will vary based upon initial land use.
SOIL – CONDITION		
Organic Matter Depletion	Neutral	Improved vegetative cover may increase soil organic matter. However, if prescribed burning is used, removal of vegetation and litter from a site temporarily removes organic material that could have become soil organic matter.
Rangeland Site Stability	Not Applicable	Not applicable.
Compaction	Not Applicable	Not applicable.
Subsidence	Not Applicable	Not applicable.
Contaminants:		
• Salts and other Chemicals	Slight Worsening	When prescribed burning is used, organic materials are mineralized.
• 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	Neutral	If prescribed burning is used, temporary removal of surface litter and alteration of vegetative structure alters entrapment capabilities. The action may also temporarily increase erosion.
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	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	Not Applicable	Not applicable.
Reduced Storage of Water Bodies by Sediment Accumulation	Not Applicable	Not applicable.
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	Not Applicable	Not applicable.
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 to Moderate Improvement	There will be improved vegetative cover with a reduction of runoff and sedimentation.
• Excessive Salinity	Not Applicable	Not applicable.
• Harmful Levels of Heavy Metals	Not Applicable	Not applicable.
• Harmful Temperatures	Slight to Moderate Improvement	Restoration of habitat adjacent to streams or water bodies will moderate surface water temperatures.
• 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	Neutral	If vegetative cover is increased, there is a minimal reduction of ozone precursors through reduced surface temperatures offered by shade or ground cover, and minimal biofiltering of ozone concentrations due to interception by vegetation.
Excessive Greenhouse Gas:		
• CO_2 (Carbon Dioxide)	Slight Improvement	Vegetation removes CO2 from the air and stores it in the form of carbon in the plants and soil.
• N_20 (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	Slight to Moderate Improvement	Reestablishment of tall vegetation creates turbulence and slows undesired, leeward winds.
Adverse Air Temperature	Not Applicable	Not applicable.
PLANTS – SUITABLIITY		
Plants not Adapted or Suited	Moderate to Substantial Improvement	Restoration and management creates or maintains the desired plant community.
PLANTS - CONDITION		
Productivity, Health, and Vigor	Moderate to Substantial Improvement	Plants are selected and managed to maintain optimal productivity and health.
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	Vegetation is installed and managed to control undesired species.
Forage Quality and Palatability	Moderate to Substantial Improvement	Selected plant species will have adequate nutritive value and palatability for the intended use.
Wildfire Hazard	Not Applicable	Not applicable.
ANIMALS - FISH AND WILDLIFE		
Inadequate Food	Moderate to Substantial Improvement	Improved plant diversity and quality and quantity of vegetation provides food for

		wildlife.
Inadequate Cover/Shelter	Moderate to Substantial Improvement	Improved plant diversity and quality and quantity of vegetation provides cover for wildlife.
Inadequate Water	Moderate to Substantial Improvement	Fish and wildlife habitat considerations are addressed in the design.
Inadequate Space	Moderate to Substantial Improvement	Declining habitats/space are restored.
Habitat Fragmentation	Moderate to Substantial Improvement	Declining habitats/space are restored and reconnected to adjacent habitats.
Imbalance Among and Within Populations	Moderate to Substantial Improvement	Management is designed to minimize limiting factors.
Threatened and Endangered Fish and Wildlife Species:		
• Fish and Wildlife Species Listed or Proposed for Listing Under the Endangered Species Act	Moderate to Substantial Improvement	Activities are designed, installed, and mitigated to an extent to enhance species of concern.
• Declining Species, Species of Concern	Moderate to Substantial Improvement	Activities are designed, installed, and mitigated to an extent to enhance species of concern.
ANIMALS – DOMESTIC		
Inadequate Quantities and Quality of Feed and Forage	Slight to Moderate Improvement	These sites may be used as feed and forage by livestock if the intended purpose is maintained.
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	Moderate increase.	
Capital - Total Investment Cost	Slight.	Slight.
Capital – Annual Cost	Negligible	
Capital – Credit and Farm Program Eligibility	Situational.	
Labor - Labor	Negligible to substantial increase	Negligible to substantial increase depending if habitat is natural or artificial maintained.
Labor – Change in Management Level	Negligible	
Risk - Yield	Slight to Moderate Decrease	Slight to moderate decrease due to improved habitat.
Risk - Flexibility	Slight to Moderate Increase	Substantial to moderate increase in habitat capabilities.
Risk - Timing	Not applicable.	Not applicable.
Risk – Cash Flow	Slight Increase	Negligible increase because of implementation costs.
Profitability – Change in Profitability	Slight to substantial decrease.	
HUMAN - CULTURAL		

Cultural Resources and/or Historic Properties Present or Suspected to be PRESENT	Not applicable.	Not applicable.
HUMAN – ENERGY		
Depletion of Fossil Fuel Resources	Not Applicable	Not Applicable
Underutilization of Non-Fossil Energy Resources	Not Applicable	Not Applicable

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.