

## CONSERVATION PRACTICE PHYSICAL EFFECTS WORKSHEET

|                                                          |          |                                                                                                                                                                                          |     |                                                                        |            |
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| STATE                                                    | Nebraska | FIELD OFFICE                                                                                                                                                                             | Any | DATE                                                                   | 12/27/2011 |
| <b>PRACTICE: Wetland Wildlife Habitat Management 644</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                                          |          | Not Applicable                                                                                                                                                                           |     | Not applicable.                                                        |            |
| Classic Gully                                            |          | Not Applicable                                                                                                                                                                           |     | Not applicable.                                                        |            |
| Streambank                                               |          | Not Applicable                                                                                                                                                                           |     | Not applicable.                                                        |            |
| Shoreline                                                |          | Moderate Improvement                                                                                                                                                                     |     | Wetland vegetation would protect shorelines from wind and wave action. |            |
| Irrigation Induced                                       |          | Not Applicable                                                                                                                                                                           |     | Not applicable.                                                        |            |
| Mass Movement                                            |          | Not Applicable                                                                                                                                                                           |     | Not applicable.                                                        |            |
| 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                          |          | Not Applicable                                                                                                                                                                           |     | Not applicable.                                                        |            |
| <b>WATER – QUANTITY</b>                                  |          |                                                                                                                                                                                          |     |                                                                        |            |
| Rangeland Hydrologic Cycle                               |          | Not Applicable                                                                                                                                                                           |     | Not applicable.                                                        |            |
| Excessive Seepage                                        |          | Not Applicable                                                                                                                                                                           |     | Not applicable.                                                        |            |
| Excessive Runoff, Flooding, or Ponding                   |          | Slight to Substantial Improvement                                                                                                                                                        |     | Provides temporary flood storage reducing flooding and ponding.        |            |
| 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.                                                        |            |

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| Reduced Capacity of Conveyances by Sediment Deposition            | Not Applicable                 | Not applicable.                                                                                                                                                                                             |
| Reduced Storage of Water Bodies by Sediment Accumulation          | Not Applicable                 | Not applicable.                                                                                                                                                                                             |
| Aquifer Overdraft                                                 | Not Applicable                 | Not applicable.                                                                                                                                                                                             |
| Insufficient Flows in Water Courses                               | Not Applicable                 | Not applicable.                                                                                                                                                                                             |
| <b>WATER – QUALITY</b>                                            |                                |                                                                                                                                                                                                             |
| 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                      | 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                        | Water released from impoundments may be warmer or cooler than receiving waters, depending on site conditions.                                                                                               |
| • Harmful Levels of Pathogens                                     | Slight Improvement             | Pathogens are trapped in the wetland.                                                                                                                                                                       |
| • Harmful Levels of Petroleum                                     | Not Applicable                 | Not applicable.                                                                                                                                                                                             |
| <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                                                   | Neutral                        | There is a minimal reduction of ozone precursors through reduced surface temperatures offered by shade or ground cover, and minimal biofiltering of ozone concentrations due to interception by vegetation. |
| Excessive Greenhouse Gas:                                         |                                |                                                                                                                                                                                                             |
| • CO <sub>2</sub> (Carbon Dioxide)                                | Slight to Moderate Improvement | The accumulation of organic matter and sediments sequester carbon.                                                                                                                                          |
| • N <sub>2</sub> O (Nitrous Oxide)                                | Not Applicable                 | Not applicable.                                                                                                                                                                                             |
| • CH <sub>4</sub> (Methane)                                       | Slight Worsening               | Anaerobic conditions in wetlands would increase production and release of methane.                                                                                                                          |
| Ammonia (NH <sub>3</sub> )                                        | Neutral                        | Not applicable.                                                                                                                                                                                             |
| Chemical Drift                                                    | Not Applicable                 | Not applicable.                                                                                                                                                                                             |
| Objectionable Odors                                               | Slight Worsening               | Methane production and                                                                                                                                                                                      |

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|                                                                                                                                 |                                     | transport, as well as other odors, will be objectionable to some people.                                                                                                                                                                        |
| Reduced Visibility                                                                                                              | Neutral                             | Not applicable.                                                                                                                                                                                                                                 |
| 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.                                                                                                                                                                                      |
| <b>PLANTS – SUITABILITY</b>                                                                                                     |                                     |                                                                                                                                                                                                                                                 |
| Plants not Adapted or Suited                                                                                                    | Moderate to Substantial Improvement | Plants selected are adapted and suited.                                                                                                                                                                                                         |
| <b>PLANTS - CONDITION</b>                                                                                                       |                                     |                                                                                                                                                                                                                                                 |
| Productivity, Health, and Vigor                                                                                                 | Moderate to Substantial Improvement | Plants are selected and managed to maintain optimal productivity and health for their intended use.                                                                                                                                             |
| Threatened or Endangered Plant Species:                                                                                         |                                     |                                                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>Plant Species Listed or Proposed for Listing Under the Endangered Species Act</li> </ul> | Neutral                             | When threatened or endangered plants are present, protection and recovery are addressed in the planning process.                                                                                                                                |
| <ul style="list-style-type: none"> <li>Declining Species, Species of Concern</li> </ul>                                         | 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                                                                                                 | Not Applicable                      | Not applicable.                                                                                                                                                                                                                                 |
| Wildfire Hazard                                                                                                                 | Not Applicable                      | Not applicable.                                                                                                                                                                                                                                 |
| <b>ANIMALS - FISH AND WILDLIFE</b>                                                                                              |                                     |                                                                                                                                                                                                                                                 |
| Inadequate Food                                                                                                                 | Substantial Improvement             | Areas for food are created, restored, or enhanced.                                                                                                                                                                                              |
| Inadequate Cover/Shelter                                                                                                        | Substantial Improvement             | Areas for cover/shelter are created, restored, or enhanced.                                                                                                                                                                                     |
| Inadequate Water                                                                                                                | Slight to Substantial Improvement   | Actively managing wetlands (e.g., water levels), improves habitat for some species, and adversely affects others that become entrapped (e.g., fish); the taxa that benefit depend on the degree to which hydrological conditions are conserved. |
| Inadequate Space                                                                                                                | Moderate to Substantial Improvement | Additional wetland space is maintained.                                                                                                                                                                                                         |
| Habitat Fragmentation                                                                                                           | Moderate to Substantial Improvement | Multiple wetlands are managed to maintain the number and connectivity of this kind of habitat.                                                                                                                                                  |
| Imbalance Among and Within Populations                                                                                          | Substantial Improvement             | Habitat management is implemented to remove limiting factors.                                                                                                                                                                                   |
| Threatened and Endangered Fish and Wildlife Species:                                                                            |                                     |                                                                                                                                                                                                                                                 |

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| • 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.    |
| • Declining Species, Species of Concern                                                     | Moderate to Substantial Improvement | Activities are designed, installed, and mitigated to an extent to enhance species of concern.    |
| <b>ANIMALS – DOMESTIC</b>                                                                   |                                     |                                                                                                  |
| 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.                                                                                  |
| <b>HUMAN – ECONOMICS</b>                                                                    |                                     |                                                                                                  |
| 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                                                                               | Negligible to substantial increase  | Negligible to substantial increase depending if water level is natural or artificial maintained. |
| 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                                                     | Situational                         | Slight increase or decrease.                                                                     |
| <b>HUMAN - CULTURAL</b>                                                                     |                                     |                                                                                                  |
| Cultural Resources and/or Historic Properties Present or Suspected to be PRESENT            | Not applicable.                     | Not applicable.                                                                                  |
| <b>HUMAN – ENERGY</b>                                                                       |                                     |                                                                                                  |
| Depletion of Fossil Fuel Resources                                                          | Not Applicable                      | Not Applicable                                                                                   |
| Underutilization of Non-Fossil Energy Resources                                             | Not Applicable                      | Not Applicable                                                                                   |

## Human Considerations Explanation

| <b>Considerations</b>                                                                   | <b>Physical effects indicate:</b>                                                                                                                                                                                                                                                                                                                                                                          |
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| <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.                                                                                                                                                                                                                                              |