

1.0 DRAFT SHORELINE CHARACTERIZATION STUDY PLAN ANNOTATED OUTLINE

1.1 PROJECT NEXUS AND RATIONALE FOR STUDY [§ 5.9(B)(4)-(5)]

The proposed changes in the Cutler Hydroelectric Project (Project) operations may affect the type and amount of shoreline habitat available at Cutler Reservoir, including introducing and/or spreading invasive species. Changed operations may also impact nesting birds by exposing isolated areas to terrestrial predators if water levels drop.

This study is necessary to comply with, or respond to, the following:

- Federal regulations that protect shorebirds and their habitat.
- Agency and public interest/concern.

1.2 STUDY GOALS AND OBJECTIVES [§ 5.9(B)(1)]

The Shoreline Characterization Study Plan (Study Plan) addresses the following goals and objectives:

- Quantification of littoral habitat.
- Characterization of emergent and aquatic vegetation.
- Mapping of invasive species.
- Assessment of associated effects on terrestrial and amphibian wildlife. Effects on fish and other aquatic species and impacts due to loss of terrestrial habitat through erosion will be addressed in separate studies (see discussion below). Impacts to be addressed in this Study Plan include:
 - Effects of proposed changes to Project operation, including reservoir fluctuations, on riparian and wetland habitat and associated wildlife, including waterfowl, wetland-dependent birds, amphibian species, and other terrestrial wildlife dependent on riparian/wetland habitat.
 - Effects of proposed changes to Project operation on upland wildlife habitat and associated wildlife.
 - Effects of proposed changes to Project operation and the potential for introduction and spread of invasive plant species in the Project Boundary.

1.3 RELEVANT RESOURCE MANAGEMENT GOALS AND PUBLIC INTEREST CONSIDERATIONS [§ 5.9(B)(2)]

Relevant resource management goals in the 1995 Resource Management Plan for Cutler Reservoir related to the Shoreline Characterization Study Plan include: protect, enhance, and develop wildlife habitat. Considerations from other stakeholders will be discussed in this section as the Study Plan is developed.

This Study Plan will review and incorporate existing information related to shoreline characteristics and habitat within the Project Boundary. References for studies, reports, and other sources of information analyzed as part of this study will be provided as they are identified. This information may include but are not limited to:

1. Hydraulic Modeling Study Plan Report (to be completed).
 - a. Provide locations where land bridges form at various water levels in areas usually isolated by the current operation's water levels.
2. Sedimentation Study Plan Report (to be completed)
 - a. Identifies areas where sediment movement may impact shoreline habitat areas.
3. Land Use Study Plan Report (to be completed).
 - a. Identifies where shoreline erosion occurs.
4. Land Protection Plan – Bear River Watershed Conservation Area. U.S. Fish and Wildlife Service (2013).
 - a. Identifies existing priority land areas and land management objectives
5. Utah Wildlife Action Plan. Utah Division of Wildlife Resources (2015).
 - a. A plan for managing native wildlife species and their habitats under the Endangered Species Act. DWR Publication 15-14.
6. The Birds of North America. Rodewald, Cornell Lab of Ornithology (2019).
 - a. Available for download at www.birdsna.org.

1.4 STUDY AREA

The shoreline habitat characterization study area lies within the ordinary high-water line (OHWL) defined by the current reservoir elevation range. It includes all shoreline and littoral habitat as well as any upland islands and peninsulas that might support breeding shorebirds, amphibians, and terrestrial wildlife dependent on riparian/wetland habitat.

. All surveyed areas will be located inside the Project Boundary.

1.5 METHODS [§ 5.9(B)(6)]

1.5.1 VEGETATION CLASSIFICATION

- Based on imagery and LiDAR.
- Broad classification – e.g. short herbaceous vegetation, tall herbaceous vegetation, woody vegetation, bare ground.
 - Identify some weeds if possible, based on imagery resolution and timing. Most likely identifiable weed is *Phragmites*.

1.5.2 EXISTING DATA AND LITERATURE REVIEW

- Review existing data on bird species, amphibians, and terrestrial wildlife dependent on riparian /wetland habitat in the study area and review literature pertaining to reproductive habitats and behaviors.
- Compare information from the previous step to information from vegetation classification and hydraulic modeling to draw conclusions.

1.6 ANALYSIS AND REPORTING

The Shoreline Characterization Study Plan Report will be prepared documenting the analysis results. The Study Plan report will include a summary of all collected information and discussion of the analyses and results. The Study Plan report will address the topics below:

- Quantification of existing shoreline habitat types.
- Current status of invasive plant infestations and potential for spread.
- Impacts of changes in these parameters on habitat of terrestrial wildlife (primarily migratory birds) and amphibians.

1.7 SCHEDULE, PERIODIC REPORTING, AND ONGOING CONSULTATION

Work will commence once the Study Plan Determination is issued by the Federal Energy Regulatory Commission (FERC) in early 2020. Existing data will be collected, organized, and used to prioritize field survey locations.

- Most field work will be conducted outside of the planned 2019 reservoir drawdown.

Some opportunities for identifying submerged vegetation may exist during the reservoir drawdown.

An Initial Study Report (ISR) will be prepared following the initial survey year. This report will be submitted to PacifiCorp for review and filed with FERC. The Initial Study Report will be reviewed by stakeholders. If no additional information is warranted, the ISR will identify why no second year of surveys are warranted and that an Updated Study Report (USR) will not be filed. A letter will be filed with FERC in lieu of the USR identifying the lack of need for a second year of studies. If additional information is warranted, a USR will be filed following a survey in year 2. All study reports will be consulted upon by stakeholders and filed with FERC.

1.8 LEVEL OF EFFORT AND COST [§ 5.9(B)(7)]

The level of effort and cost will be determined when the Study Plan is finalized.

1.9 REFERENCES

- Bridgerland Audubon Society. 2010. Cover page photo of Cutler March. Photo by Mike Fish. Accessed June 14, 2019. <https://bridgerlandaudubon.org/our-projects/cutler-reservoir-marsh-important-bird-area/>.
- Rodewald, P. (Editor). 2015. The Birds of North America: <https://birdsna.org>. Cornell Laboratory of Ornithology, Ithaca, NY.U.S. Fish and Wildlife Service. 2013. Land protection plan—Bear River Watershed Conservation Area. Lakewood, CO: U.S. Department of the Interior, U.S. Fish and Wildlife Service, Regions 1 and 6. 227 p.
- Utah Wildlife Action Plan Joint Team. 2015. Utah Wildlife Action Plan: A plan for managing native wildlife species and their habitats to help prevent listing under the Endangered Species Act. Publication number 15-14. Utah Division of Wildlife Resources, Salt Lake City, Utah, USA.