

## CONSERVATION PRACTICE PHYSICAL EFFECTS WORKSHEET

STATE	Pennsylvania	FIELD OFFICE	Any	DATE	
<b>PRACTICE: Sediment Basin 350</b>		Baseline Setting:			
		Appropriate Land Use(s): Forest, Grazed Forest, Grazed Range, Headquarters, Mined, Native or Naturalized Pasture, Natural Area, Recreation, Urban, Water, Watershed Protection, Wildlife			
<b>RESOURCES, CONSIDERATIONS AND CONCERNS</b>	<b>PHYSICAL EFFECTS</b>		<b>RATIONALE</b>		
<b>SOIL - EROSION</b>					
Sheet and Rill	Not Applicable		Not applicable.		
Wind	Not Applicable		Not applicable.		
Ephemeral Gully	Slight to Moderate Improvement		Controlled flow will reduce gully erosion down slope of basin		
Classic Gully	Slight to Moderate Improvement		Controlled flow will reduce gully erosion down slope of basin.		
Streambank	Neutral		Stream bank erosion due to flows are reduced because of controlled flows, but 'clean' water from basin could create stream bank erosion.		
Shoreline	Not Applicable		Not applicable.		
Irrigation Induced	Not Applicable		Not applicable.		
Mass Movement	Slight Worsening		Increases infiltration and soil instability.		
Road, Roadsides, and Construction Sites	Not Applicable		Not applicable.		
<b>SOIL – CONDITION</b>					
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 Substantial Improvement		Sediment is retained in basin.		
<b>WATER – QUANTITY</b>					
Rangeland Hydrologic Cycle	Not Applicable		Not applicable.		
Excessive Seepage	Slight to Moderate Worsening		Stored water in basin will infiltrate adding to seepage problem.		

Excessive Runoff, Flooding, or Ponding	Slight to Moderate Improvement	Basin will retard flows reducing the runoff and controlling water releases.
Excessive Subsurface Water	Slight to Moderate Worsening	Retarded water in basin will infiltrate adding to subsurface water.
Drifted Snow	Not Applicable	Not applicable.
Inadequate Outlets	Slight to Substantial Improvement	Basin will retard flows reducing the runoff and controlling water releases.
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	Moderate to Substantial Improvement	Basin traps and retains sediment.
Reduced Storage of Water Bodies by Sediment Accumulation	Moderate to Substantial Improvement	Basin traps and retains sediment.
Aquifer Overdraft	Slight Improvement	Infiltrating water in basin may recharge ground water.
Insufficient Flows in Water Courses	Slight Worsening	Water stored in basins will be withheld from water courses.
<b>WATER – QUALITY</b>		
In Groundwater:		
• Harmful Levels of Pesticides	Slight Worsening	Water containing pesticides may seep from the basin.
• Excessive Nutrients and Organics	Slight Worsening	Nutrients impounded could contaminate groundwater.
• Excessive Salinity	Slight Worsening	Infiltrating water in the basin may move soluble salts to ground water.
• Harmful Levels of Heavy Metals	Slight Worsening	Infiltrating water in the basin may move soluble contaminants to the ground water.
• Harmful Levels of Pathogens	Slight Worsening	Infiltrating water in the basin may move pathogens to the ground water.
• Harmful Levels of Petroleum	Not Applicable	Not applicable.
In Surface Water:		
• Harmful Levels of Pesticides	Slight to Moderate Improvement	The action collects and stores adsorbed pesticides.
• Excessive Nutrients and Organics	Substantial Improvement	The action will tend to accumulate contaminants attached to sediments, and infiltrating waters will remove soluble contaminants.
• Excessive Suspended Sediment and Turbidity	Moderate to Substantial Improvement	Basin retains sediment, decreasing runoff turbidity.
• Excessive Salinity	Slight to Moderate Improvement	Basins will tend to accumulate contaminants attached to sediments, and infiltrating waters will remove soluble contaminants.
• Harmful Levels of Heavy Metals	Slight to Moderate Improvement	Basins will tend to accumulate contaminants attached to

		sediments.
• Harmful Temperatures	Neutral	Although water retained in basin is warmer than flowing surface water, discharge to surface waters is unlikely.
• Harmful Levels of Pathogens	Slight to Moderate Improvement	Basins will tend to accumulate contaminants attached to sediments, and infiltrating waters will remove soluble contaminants
• Harmful Levels of Petroleum	Slight to Moderate Improvement	Basins will tend to accumulate contaminants attached to sediments, and infiltrating waters will remove soluble contaminants
<b>AIR – QUALITY</b>		
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 <sub>2</sub> (Carbon Dioxide)	Not Applicable	Not applicable.
• N <sub>2</sub> O (Nitrous Oxide)	Not Applicable	Not applicable.
• CH <sub>4</sub> (Methane)	Not Applicable	Not applicable.
Ammonia (NH <sub>3</sub> )	Not Applicable	Not applicable.
Chemical Drift	Not Applicable	Not applicable.
Objectionable Odors	Neutral	Proper siting and management are required If used as part of an agricultural waste management system
Reduced Visibility	Not Applicable	Not applicable.
Undesirable Air Movement	Not Applicable	Not applicable.
Adverse Air Temperature	Not Applicable	Not applicable.
<b>PLANTS – SUITABILITY</b>		
Plants not Adapted or Suited	Not Applicable	Not applicable.
<b>PLANTS - CONDITION</b>		
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.
<b>ANIMALS - FISH AND WILDLIFE</b>		
Inadequate Food	Slight Worsening	Any food species are eliminated in the area used for the basin.
Inadequate Cover/Shelter	Slight Worsening	Any cover is eliminated in the area used for the basin.

Inadequate Water	Slight Improvement	Water is temporarily stored, and sediment and debris are removed from runoff.
Inadequate Space	Not Applicable	Not applicable.
Habitat Fragmentation	Not Applicable	Not applicable.
Imbalance Among and Within Populations	Slight Improvement	Vegetated basins provide habitat.
Threatened and Endangered Fish and Wildlife Species:		
<ul style="list-style-type: none"> <li>Fish and Wildlife Species Listed or Proposed for Listing Under the Endangered Species Act</li> </ul>	Neutral	Activities are designed, installed, and mitigated to an extent to maintain or enhance species of concern.
<ul style="list-style-type: none"> <li>Declining Species, Species of Concern</li> </ul>	Neutral	Activities are designed, installed, and mitigated to an extent to maintain or enhance species of concern.
<b>ANIMALS – DOMESTIC</b>		
Inadequate Quantities and Quality of Feed and Forage	Not Applicable	Not applicable.
Inadequate Shelter	Not Applicable	Not applicable.
Inadequate Stock Water	Slight Improvement	Captured water in basins can supplement stock water.
Stress and Mortality	Not Applicable	Not applicable.
<b>HUMAN – ECONOMICS</b>		
Land - Change in Land Use	Substantial	Substantial, convert to water & sediment storage.
Land – Land in Production	Substantial decrease	Substantial decrease, land converted to water & sediment storage.
Capital – Change in Equipment	Substantial increase.	
Capital - Total Investment Cost	Substantial.	Substantial.
Capital – Annual Cost	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	Substantial Decrease	Substantial decrease in risk due to maintained capacity of waterways.
Risk - Timing	Not applicable.	Not applicable.
Risk – Cash Flow	Moderate to Substantial Increase	Moderate to substantial increase to construction costs.
Profitability – Change in Profitability	Situational	Moderate decrease to slight increase.
<b>HUMAN - CULTURAL</b>		
Cultural Resources and/or Historic Properties Present or Suspected to be PRESENT	Slight to Substantial Increase	Construction impacts (mechanical).
<b>HUMAN – ENERGY</b>		
Depletion of Fossil Fuel Resources	Moderate to Substantial Increase	This practice requires energy intensive operation and

		maintenance.
Underutilization of Non-Fossil Energy Resources	Not Applicable	Not Applicable

## Human Considerations Explanation

<b>Considerations</b>	<b>Physical effects indicate:</b>
<b>Land - Change in Land Use</b>	The degree to which implementing the conservation practice is expected to cause a change from one land use to another.
<b>Land - Land in Production</b>	The degree to which implementing the conservation practice is expected to cause an increase or decrease in the amount of land in production.
<b>Capital - Change in Equipment</b>	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.
<b>Capital - Total Investment Cost</b>	A qualitative measure of the increase in total investment dollars required in order to implement the conservation practice.
<b>Capital - Annual Cost</b>	A qualitative measure of the expected change in annual capital costs required in order to operate and maintain the conservation practice.
<b>Capital - Credit &amp; Farm Program Eligibility</b>	Included to make conservation planners aware of the potential availability of funding for implementing conservation practices.
<b>Labor – Labor</b>	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.
<b>Labor - Change in Management Level</b>	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.
<b>Risk – Yield</b>	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.
<b>Risk – Flexibility</b>	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.
<b>Risk – Timing</b>	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.
<b>Risk - Cash Flow</b>	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.
<b>Profitability - Change in Profitability</b>	The degree to which farm or ranch profitability is expected to increase or decrease as a result of implementing the conservation practice.
<b>Cultural Resources and/or Historic Properties Present or Suspected to be Present</b>	The degree to which implementation of the conservation practice is expected to increase or decrease the risk of cultural resource disturbance, degradation, or loss.
<b>Depletion of Fossil Fuel Resources</b>	Inefficient use of fossil-originated energy sources (diesel, gasoline, propane, natural gas, coal), lubricants, and other materials.
<b>Underutilization of Non-Fossil Energy Sources</b>	Available and cost-effective alternative energy sources (solar, wind, biofuel, hydroelectric, geothermal) are not being used or are being used inefficiently.