

CONSERVATION PRACTICE PHYSICAL EFFECTS WORKSHEET

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| STATE | Pennsylvania | FIELD OFFICE | Any | DATE | |
| PRACTICE: Upland Wildlife Habitat Management 645 | | Baseline Setting: | | | |
| | | Appropriate Land Use(s): All Land Uses | | | |
| RESOURCES, CONSIDERATIONS AND CONCERNS | PHYSICAL EFFECTS | | RATIONALE | | |
| SOIL - EROSION | | | | | |
| Sheet and Rill | Moderate Improvement | | Establishment of permanent vegetation reduces erosion by water. | | |
| Wind | Moderate Improvement | | Establishment of permanent vegetation reduces erosion by wind. | | |
| Ephemeral Gully | Moderate Improvement | | Establishment of permanent vegetation reduces erosion by water. | | |
| Classic Gully | Slight to Moderate Improvement | | There will be decreased overland flow, enhanced vegetation cover. | | |
| Streambank | Slight Improvement | | There will be decreased overland flow, enhanced vegetation cover. | | |
| Shoreline | Slight Improvement | | There will be decreased overland flow, enhanced vegetation cover. | | |
| Irrigation Induced | Not Applicable | | Not applicable. | | |
| Mass Movement | Slight Improvement | | Roots of vegetation binds the soil layers making the site resistant to gravity-induced movement. | | |
| Road, Roadsides, and Construction Sites | Not Applicable | | Not applicable. | | |
| SOIL – CONDITION | | | | | |
| Organic Matter Depletion | Neutral | | New vegetation may be established. | | |
| 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 | Not Applicable | | Not applicable. | | |
| WATER – QUANTITY | | | | | |
| Rangeland Hydrologic Cycle | Not Applicable | | Not applicable. | | |
| Excessive Seepage | Not Applicable | | Not applicable. | | |

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| Excessive Runoff, Flooding, or Ponding | Moderate Worsening | Vegetation causes flooding and ponding. |
| Excessive Subsurface Water | Slight to Moderate Improvement | Deep rooted plants uptake excess water. |
| 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 | Improved vegetative cover will decrease sedimentation concerns. |
| Reduced Storage of Water Bodies by Sediment Accumulation | Slight Improvement | Improved vegetative cover will decrease sedimentation concerns. |
| Aquifer Overdraft | Not Applicable | Not applicable. |
| Insufficient Flows in Water Courses | Slight Improvement | Vegetated areas intercept precipitation and retain runoff with a net, elevated release to water courses. |
| 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 to Moderate Improvement | There will be improved vegetative cover with a reduction of runoff and sedimentation. |
| • Excessive Salinity | Not Applicable | Not applicable. |
| • Harmful Levels of Heavy Metals | Not Applicable | Not applicable. |
| • Harmful Temperatures | Neutral | Sound management of upland vegetation tends to improve watershed conditions. |
| • 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) | Slight to Moderate Improvement | Vegetative cover reduces wind erosion and fugitive dust generation. |
| Particulate Matter less than 2.5 Micrometers in Diameter (PM 2.5) | Slight to Moderate Improvement | Vegetative cover reduces wind erosion and fugitive dust generation. |
| Excessive Ozone | Neutral | There is a minimal reduction of ozone precursors through reduced surface temperatures offered by shade or ground |

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| | | cover, and minimal biofiltering of ozone concentrations due to interception by vegetation. |
| Excessive Greenhouse Gas: | | |
| • CO ₂ (Carbon Dioxide) | Slight Improvement | Vegetation removes CO ₂ from the air and stores it in the form of carbon in the plants and soil. |
| • 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 | Slight Improvement | Reduction in wind erosion potential and fugitive dust |
| Undesirable Air Movement | Slight to Moderate Improvement | Creation of tall vegetation creates turbulence and slows undesired, leeward winds. |
| Adverse Air Temperature | Slight to Substantial Improvement | Tall vegetation provides shade and moderates temperatures. |
| PLANTS – SUITABILITY | | |
| Plants not Adapted or Suited | Moderate to Substantial Improvement | Management and improvement measures create or maintain the desired plant communities. |
| PLANTS - CONDITION | | |
| Productivity, Health, and Vigor | Moderate to Substantial Improvement | Plants are selected and managed to maintain optimal productivity and health. |
| Threatened or Endangered Plant Species: | | |
| • 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. |
| • 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 | Vegetation is installed and managed to control undesired species. |
| Forage Quality and Palatability | Moderate to Substantial Improvement | Selected plant species will have adequate nutritive value and palatability for the intended use. |
| Wildfire Hazard | Not Applicable | Not applicable. |
| ANIMALS - FISH AND WILDLIFE | | |
| Inadequate Food | Substantial Improvement | Areas for food are created, restored, or enhanced. |
| Inadequate Cover/Shelter | Substantial Improvement | Areas for cover are created, restored, or enhanced. |
| Inadequate Water | Not Applicable | Not applicable. |
| Inadequate Space | Substantial Improvement | Improved plant diversity and quantity and quality of vegetation provides |

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| | | habitat/space for wildlife. |
| Habitat Fragmentation | Moderate to Substantial Improvement | Vegetation will be established to maintain or enhance the plant community connectivity. |
| Imbalance Among and Within Populations | Substantial Improvement | Habitat management is implemented to remove limiting factors. |
| 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 | Moderate to Substantial Improvement | Activities are designed, installed, and mitigated to an extent to enhance species of concern. |
| <ul style="list-style-type: none"> Declining Species, Species of Concern | Moderate to Substantial Improvement | Activities are designed, installed, and mitigated to an extent to enhance species of concern. |
| ANIMALS – DOMESTIC | | |
| Inadequate Quantities and Quality of Feed and Forage | Slight to Moderate Improvement | These sites may be used as feed and forage by livestock if the intended purpose is maintained. |
| 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 | Not applicable. | Not applicable. |
| Capital – Change in Equipment | Slight Increase. | |
| Capital - Total Investment Cost | Slight. | Slight. |
| Capital – Annual Cost | Negligible | |
| Capital – Credit and Farm Program Eligibility | Situational. | |
| Labor - Labor | Slight to Moderate Increase | Slight to moderate depending on size, species and intensity of wildlife management. |
| Labor – Change in Management Level | Negligible | |
| Risk - Yield | Slight to Moderate Decrease | Slight to moderate decrease due to improved habitat. |
| Risk - Flexibility | Slight to Moderate Increase | Substantial to moderate increase in habitat capabilities. |
| Risk - Timing | Not applicable. | Not applicable. |
| Risk – Cash Flow | Slight Increase | Negligible increase because of implementation costs. |
| 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 | Maintenance of this practice requires energy. |
| Underutilization of Non-Fossil Energy Resources | Not Applicable | Not Applicable |

Human Considerations Explanation

| Considerations | Physical effects indicate: |
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| 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. |