

CONSERVATION PRACTICE PHYSICAL EFFECTS WORKSHEET

STATE	Pennsylvania	FIELD OFFICE	Any	DATE	
PRACTICE: Open Channel 582		Baseline Setting:			
		Appropriate Land Use(s): All Land Uses			
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	Not Applicable		Not applicable.		
Streambank	Slight to Substantial Improvement		Stabilized channel bottom and sides.		
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 Improvement		Channel intercepts runoff that might otherwise cause deposition		
WATER – QUANTITY					
Rangeland Hydrologic Cycle	Not Applicable		Not applicable.		
Excessive Seepage	Slight Improvement		Water conveyance reduces seepage.		
Excessive Runoff, Flooding, or Ponding	Substantial Improvement		Channel capacity accommodates runoff and reduces flooding and ponding.		
Excessive Subsurface Water	Slight to Substantial Improvement		Provides suitable outlets and facilitates drainage.		
Drifted Snow	Not Applicable		Not applicable.		
Inadequate Outlets	Substantial Improvement		Provides adequate outlet capacity.		
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 to Moderate Improvement	Improved channel conveyance is more efficient mechanism for sediment transport.
Reduced Storage of Water Bodies by Sediment Accumulation	Slight to Moderate Worsening	Improved channel conveyance is more efficient mechanism for carrying sediment to water bodies.
Aquifer Overdraft	Not Applicable	Not applicable.
Insufficient Flows in Water Courses	Moderate Improvement	Improved channels will increase flows to other water courses.
WATER – QUALITY		
In Groundwater:		
• Harmful Levels of Pesticides	Not Applicable	Not applicable.
• Excessive Nutrients and Organics	Neutral	Rapid removal of water off site has the potential to decrease infiltration, thus decreasing contamination of ground water.
• Excessive Salinity	Neutral	Rapid removal of water off site has the potential to decrease infiltration, thus decreasing contamination of ground water.
• 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	Slight Worsening	Rapid removal of water off site has the potential to decrease infiltration, thus increasing contamination of surface water.
• Excessive Suspended Sediment and Turbidity	Neutral	Change in alignment, capacity, and velocity will cause a temporary increase in sediments and turbidity.
• Excessive Salinity	Not Applicable	Not applicable.
• Harmful Levels of Heavy Metals	Slight Worsening	Rapid movement of water off site will tend to move contaminants in surface water.
• Harmful Temperatures	Neutral	The action conveys water quickly and will not result in increased 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	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	Not Applicable	Not applicable.
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	Not Applicable	Not applicable.
ANIMALS - FISH AND WILDLIFE		
Inadequate Food	Neutral	Constructing or improving channels may increase or decrease food for fish and wildlife.
Inadequate Cover/Shelter	Neutral	Constructing or improving channels may increase or decrease cover/shelter for fish and wildlife.
Inadequate Water	Slight to Moderate Worsening	Flow through the channel is accelerated reducing slow-water habitat.
Inadequate Space	Neutral	Constructing or improving channel may increase or decrease food and habitat for fish and wildlife depending on species and the vegetation of the stabilized channel..
Habitat Fragmentation	Slight to Moderate Worsening	Constructing channels will fragment vegetation and habitats.
Imbalance Among and Within Populations	Neutral	Constructing or improving channel may increase or decrease food and habitat for fish and wildlife depending on species and the vegetation of the stabilized channel..
Threatened and Endangered Fish and Wildlife Species:		
• Fish and Wildlife Species Listed or	Neutral	Activities are designed,

Proposed for Listing Under the Endangered Species Act		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	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	Slight to Substantial	N/A, if currently farmed, substantial if change from non-use to crop.
Land – Land in Production	Slight decrease	Slight decrease, channel banks taken out of 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	Negligible	
Labor – Change in Management Level	Negligible	
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 cost.
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	Construction impacts (mechanical).
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.