CONSERVATION PRACTICE PHYSICAL EFFECTS WORKSHEET

STATE	Pennsylvania	FIELD OFFICE	Any	DATE	
PRACTICE: Fence 382		Baseline Setting:			
		Appropriate Land Use(s): All Land Uses			

RESOURCES, CONSIDERATIONS AND CONCERNS	PHYSICAL EFFECTS	RATIONALE
SOIL - EROSION		
Sheet and Rill	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
Wind	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
Ephemeral Gully	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
Classic Gully	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
Streambank	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people. This promotes vegetative growth and streambank stabilization.
Shoreline	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people. This promotes vegetative growth and shoreline stabilization.

Irrigation Induced	Not Applicable	Not applicable.
Mass Movement	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
Road, Roadsides, and Construction Sites	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
SOIL – CONDITION		
Organic Matter Depletion	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
Rangeland Site Stability	Neutral	This practice is applied to facilitate the application of conservation practices by providing a means to control movement of animals and people
Compaction	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
Subsidence	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
Contaminants:		
• Salts and other Chemicals	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
• Animal Waste and other Organics - N	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity

		of use of an area by animals or people.
• Animal Waste and other Organics - P	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
• Animal Waste and other Organics - K	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
• Commercial Fertilizer - N	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
• Commercial Fertilizer – P	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
• Commercial Fertilizer – K	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
• Residual Pesticides	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
Damage from Sediment Deposition	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
WATER – QUANTITY		
Rangeland Hydrologic Cycle	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the

		effective control of timing, frequency, duration and intensity of use of an area by animals or people.
Excessive Seepage	Not Applicable	Not applicable.
Excessive Runoff, Flooding, or Ponding	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
Excessive Subsurface Water	Not Applicable	Not applicable.
Drifted Snow	Neutral	Fences may act as a physical barrier and can increase drifting at gate locations.
Inadequate Outlets	Not Applicable	Not applicable.
Inefficient Water use on Irrigated Land	Not Applicable	Not applicable.
Inefficient Water use on Non-Irrigated Land	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
Reduced Capacity of Conveyances by Sediment Deposition	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
Reduced Storage of Water Bodies by Sediment Accumulation	Neutral	Barriers reduce the excessive disturbance of soil and vegetation by facilitating the effective control of timing, frequency, duration and intensity of use of an area by animals or people.
Aquifer Overdraft	Not Applicable	Not applicable.
Insufficient Flows in Water Courses	Neutral	Control of animals and people influences vigor and health of vegetation and soil condition in uplands and riparian areas which in turn can enhance water storage and infiltration to stabilize flow in water courses.
WATER – QUALITY		
In Groundwater:		
• Harmful Levels of Pesticides	Not Applicable	Not applicable.
• Excessive Nutrients and Organics	Neutral	The action improves plant vigor which increases nutrient uptake.
• Excessive Salinity	Neutral	Control of animals and people influences vigor and health of vegetation and soil condition

		which in turn can enhance infiltration and water uptake.
• 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	Neutral	The action improves plant vigor which increases nutrient uptake.
• Excessive Suspended Sediment and Turbidity	Neutral	A fence is a facilitating practice for management.
• Excessive Salinity	Not Applicable	Not applicable.
• Harmful Levels of Heavy Metals	Neutral	Control of animals and people influences vigor and health of vegetation and soil condition which in turn can influence water uptake and infiltration to reduce runoff, when applied with other conservation practices.
• Harmful Temperatures	Not Applicable	Not applicable.
• Harmful Levels of Pathogens	Neutral	Control access of animals and/or people to stream areas.
• 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_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	Not Applicable	Not applicable.
Adverse Air Temperature	Not Applicable	Not applicable.
PLANTS – SUITABLIITY		
Plants not Adapted or Suited	Neutral	Control of animals facilitates grazing management which encourages growth of plants that are adapted and suitable for the site.
PLANTS - CONDITION		
Productivity, Health, and Vigor	Neutral	Control of animals facilitates grazing management enhancing health and vigor of desired plant communities.
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	Neutral	Control of animals and people influences vigor and health of desirable vegetation thereby reducing threat of noxious and invasive plants when applied with other conservation practices.
Forage Quality and Palatability	Neutral	Control of animals improves vigor and health of vegetation.
Wildfire Hazard	Not Applicable	Not applicable.
ANIMALS - FISH AND WILDLIFE		
Inadequate Food	Not Applicable	Not applicable.
Inadequate Cover/Shelter	Not Applicable	Not applicable.
Inadequate Water	Not Applicable	Not applicable.
Inadequate Space	Slight to Moderate Worsening	Fencing can decrease access to space needed by certain wildlife.
Habitat Fragmentation	Slight to Moderate Worsening	Fencing can decrease access to space and fragment habitat needed by certain wildlife.
Imbalance Among and Within Populations	Neutral	Fences built to specifications allow wildlife unrestricted passage.
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	Neutral	Control of animals influences vigor and health of vegetation.
Inadequate Shelter	Moderate to Substantial Improvement	Solid fences can provide protection from winds.
Inadequate Stock Water	Not Applicable	Not applicable.
Stress and Mortality	Moderate to Substantial Improvement	Control of animals promotes improved forage and reduces stress.
HUMAN – ECONOMICS		
Land - Change in Land Use	Not applicable.	Not applicable.
Land – Land in Production	Not applicable	Not applicable.
Capital – Change in Equipment	Slight Increase.	
Capital - Total Investment Cost	Substantial.	
Capital – Annual Cost	Slight to moderate increase.	

Capital – Credit and Farm Program Eligibility	Situational.	
Labor - Labor	Moderate Decrease	Substantial increase during installation, moderate decrease in long-term to manage livestock.
Labor – Change in Management Level	Negligible	
Risk - Yield	Not applicable.	Not applicable.
Risk - Flexibility	Slight to Moderate Decrease	Slight to moderate decrease based on management objectives.
Risk - Timing	Not applicable.	Not applicable.
Risk – Cash Flow	Moderate to Substantial Increase	Moderate to substantial increase due to installation costs.
Profitability – Change in Profitability	Slight to moderate increase.	
HUMAN - CULTURAL		
Cultural Resources and/or Historic Properties Present or Suspected to be PRESENT	Slight to Substantial Increase	Dependent on fence type, construction methods, resource type.
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.