

CONSERVATION PRACTICE PHYSICAL EFFECTS WORKSHEET

STATE	Nebraska	FIELD OFFICE	Any	DATE	10/14/2008
PRACTICE: Channel Stabilization 584	Baseline Setting:				
	Appropriate Land Use(s): Crop, Forest, Grazed Forest, Grazed Range, Hay, Headquarters, Mined, Native or Naturalized Pasture, Natural Area, Pasture, Recreation, Urban, Watershed Protection, Wildlife				
RESOURCES, CONSIDERATIONS AND CONCERNS	PHYSICAL EFFECTS		RATIONALE		
SOIL - EROSION					
Sheet and Rill	Not Applicable		Not applicable.		
Wind	Not Applicable		Not applicable.		
Ephemeral Gully	Not Applicable		Not applicable.		
Classic Gully	Slight to Substantial Improvement		The action stabilizes channel to prevent further erosion.		
Streambank	Slight to Substantial Improvement		Stabilizes channel to prevent further degradation and improves bank stabilization.		
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	Not Applicable		Not applicable.		
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	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		Stabilizing the channel may increase its transport capacity.		
WATER – QUANTITY					
Rangeland Hydrologic Cycle	Not Applicable		Not applicable.		
Excessive Seepage	Slight to Moderate Improvement		Reduced channel degradation improves ground water levels in floodplains, riparian areas, and wetlands.		
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	Slight Improvement	Stabilizing the channel can help improve sediment transport and reduce deposition.
Reduced Storage of Water Bodies by Sediment Accumulation	Slight Improvement	Stabilizing the channel reduces channel erosion.
Aquifer Overdraft	Not Applicable	Not applicable.
Insufficient Flows in Water Courses	Slight to Moderate Improvement	The action can be used to manage surface water levels in floodplains, riparian areas, and wetlands
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 Improvement	Maintaining stable channels usually results in decreased suspended sediment.
• Excessive Salinity	Not Applicable	Not applicable.
• Harmful Levels of Heavy Metals	Not Applicable	Not applicable.
• Harmful Temperatures	Slight Improvement	The action design addresses stream water quality and fish habitat, which includes stream temperature.
• 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	Moderate to Substantial Improvement	When species are selected, they are adapted and suited.
PLANTS - CONDITION		
Productivity, Health, and Vigor	Slight to Substantial Improvement	Plants are selected and managed to maintain optimal productivity and health.
Threatened or Endangered Plant Species:		
<ul style="list-style-type: none"> 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.
<ul style="list-style-type: none"> 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	Noxious and invasive plants are removed from streambank and replaced with stabilization species.
Forage Quality and Palatability	Not Applicable	Not applicable.
Wildfire Hazard	Not Applicable	Not applicable.
ANIMALS - FISH AND WILDLIFE		
Inadequate Food	Slight Improvement	The stabilized channel traps and provides more food for fish.
Inadequate Cover/Shelter	Slight Improvement	The stabilized channel provides more cover/shelter for fish.
Inadequate Water	Slight Improvement	The stabilized channel provides more and deeper pools.
Inadequate Space	Slight to Moderate Improvement	Stabilized channels increase suitable space for fish.
Habitat Fragmentation	Slight to Moderate Improvement	Stabilized channels that previously fragmented the stream system increase connectivity.
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	Not Applicable	Not applicable.
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	Slight decrease	Slight decrease, channel banks out of crop production.
Capital – Change in Equipment	Moderate increase.	
Capital - Total Investment Cost	Substantial.	
Capital – Annual Cost	Slight to moderate increase.	
Capital – Credit and Farm Program Eligibility	Situational.	
Labor - Labor	Slight increase.	
Labor – Change in Management Level	Slight increase.	
Risk - Yield	Not applicable.	Not applicable.
Risk - Flexibility	Not applicable.	Not applicable.
Risk - Timing	Not applicable.	Not applicable.
Risk – Cash Flow	Substantial Increase	Substantial increase due to construction or establishment costs.
Profitability – Change in Profitability	Moderate decrease.	
HUMAN - CULTURAL		
Cultural Resources and/or Historic Properties Present or Suspected to be PRESENT	Slight to Substantial Increase	Mechanical removal impacts; TCP important plant species.
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.