

MITIGATION MEASURES

There are no significant impacts; therefore no mitigation measures are required under NEPA.

4.8 BIOLOGICAL RESOURCES

NREL has extensive programs, policies and practices designed to avoid, minimize and mitigate impacts to the biological resources of the site. These efforts range from designation of formal conservation management areas covering sensitive locations to detailed efforts to restore disrupted areas and avoid noxious weed invasion. NREL's programs, policies and practices are referenced, where appropriate, in the following discussions.

4.8.1 Vegetation Impacts

Impacts to native vegetation can occur in three ways: as direct impacts, secondary impacts, or as cumulative impacts. The direct loss of native vegetation by construction or other disturbance may be either permanent or temporary. Secondary impacts to native vegetation may occur due to noxious weed invasion, or as changes in vegetation types due to changes in runoff, shading, etc. Cumulative impacts are the additive impacts resulting from past, present, and planned future activities from the project or other reasonably foreseeable projects.

The activities described for the Proposed Action would result in a direct, but temporary and insignificant loss of grassland habitat. Site development would disrupt site soils and vegetation during normal operations, turbine modification and maintenance activities and related construction work. However, NREL's revegetation policies would mitigate these impacts, including incremental losses of tallgrass prairie species.

Temporarily impacted lands, due to land clearing and disturbance from construction activities, have an increased susceptibility to noxious weed invasion. Weeds such as diffuse knapweed, Canada thistle, hoary cress, leafy spurge, and musk thistle occur on the site and are among the ten most widespread noxious weeds in the State of Colorado. The potential spread of these and other noxious weeds found at NWTC into disturbed areas represents secondary impacts as a result of the Proposed Action. NREL, understanding the potential for adverse effects caused by noxious weed spread, actively manages weeds on-site through NREL's aggressive Weed Control Program.

Although the Proposed Action represents a loss of grassland habitat, the cumulative effect of this loss is minimal due to protection of this habitat type on-site in conservation management areas and the widespread existence of grasslands on the adjacent RFETS and surrounding areas.

4.8.2 Wetland Impacts

The northern pipeline option described in the Proposed Action may result in direct and temporary loss of wetland habitat at wetlands in the drainage way along U.S. Highway 93. It is unknown at this time, how much acreage would be directly impacted by Option 1, but it is likely to be less than 1/10th of an acre. There are no wetlands involved in the Option 2 pipeline route.

management activities are expected to control existing noxious weed populations. Hydrology supporting wetlands is likely to remain constant.

The No Action Alternative would not affect individuals or habitats of the Ute ladies'-tresses orchid, Colorado butterfly plant or Preble's. Existing conditions created by turbines, guy wires, and other site features and their effects on avian species and bats, would continue under the No Action Alternative.

The incremental impacts of more and larger turbines, taller towers and longer guy wires on avian species and bats would be avoided.

MITIGATION MEASURES

If Option 1 for the gas pipeline route is selected, the following measures are required to minimize potential impacts to the Preble's:

- A Biological Assessment (BA) as defined by the ESA will be prepared to fully evaluate potential effects from the pipeline and determine whether the construction will adversely affect Preble's;
- Initiate formal consultation with the USFWS to obtain a Biological Opinion and Incidental Take Statement if effects to Preble's are determined to be adverse;
- Determine conservation measures through consultation with the USFWS to minimize the possibility of adversely affecting Preble's and the possibility of incidental take occurring. Measures may include but not be limited to:
 - Minimize the pipeline corridor width through the riparian habitat to the trench cut and a minimal swath for equipment passage and overburden storage;
 - Conduct a three night trapping survey at the site of the proposed pipeline crossing immediately before any ground disturbance to capture and remove Preble's from the area; and
 - Maintain compliance with applicable permit stipulations regarding erosion control and impact minimization.

4.9 CULTURAL RESOURCES

Impacts to significant cultural resources can occur as a result of building or road construction, utility work, demolition, changes to a resource's setting, or use (including both noise and ground-disturbing activities). This section evaluates potential impacts to cultural resources within the NWTC. The likelihood of impacts is evaluated based on primary, secondary and cumulative impacts of the Proposed Action and No Action alternatives.

Section 106 of the National Historic Preservation Act of 1966 (as amended) requires agencies to consult with the State Historic Preservation Officer (SHPO) when making determinations of eligibility and effect for cultural resources within or adjacent to a project. Consultation letters between DOE and SHPO are included Appendix E.