

CONSERVATION PRACTICE PHYSICAL EFFECTS WORKSHEET

STATE	Nebraska	FIELD OFFICE	Any	DATE	10/10/2008
PRACTICE: Tree/Shrub Pruning 660		Baseline Setting:			
		Appropriate Land Use(s): All Land Uses			
RESOURCES, CONSIDERATIONS AND CONCERNS	PHYSICAL EFFECTS		RATIONALE		
SOIL - EROSION					
Sheet and Rill	Slight Improvement		Removal of overstory canopy increases amounts and vigor of erosion-controlling ground cover.		
Wind	Neutral		Residual vegetation and debris maintain non-erosive conditions.		
Ephemeral Gully	Neutral		Residual vegetation and debris maintain non-erosive conditions.		
Classic Gully	Neutral		Residual vegetation and debris maintain non-erosive conditions.		
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 Worsening		Removal of woody material from a site 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	Not Applicable		Not applicable.		
• Animal Waste and other Organics - N	Slight Improvement		Woody materials that have assimilated N from organic materials are removed or harvested from the site.		
• Animal Waste and other Organics - P	Slight Improvement		Woody materials that have assimilated P from organic materials are removed or harvested from the site.		
• Animal Waste and other Organics - K	Slight Improvement		Woody materials that have assimilated K from organic materials are removed or harvested from the site.		
• Commercial Fertilizer - N	Slight Improvement		Woody materials that have assimilated N from organic materials are removed or harvested from the site.		
• Commercial Fertilizer – P	Slight Improvement		Woody materials that have assimilated P from organic materials are removed or		

		harvested from the site.
• Commercial Fertilizer – K	Slight Improvement	Woody materials that have assimilated K from organic materials are removed or harvested from the site.
• Residual Pesticides	Not Applicable	Not applicable.
Damage from Sediment Deposition	Not Applicable	Not applicable.
WATER – QUANTITY		
Rangeland Hydrologic Cycle	Not Applicable	Not applicable.
Excessive Seepage	Neutral	The action has a negligible effect.
Excessive Runoff, Flooding, or Ponding	Neutral	The action has a negligible effect.
Excessive Subsurface Water	Neutral	The action has a negligible effect.
Drifted Snow	Not Applicable	Not applicable.
Inadequate Outlets	Neutral	The action has a negligible effect.
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	Neutral	The action has a negligible effect.
Reduced Storage of Water Bodies by Sediment Accumulation	Neutral	The action has a negligible effect.
Aquifer Overdraft	Neutral	Reduction in leaf surface area reduces soil moisture depletion due to evapotranspiration.
Insufficient Flows in Water Courses	Neutral	Reduction in leaf surface area reduces soil moisture depletion due to evapo-transpiration.
WATER – QUALITY		
In Groundwater:		
• Harmful Levels of Pesticides	Slight Improvement	Managing for desirable plant vigor reduces the need for pesticide applications.
• Excessive Nutrients and Organics	Slight Improvement	The action stimulates plants to take up and assimilate nutrients and organics more efficiently.
• 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	Slight Improvement	Managing for desirable plant vigor reduces runoff, erosion, and the need for pesticide applications.
• Excessive Nutrients and Organics	Slight Improvement	The action stimulates plants to take up and assimilate nutrients and organics more efficiently.
• Excessive Suspended Sediment and Turbidity	Not Applicable	Not applicable.

• 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	Not Applicable	Not applicable.
Excessive Greenhouse Gas:		
• CO ₂ (Carbon Dioxide)	Not Applicable	Not applicable.
• 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	Not Applicable	Not applicable.
PLANTS - CONDITION		
Productivity, Health, and Vigor	Substantial Improvement	Pruning increases health and vigor of selected tree/shrub species as well as desired understory vegetation.
Threatened or Endangered Plant Species:		
• Plant Species Listed or Proposed for Listing Under the Endangered Species Act	Not Applicable	Not applicable.
• Declining Species, Species of Concern	Not Applicable	Not applicable.
Noxious and Invasive Plants	Not Applicable	Not applicable.
Forage Quality and Palatability	Not Applicable	Not applicable.
Wildfire Hazard	Slight to Moderate Improvement	Activities are carried out to reduce ladder fuels.
ANIMALS - FISH AND WILDLIFE		
Inadequate Food	Slight Improvement	Growth of herbaceous and shrubby plants are enhanced and available as food for wildlife.
Inadequate Cover/Shelter	Slight Improvement	Growth of herbaceous and shrubby plants are enhanced and available as cover/shelter for wildlife.
Inadequate Water	Not Applicable	Not applicable.
Inadequate Space	Not Applicable	Not applicable.
Habitat Fragmentation	Not Applicable	Not applicable.
Imbalance Among and Within Populations	Not Applicable	Not applicable.

Threatened and Endangered Fish and Wildlife Species:		
<ul style="list-style-type: none"> 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.
<ul style="list-style-type: none"> 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	Slight to Moderate Improvement	Not applicable.
Inadequate Shelter	Slight to Substantial Worsening	Removing branches from lower portion of trees reduces available shelter.
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	
Capital - Total Investment Cost	Moderate.	Moderate.
Capital – Annual Cost	Slight increase.	
Capital – Credit and Farm Program Eligibility	Situational.	
Labor - Labor	Moderate increase.	
Labor – Change in Management Level	Slight increase.	
Risk - Yield	Slight Decrease	Slight decrease due to improved growing conditions.
Risk - Flexibility	Not applicable.	Not applicable.
Risk - Timing	Substantial Increase	Substantial increase - consider effects on the nesting and breeding or arboreal species.
Risk – Cash Flow	Slight Increase	Slight increase due to implementation cost.
Profitability – Change in Profitability	Slight 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	Slight Increase	Pruning requires energy.
Underutilization of Non-Fossil Energy Resources	Slight to Moderate Decrease	The practice provides immediate biomass for energy and improves future biomass yield.

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.