

# **FINAL STUDY PLAN**

## **Ashton Hydroelectric Project**

### **FERC Project No. 2381**



June 2023

## TABLE OF CONTENTS

1.0	Introduction.....	1
2.0	Response to Comments on the Draft Study Plan.....	2
3.0	Final Individual Study Plans.....	7
3.1	Baseline Water Quality Study.....	7
3.2	Reconnaissance Wetland Plant and Wildlife Survey.....	14
3.3	Ute Ladies’-Tresses Survey.....	18
3.4	Recreation Use and Condition Assessment.....	22
3.5	Cultural Resources Survey.....	26
4.0	Literature Cited.....	31

## LIST OF TABLES

Table 2.0-1.	Summary of the comments received from interested parties on the DSP and PacifiCorp’s response.....	3
Table 3.1-1.	The description of sample locations in the Henry’s Fork River and Ashton Reservoir from upstream to downstream. ....	11
Table 3.1-2.	Troll 9500, Hobo U26, and Hobo MX Temp sensor specifications.....	12

## LIST OF FIGURES

Figure 3.1-1.	Baseline water quality study area.....	13
Figure 3.2-1.	Wetland plant and wildlife survey study area. ....	17
Figure 3.3-1.	Ute Ladies’-Tresses survey study area.....	21
Figure 3.4-1.	Recreation use and condition assessment study area. ....	25
Figure 3.5-1.	Cultural resources survey study area.....	30

## LIST OF APPENDICES

APPENDIX A	Ashton Hydroelectric Project Draft Study Plan
APPENDIX B	Interested Parties Comments on the Draft Study Plan
APPENDIX C	1992 Interim Survey Requirements Ute Ladies’-Tresses Revised 2017
APPENDIX D	Fertig et al. (2005) Ute Ladies’-Tresses Habitat Description Excerpt

## **1.0 INTRODUCTION**

PacifiCorp is licensed by the Federal Energy Regulatory Commission (FERC or Commission) to operate the 6.7-Megawatt (MW) Ashton Hydroelectric Project (Project, FERC No. 2381) located on the Henry's Fork of the Snake River near the City of Ashton, Idaho. This current license to operate the Project was issued on August 3, 1987, and expires on December 31, 2027. On July 5, 2022, PacifiCorp commenced relicensing the Project by filing with the Commission a Notice of Intent (NOI) to File Application for New License, a request to relicense the Project using the Commission's Traditional Licensing Process (TLP), and a Pre-Application Document (PAD).

On April August 29, 2022, the Commission approved PacifiCorp's request to use the TLP, which authorized PacifiCorp to relicense the Project following the TLP. Subsequently, PacifiCorp held two joint meetings and a site visit on October 4, 2022. At the joint meetings, PacifiCorp informed the resource agencies and other interested parties, of its intention to perform: a baseline water quality study, a Ute Ladies'-Tresses survey, a wetland complex delineation, a recreational use survey and condition assessment, and a cultural resources survey. Within 60-days following the joint meetings and site visit, the Idaho Governor's Office of Energy and Mineral Resources (OEMR), on behalf of the State of Idaho, provided two study requests – a baseline water quality monitoring study and an American with Disabilities Act (ADA) access study at the Project's Ashton Reservoir boat launch – to PacifiCorp. No other study requests were received.

Subsequent to receiving the study requests, PacifiCorp prepared a Draft Study Plan (DSP). On April 13, 2023, PacifiCorp distributed a Draft Study Plan (DSP) document to facilitate consultation with the resource agencies and interested parties so that a set of site-specific study plans are developed by PacifiCorp with input from the resource agencies and other interested parties. A copy of the DSP is provided in Appendix A. The DSP contained individual study plans for: (1) a baseline water quality survey; (2) a reconnaissance wetland plant and wildlife survey; (3) an Ute Ladies' tresses survey; (4) a recreation use and condition assessment; and (5) a cultural resources survey. Comments on the DSP were received from the Idaho State Historic Preservation Office (ISHPO), the United States Fish and Wildlife Service (FWS), and the Idaho Governor's Office of Energy and Mineral Resources (IOEMR).<sup>1</sup> Copies of these letters are provided in Appendix B.

There is no requirement to prepare a formal study plan, as is required by the Integrated Licensing Process (ILP); therefore, there is no subsequent study plan determination by FERC. The purpose of this Final Study Plan (FSP) is to: (1) address comments received from the resource agencies and other interested parties on the DSP; and, (2) provide a revised set of individual study plans for those studies adopted and proposed by PacifiCorp. To support these goals, Section 2 of this FSP presents PacifiCorp's response to comments received on the DSP, and in Section 3, the final individual study plans are provided.

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<sup>1</sup> IOEMR provided comments on the DSP in coordination with ISHPO, Idaho Department of Environmental Quality (IDEQ), and Idaho Department of Fish and Game (IDFG) pursuant to its responsibility to coordinate all state comments involving energy resources in accordance with Executive Order 2020-17.

## **2.0 RESPONSE TO COMMENTS ON THE DRAFT STUDY PLAN**

In Table 2.0-1, PacifiCorp summarizes the comments received on the DSP and respective responses. In some instances, the responses include a description of how an individual study plan was revised to incorporate a recommendation or suggestion of an interested party.

**Table 2.0-1. Summary of the comments received from interested parties on the DSP and PacifiCorp’s response.**

No.	Interested Party/ Date of Comment	Summary of Comment	PacifiCorp Response
1	ISHPO/ May 11, 2023	Any Cultural Resources work will need to be performed by a Secretary of Interior Standards (SOI)-qualified Professional Archaeologist for archaeological concerns and a SOI-qualified Architectural Historian for the built environment.	PacifiCorp’s consultant’s that would be performing the study possess such qualifications.
2	ISHPO/ May 11, 2023	Idaho SHPO also requires the use of Shovel Test Pits at the survey level in areas of medium to high probability for cultural resources and low visibility.	Shovel test pits would be employed within those survey sites that would have medium to high probability for cultural resources and low visibility. Section 3.5 <i>Cultural Resources Survey, Methodology</i> , Field Survey has been updated to reflect this addition.
3	ISHPO/ May 11, 2023	Snow is one concern, but also any survey that may be required of the drawdown areas should be conducted prior to the water levels rising.	PacifiCorp is not proposing to survey the reservoir’s drawdown zone for cultural resources as a part of the study because it was previously surveyed by SWCA Environmental Consultants in 2012. PacifiCorp will provide ISHPO a copy of the report.
4	ISHPO/ May 11, 2023	This text appears to be a repeat of the proceeding Cultural Resources Section. Please apply any previous comments to this document if it will be used for a different purpose.	PacifiCorp does not understand the comment.
5	FWS/ May 12, 2023	At this time, we have no recommendations or comments on Proposed Study One, Baseline Water Quality Study.	PacifiCorp appreciates the FWS review of the proposed Baseline Water Quality Study.
6	FWS/ May 12, 2023	We recommend measuring vegetative cover in addition to density to better indicate what wetland plant species are dominant in the survey sites. Cover	PacifiCorp believes it proposed methods are sufficient to describe baseline conditions, therefore,

No.	Interested Party/ Date of Comment	Summary of Comment	PacifiCorp Response
		is more highly related to biomass than density and better reflects the amount of Carbon monoxide and light that will become phytomass. Measuring canopy cover also reflects the amount of soil, water, and nutrients that plants have and use. By adding the measurement of wetland plant cover to the existing study, the PSP’s objective of identifying the dominant plant species can better be met	the recommendation to measure percent cover is not included in the final study plan.
7	FWS/ May 12, 2023	The PSP proposes to survey for two consecutive years during the flowering time of Ute ladies’-tresses, typically late-July through late-August. Nearby known occupied sites of Ute ladies’-tresses will be used to determine flowering time. The PSP surveys will occur over a two-year period (PacifiCorp 2023. Pp. 15-16) and follow the Service’s 1992 Survey Protocol (protocol) for Ute ladies’-tresses as plants may not flower every year. However, under section six, point C, the protocol states “Surveys shall be conducted annually for three consecutive years”. The Service recommends adding an additional year of surveys to the two years proposed in the PSP to match the three years of consecutive surveys recommended in the protocol.	PacifiCorp revised the study plan to incorporate three consecutive years of survey for the rare plant. Section 3.3 <i>Ute Ladies-Tresses Survey, Methodology, Field Survey</i> of the FSP reflect this change. PacifiCorp would like to note that in terms of study schedule, results of the third year of survey likely may not be available until filing of the final license application (December 2025). However, results of the first second years would be presented in study report distributed to interested parties and within the draft license application, which is anticipated to be distributed in the Spring/Summer of 2025.
8	FWS/ May 12, 2023	The Service also supports updating Appendix A within the protocol with the habitat description as provided by Fertig 2005.	To evaluate suitable habitat to target PacifiCorp will use the habitat description within Fertig et al. (2005). Section 3.3 <i>Ute Ladies-Tresses Survey, Methodology, Field Survey</i> of the FSP has been revised to reflect this modification. In addition, Appendix D of the FSP include the habitat

No.	Interested Party/ Date of Comment	Summary of Comment	PacifiCorp Response
			description excerpt of Fertig et al. (2005).
9	IOEMR (ISHPO)/ May 25, 2023	Any cultural resources work will need to be performed by a Secretary of Interior Standards (SOI)-qualified Professional Archaeologist for archaeological concerns and a SOI-qualified Architectural Historian for the built environment.	This comment is identical to the ISHPO comment (Comment 1) received on May 12, 2023. Please see PacifiCorp’s response to Comment 1.
10	IOEMR (ISHPO)/ May 25, 2023	The Cultural Resources Survey section of the study plan should include Shovel Test Pits at the survey level in areas of medium to high probability for cultural resources and low visibility.	This comment is similar to the ISHPO comment (Comment 2) received on May 12, 2023. Please see PacifiCorp’s response to Comment 2.
11	IOEMR (ISHPO)/ May 25, 2023	In the study schedule for the Cultural Resources Survey, PacifiCorp states that “[field work] under the study plan may take place at any time so long as snow cover is not present at the time of the survey,” (Draft Study Plan p. 25). SHPO recommends that any survey required of the drawdown areas be conducted prior to the water levels rising.	This comment is similar to the ISHPO comment (Comment 3) received on May 12, 2023. Please see PacifiCorp’s response to Comment 3.
12	IOEMR (IDEQ)/ May 25, 2023	DEQ appreciates that the Draft Study Plan incorporated most of the items requested in DEQ’s comments on the pre-application document. As proposed, the Draft Study Plan should sufficiently capture temperature and dissolved oxygen dynamics in the project area during the 2023 monitoring season. DEQ looks forward to addressing any data gaps or concerns in the Water Quality Certification, as part of the ongoing relicensing process.	PacifiCorp appreciates IDEQ review of the DSP and looks forward to providing IDEQ with the study results.

<b>No.</b>	<b>Interested Party/ Date of Comment</b>	<b>Summary of Comment</b>	<b>PacifiCorp Response</b>
13	IOEMR (IDFG)/ May 25, 2023	<p>PacifiCorp’s stated goal of the Recreation Use Study is to “collect information on current levels of recreation use and demand at the Project.” (Draft Study Plan p. 18). However, this proposed recreation study does not propose to collect ice fishing use data. IDFG has anecdotally observed that public interest in non-motorized access to the reservoir has increased significantly over the last decade. Ice fishing in the two main mid-reservoir coves has become very popular but also problematic because legal and safe access is very limited. IDFG therefore continues to be interested in pursuing access opportunities for ice fishing anglers. Investigating ice fishing use could help guide future management, public safety, and potential access acquisition. IDFG therefore recommends extending the recreation study to go through the winter ice fishery. The timing of the study will need to be flexible due to changing weather conditions. Alternatively, cameras can be deployed at strategic locations to help document and estimate ice angler use.</p>	<p>PacifiCorp has added a winter ice fishing use component to the FSP to document current levels of ice fishing use on the project reservoir.</p>



### 3.0 FINAL INDIVIDUAL STUDY PLANS

#### 3.1 Baseline Water Quality Study

##### *Goals and Objectives*

The goals of the water quality study are to 1) collect updated baseline water temperature and DO data to document the existing water quality conditions of the Henry's Fork in the Project area; 2) determine whether Project-affected waters of the Henry's Fork meet IDEQ surface water quality standards and designated uses; and 3) assess potential effects of the Project operations on these parameters. In order to reach these goals, the study has the following objectives:

- 1) Collect continuous water temperature (°C) and DO (mg/L and percent saturation) data in the Henry's Fork upstream and downstream of the Project;
- 2) Collect water temperature and DO data in Ashton Reservoir, including vertical profiles;
- 3) Characterize the baseline water temperature and DO data collected in the Project area.
- 4) Assess the effects Ashton Reservoir may have on the thermal regime of the Henry's Fork River downstream of the Project; and,
- 5) Analyze the baseline water temperature and DO data in comparison to applicable IDEQ state surface water quality standards and designated uses, and Project operations (i.e., headwater and tailwater elevations, and turbine discharge).

##### *Existing Information and Need for Additional Information*

PAD section 4.3.3 documented an extensive review of water quality, citing applicable standards and numerous data sources, including data collected by PacifiCorp and the Henry's Fork Foundation. That review concluded that state water temperature and DO standards for salmonid spawning were periodically exceeded in Ashton Reservoir and that water temperature standards for salmonid spawning had been exceeded in reaches of the Henry's Fork upstream and downstream of the reservoir. However, data from the reservoir is limited, and the updated 2022 IDEQ Integrated Report indicates the Henry's Fork upstream of the reservoir does not meet water temperature criteria for salmonid spawning and the river downstream of the Project dam does not meet water temperature criteria for both cold water aquatic life and salmonid spawning. Therefore, a need exists to collect additional water quality data to assess the effect the reservoir and operations may have on attaining compliance with cold water aquatic life and salmonid spawning water quality criteria.

##### *Project Nexus*

The Project dam impounds waters of the Henry's Fork, creating the Ashton Reservoir. Impounded waters generally have increased residence times, higher mean water temperatures, and may thermally stratify. Data presented in PAD section 4.3.3 show that Ashton Reservoir can stratify. As such, the water temperature and DO conditions from the reservoir's surface to the bottom can vary. Operational releases for power generation and spill from the Project may affect water quality and aquatic resources in the Henry's Fork downstream of the Project. The information from this study will provide data to PacifiCorp, resource agencies, and other

stakeholders that would inform an effects analysis of Project operations on water quality and license requirements.

### *Methodology*

#### Study Area

The spatial extent of the study is anticipated to extend from the Henry's Fork Foundation's (HFF) Marysville gage (44.09885, -111.42418)<sup>2</sup> downstream to the Henry's Fork gage near Ashton, ID USGS streamflow gage (USGS Gage No. 13046000; 44.06972, -111.51056). The water quality study area includes two sites located on the Henry's Fork within 0.5 mile upstream and downstream of Ashton Reservoir to capture inflow and outflow. Two additional sites within the reservoir will allow characterization of thermal effects from the reservoir (Figure 3.1-1; Table 3.1-1).

#### Continuous Water Temperature and Dissolved Oxygen Monitoring

At the Henry's Fork upstream (HF-1) and downstream (HF-2) monitoring locations, water temperature and DO will be monitored continuously at 15-minute intervals from May 1 (or ice out) to November 1 using a HOBO U26 water temperature and DO logger (Onset Computer Corporation). Specifications of this logger are shown in Table 3.1-2. To facilitate collection of percent saturation data, a HOBO U20L-01 water level logger or similar, will be deployed in air in the vicinity of the powerhouse and configured to collect local barometric pressure continuously at 15-minute intervals. Data will be downloaded monthly from these sites, and the sensors cleaned, checked, and calibrated.<sup>3</sup>

Each month during the study, duplicate water temperature and DO data will be collected at the monitoring sites, using a recently calibrated Troll 9500 (In-Situ, Inc.) water quality meter, as a quality control measure to ensure the HOBO U26 water temperature and DO loggers remain accurate. For each quality control measurement the data will be collected every 30 seconds for a period of 10 minutes at each site to allow for stabilization of the sensors. Specifications for the Troll 9500 are provided in Table 3.1-2.

Two continuous water temperature monitoring stations will be established in Ashton Reservoir, including one near the dam (AR-1) and the other at a mid-reservoir location (AR-2; Figure 3.1-1). Water temperature at these two sites will be collected continuously at 15-minute intervals from May 1 (or ice out) to November 1 using suspended HOBO MX temperature pendants. Temperature sensors will be suspended from a cable near the log boom at AR-1, measured near the surface (1-foot) and fixed every 2 meters down to the bottom of the reservoir. At site AR-2, sensors will be fixed to a cable anchored to the bottom and extending vertically to 2 meters below the surface. An additional surface temperature sensor will be mounted at the shoreline. This will help prevent disturbance by boaters or entangling cables in propellers.

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<sup>2</sup> All latitude and longitude coordinates are shown in decimal degrees.

<sup>3</sup> The HOBO U20L-01 logger does not require calibration.

### Water Temperature and Dissolved Oxygen Vertical Profiles

Vertical water temperature and DO profiles will be collected monthly through the study period with a recently calibrated Troll 9500. Water temperature and DO profiles will be collected by initially collecting a measurement at the water surface and slowly lowering the instrument by one meter increments, allowing sufficient time for the reading to stabilize before recording a measurement and proceeding to the next depth interval. The last reading will occur 0.2 meters above the reservoir bottom. These profiles would be collected concurrently with data downloads from the water temperature pendants at reservoir locations (AR-1 and AR-2).

### Weather, River Flow, and Project Operations Data

Weather, river flow, and operations data will also be used to provide the context for the water temperature and DO data collection. Weather data (including air temperature, wind speed, solar radiation, and precipitation) will be obtained from a US Bureau of Reclamation weather station AHTI located approximately 4 miles southeast of the Project. River flow data will be obtained from the USGS gage 13046000, Henry's Fork near Ashton, Idaho, located roughly 1 mile downstream of the Project dam. Operations data, such as turbine discharge and water surface elevations will be provided by PacifiCorp.

### Data Analysis

The water temperature and DO datasets will be initially reviewed and analyzed for outliers, aberrant measurements, and missing data to ensure the collected data are representative. The continuous water temperature, DO and vertical profile data will be used to characterize existing temporal (e.g., mean, median, maximum, minimum) and spatial water quality condition in the study area. The data will also be used to identify and evaluate potential effects that Project operations may have on water quality, including effects of reservoir warming on the thermal regime of the Henry's Fork downstream of the Project dam. This analysis would show the rate of temperature change from an upstream to downstream direction. The evaluation of Project effects will include a visual assessment of time-series plots of the continuous data with operations data. Data will also be evaluated through a comparison of applicable metrics for compliance with IDEQ surface water quality standards, including designated uses.

### Reporting

A draft report will be prepared that presents the methods, analyses, and results of the study. The draft report will be distributed to the resource agencies and other interested parties during the second or third quarter of 2024 for a 30-day period of review and comment. Comments on the draft report will be addressed and incorporated into the final report for inclusion in the draft and final license applications.

### *Consistency with Generally Accepted Scientific Practice*

This study involves collecting water quality data using methods and practices generally accepted by the scientific community to measure and record water quality data.

*Study Schedule*

PacifiCorp anticipates this study would be implemented during the 2023 study season, with data collection occurring between May 1 (or ice out) to November 1, during conducive and safe flow conditions. Analysis and reporting is anticipated to occur during the last quarter of 2023 and the first quarter of 2024. As stated above, PacifiCorp anticipates it will provide the draft study report to the resource agencies and other interested parties during the second or third quarter of 2024 for a 30-day period of review and comment. Should the study schedule deviate significantly from what is anticipated, PacifiCorp would apprise the resource agencies and interested stakeholders of schedule updates.

**Table 3.1-1. The description of sample locations in the Henry’s Fork River and Ashton Reservoir from upstream to downstream.**

<b>Site</b>	<b>Description</b>	<b>Parameters</b>
HFF-MY	Henry’s Fork Foundation at Marysville site located 1.6 river miles upstream of the Highway 20 Bridge	DO & Temperature
HF-1	The upper Henry’s Fork site will be located upstream of the boat launch near Highway 20 Bridge at a location where the reservoir does not influence river flows	DO, Temperature loggers
AR-2	Ashton Reservoir, mid-reservoir near Rattlesnake Canyon	DO & Temperature profiles, Temperature loggers
AR-1	Ashton Reservoir upstream of powerhouse	DO & Temperature profiles, Temperature loggers
HF-2	The lower Henry’s Fork site will be located 0.4 river miles downstream of the Project dam and powerhouse where the Henry’s Fork would be mixed based on the releases from the powerhouse and Ashton Dam	DO, Temperature loggers
HFF-AD	Henry’s Fork Foundation at Ashton Dam site located 1 river miles downstream of the Project dam and powerhouse	DO & Temperature

**Table 3.1-2. Troll 9500, Hobo U26, and Hobo MX Temp sensor specifications.**

<b>Meter</b>	<b>Parameter</b>	<b>Accuracy</b>	<b>Accuracy Range</b>	<b>Methodology</b>
Troll 9500	Temperature, °C	±0.1 °C	-5 °C to 50 °C	EPA 170.1
	DO, mg/L and % saturation	±0.1 mg/L, ±0.2 mg/L	0-8 mg/L, 8-20 mg/L	ASTM D888-05, Test Method C
HOBO U26	Temperature, °C	±0.1 °C	-5 °C to 40 °C	
	DO, mg/L and % saturation	±0.2 mg/L, ±0.5 mg/L	0-8 mg/L, 8-20 mg/L	
HOBO MX	Temperature, °C	±0.5 °C	-5 °C to 40 °C	
HOBO U20L-01	Kilopascal	±0.3 %	0 to 207 kPa	

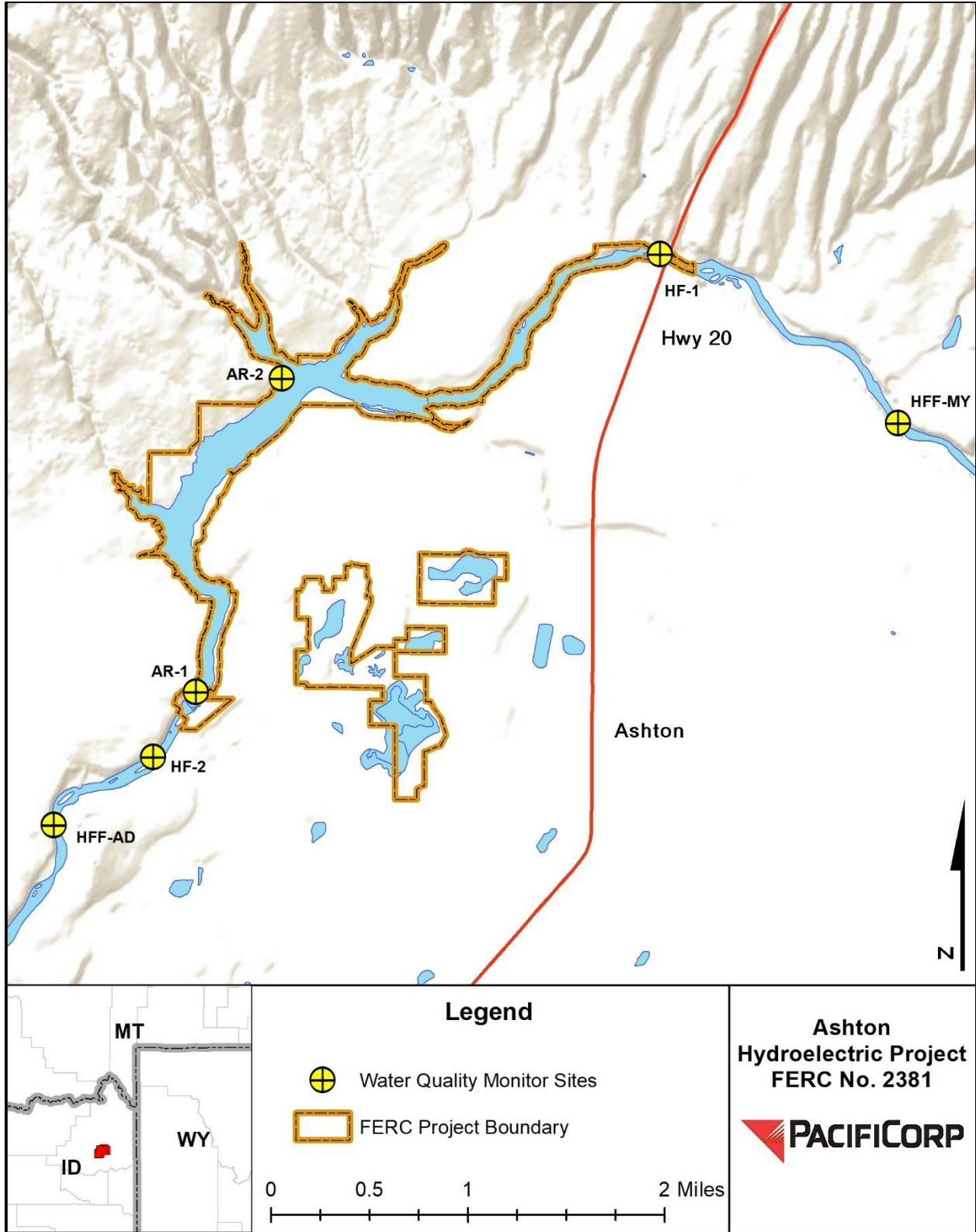


Figure 3.1-1. Baseline water quality study area.

## 3.2 Reconnaissance Wetland Plant and Wildlife Survey

### *Goals and Objectives*

The goal of this study is to update baseline wetland resource information on the wetland complex and shoreline protection areas along the Project reservoir. To accomplish this goal, the study has the following objectives:

- 1) Identify changes in the location, extent, and type of wetlands in the wetland complex and shoreline protection areas;
- 2) Identify the dominant plant and wildlife species occupying these wetlands; and,
- 3) Characterize the changes in these wetland resources that have occurred since the last baseline inventory was completed.

### *Existing Information and Need for Additional Information*

The U.S. Fish and Wildlife Service's (FWS) classification scheme for wetlands serves as the national standard for wetland classification and is used to classify wetlands identified in the National Wetlands Inventory (NWI). The NWI was the primary resource consulted in preparation of PAD section 4.6, which describes wetland, riparian and littoral habitats in the Project area. The review documented in the PAD characterized the wetlands present in the Project area based on NWI classifications. Irrigation practices (non-Project water use) in the vicinity of the Project has progressively shifted from flood to sprinkler systems, resulting in decreased surface and potentially subsurface flows to support area wetlands. Collectively, updated site-specific information is needed to document the existing condition of wetlands, plant species present, and the wildlife species that currently use Project wetlands in order to update, if needed, the existing Ashton Hydroelectric Project Wildlife Enhancement Plan (WEP; PacifiCorp, 2016).

### *Project Nexus*

The WEP was developed pursuant to Article 405 of the current Project license in 1990. The intention of the WEP is to mitigate the effects of disturbing approximately 400 acres of wildlife habitat that occurred during original construction and reservoir filling (FERC, 1986). One way the WEP accomplished this was through improving riparian habitats around the reservoir and protecting existing wetland resources. Given PacifiCorp proposes to continue to implement the WEP, the measures within the WEP may need to be updated to facilitate detecting any Project-related change in wetlands or associated botanical and wildlife resources.

### *Methodology*

#### Study Area

The study area includes all wetlands within the wetland complex and shoreline areas in the Project boundary (Figure 3.2-1), including wetlands on PacifiCorp fee-title property (i.e., PacifiCorp Pond and areas abutting the Project reservoir) and on other private lands managed



under various conservation-related easements (i.e., the Cordingly, Marshal, Jenkins, and temporary shoreline conservation easements, as described in PAD section 4.5.5).<sup>4</sup> Access to conservation easement lands that are privately owned will require landowner permission; therefore, PacifiCorp will seek such landowner permissions. If permission is granted, the survey would be performed as discussed below. If permission is denied or otherwise not obtained (e.g., request for access is unanswered), PacifiCorp will not include those lands in the survey.

### Plant and Wildlife Survey

The starting point for this study element will be existing wetland mapping and categorization included in previous PacifiCorp baseline documentation, where available, or wetland mapping data from the National Wetland Inventory database. This existing mapping will be updated using the most recent high-resolution data available for land in the Project Area. Imagery could include full-color and near infra-red coverage to help identify vegetation community types.

Wetland locations, extents, and community types will be field verified at representative sites to confirm wetland map coverage developed by analysis of aerial imagery. Locations will be manually selected prior to field work based on existing data and characteristics observed from aerial images. Based on field survey results, the map coverage will be updated as appropriate.

The wetland plant survey be completed concurrently with the field verification of wetland location, extent, and type. The existing PacifiCorp baseline information and NWI data include descriptions of dominant vegetation. These descriptions will be updated as necessary based on field observations.

The wildlife survey will include a review of existing information to identify avian, amphibian, and terrestrial wildlife species that utilize riparian/wetland habitat that are known to be or are likely to be present in the study area. The review will also address specific seasonal habitat requirements for these wildlife species (e.g., forage, cover, reproduction, etc.). Existing information sources may include published literature, past baseline information compiled by PacifiCorp, studies conducted by state or federal agencies, eBird data, Breeding Bird Survey data, and data collected by Henry's Fork Foundation and other NGOs or non-profit groups. Wildlife observations will be noted during field verification of wetland location, extent, and type and used to refine the results of the review of existing information.

Information on existing weed infestations will be gathered from available sources including PacifiCorp, Teton County, and adjacent landowners. Weed observations will be noted during field verification of wetland location, extent, and type and used to refine the results of the review of existing information.

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<sup>4</sup> PacifiCorp has no ability to access the Baum property because PacifiCorp no longer has easement rights to the property; such rights are held by the Teton Land Trust. Therefore, PacifiCorp will not include the Baum property in the study.

### Data Analysis

Wetland mapping developed during the last baseline inventories completed (1993 for the Cordingly and Marshal easements, 1995 for PacifiCorp fee-title areas, 2016 for the Jenkins easement, and as documented in Teton Land Trust documentation for the Baum easement) will be compared to updated coverage provided by this study. Results of this comparison will be evaluated to identify changes in wetland resources. Because of the level of detail and resolution in past baseline descriptions, the comparison will be largely qualitative.

### Reporting

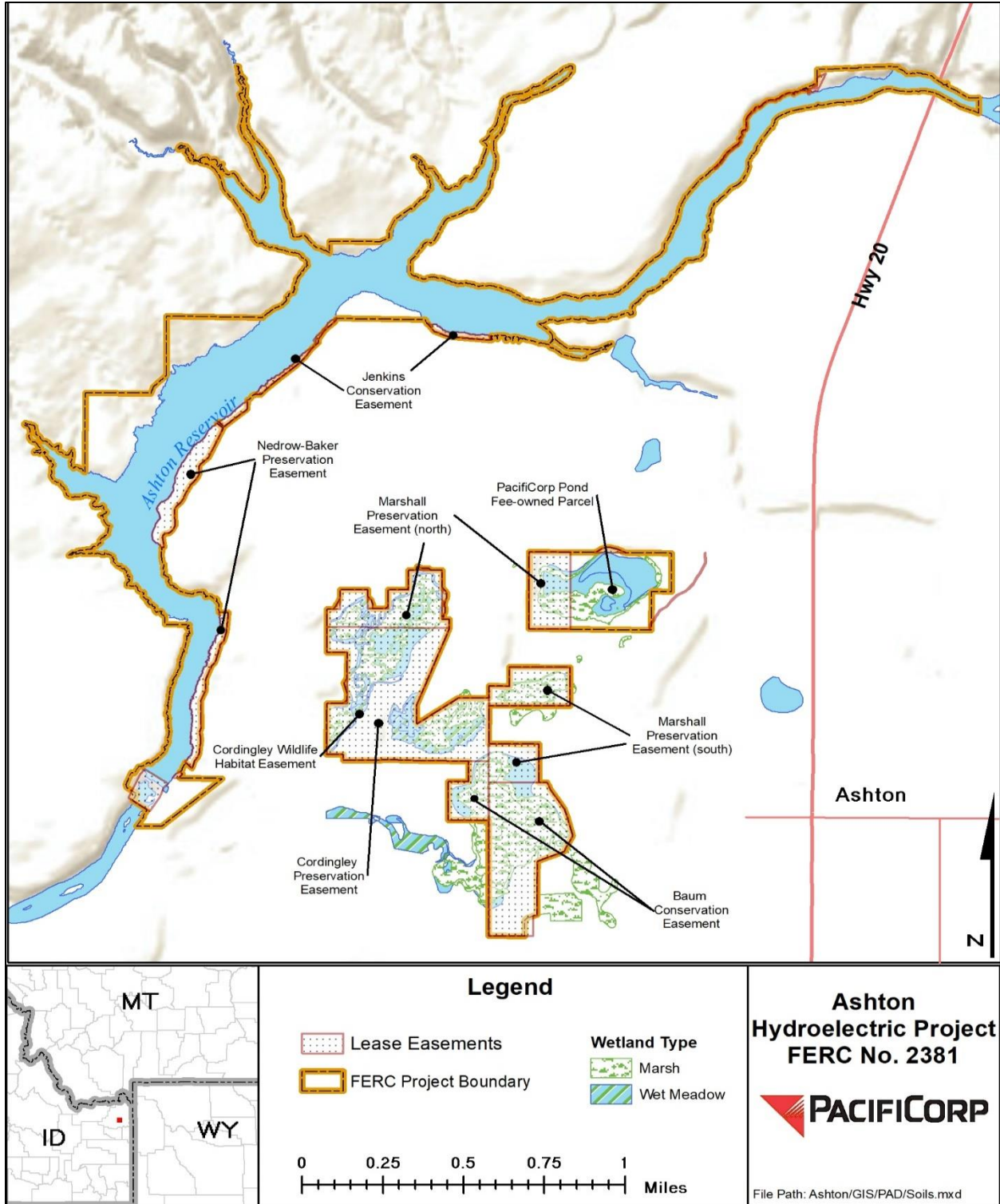
A draft report will be prepared that presents the methods, analyses, and results of the study. The draft report will be distributed to the resource agencies and other interested parties during the second or third quarter of 2024 for a 30-day period of review and comment. Comments on the draft report will be addressed and incorporated into the final report for inclusion in the draft and final license applications.

### *Consistency with Generally Accepted Scientific Practice*

This study involves conducting a reconnaissance-level inventory of wetlands and associated plants and wildlife resources in the Project boundary. The methods employed are standard practices for completing baseline resource inventories and documenting existing conditions in other hydroelectric project relicensing studies. These methods are not intended to meet regulatory requirements for wetland delineation or special-status plant or wildlife surveys.

### *Study Schedule*

PacifiCorp anticipates this study would be implemented during the 2023 study season, with data collection during the summer. Analysis and reporting is anticipated to occur during the last quarter of 2023 and the first quarter of 2024. As stated above, PacifiCorp anticipates it will provide the draft study report to the resource agencies and other interested parties during the second or third quarter of 2024 for a 30-day period of review and comment. Should the study schedule deviate significantly from what is anticipated, PacifiCorp would apprise the resource agencies and interested stakeholders of schedule updates.



Note: Lands identified for survey within conservation easements are subject to landowner permission; see explanation under *Study Area*. The survey will not include the Baum Conservation Easement; see footnote 4.

**Figure 3.2-1. Wetland plant and wildlife survey study area.**

### 3.3 Ute Ladies'-Tresses Survey

#### *Goals and Objectives*

The goal of this study is to determine whether Ute ladies'-tresses orchid, federally listed as threatened, occurs in the Project boundary and to what extent continued Project operation would affect the species. To accomplish this goal, the study has the following objectives:

- 1) Systematically evaluate areas of potential suitable habitat and survey lands of potential suitable habitat within in the Project boundary to determine if and where Ute ladies'-tresses occurs.
- 2) Assess potential direct or indirect effects on this species resulting from Project operations.

#### *Existing Information and Need for Additional Information*

The Idaho Department of Fish and Game maintains a database of known locations of species of special concern (<https://idfg.idaho.gov/species/>). This database was used to identify any federally listed species potentially occurring in the Project Area based on recorded occurrences in the vicinity of the Project. Based on the review conducted for the PAD (section 4.7.1), Ute ladies'-tresses orchid is the only federally listed species documented to occur (or with the potential to occur) in the vicinity of the Project. It has been reported to occur along the Henry's Fork River approximately 1 mile downstream of Ashton Dam, near the Ora Bridge. No surveys for Ute ladies'-tresses have been conducted within the Project boundary. Due to the potential for suitable habitat and the proximity of known populations, a need exists to conduct a survey for Ute ladies'-tresses within the Project boundary (following established protocols) to determine if it is present and potentially affected by Project operations.

#### *Project Nexus*

The FWS (2005) identified, among others, hydrologic change (flood control, water development), grazing by livestock, recreation, invasive species competition, and pesticide application as threats to the persistence of the rare orchid. Collectively, these actions are present at the Project. Therefore, continued operation of the Project may affect Ute ladies'-tresses if they are present. In addition, as the federal agency with licensing authority over the Project, the FERC is subject to provisions of the Endangered Species Act Section 7, which requires federal agencies to consult with the Service to ensure that actions they fund, authorize, permit, or otherwise carry out will not jeopardize the continued existence of any listed species or adversely modify designated critical habitats.

#### *Methodology*

##### Study Area

The Ute ladies'-tresses orchid survey study area includes all land areas inside the FERC Project boundary under the direct control of PacifiCorp, and may include conservation easement lands owned by other entities in the wetland complex, other than the Baum Conservation Easement

(Figure 3.3-1).<sup>4</sup> Access to conservation easement lands that are privately owned will require landowner permission; therefore, PacifiCorp will seek such landowner permissions. If permission is granted, the survey would be timed to correspond with the survey window for Ute ladies'-tresses (discussed below under Study Schedule). If permission is denied or otherwise not obtained (e.g., request for access is unanswered), PacifiCorp will not include those lands in the survey.

### Field Survey

The FWS Interim Survey Requirements for Ute ladies'-tresses orchid, issued November 23, 1992, establishes the accepted survey protocol (Appendix C; FWS, 1992). This protocol will be followed to complete surveys for Ute ladies'-tresses within the Project boundary. FWS (1992) recommends three consecutive years of survey because the species may not flower every year; therefore, the study area described above will be surveyed for three consecutive years (2023, 2024, and 2025).

Other important elements of the FWS (1992) survey protocol include the following:

- Evaluation of the study area to determine where potentially suitable habitat exists using a combination of aerial imagery, existing information, and field reconnaissance.
- Scheduling field surveys to correspond to flowering in other known populations, likely beginning in the later part of July and extending through mid-to-late August, depending on the year.
- Completing pedestrian surveys providing 100 percent coverage in suitable habitat using closely spaced transects.
- Recording population information if any occurrences of Ute ladies'-tresses are located.

Suitable habitat that would be targeted for the surveys would be based on the habitat descriptions provided in Fertig et al. (2005).<sup>5</sup>

### Analysis and Reporting

The results of the surveys will be documented in a draft report that presents the methods, analyses, and results of the study. The report will include: a map identifying the locations of potential suitable Ute ladies'-tresses habitat that were surveyed, a qualitative description of the habitat quality of the locations surveyed, identification of the location of populations of the rare orchid found, and provide an estimate of the number of individuals within each population and areal extent of each population found. If the species is located in the study area, the report will identify and discuss any direct or indirect effects on the species due to Project operations.

The draft report will be distributed to the resource agencies and other interested parties during the first quarter of 2025 for a 30-day period of review and comment. Comments on the draft

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<sup>5</sup> Appendix D provides Fertig et al. (2005) Ute Ladies'-Tresses habitat description.

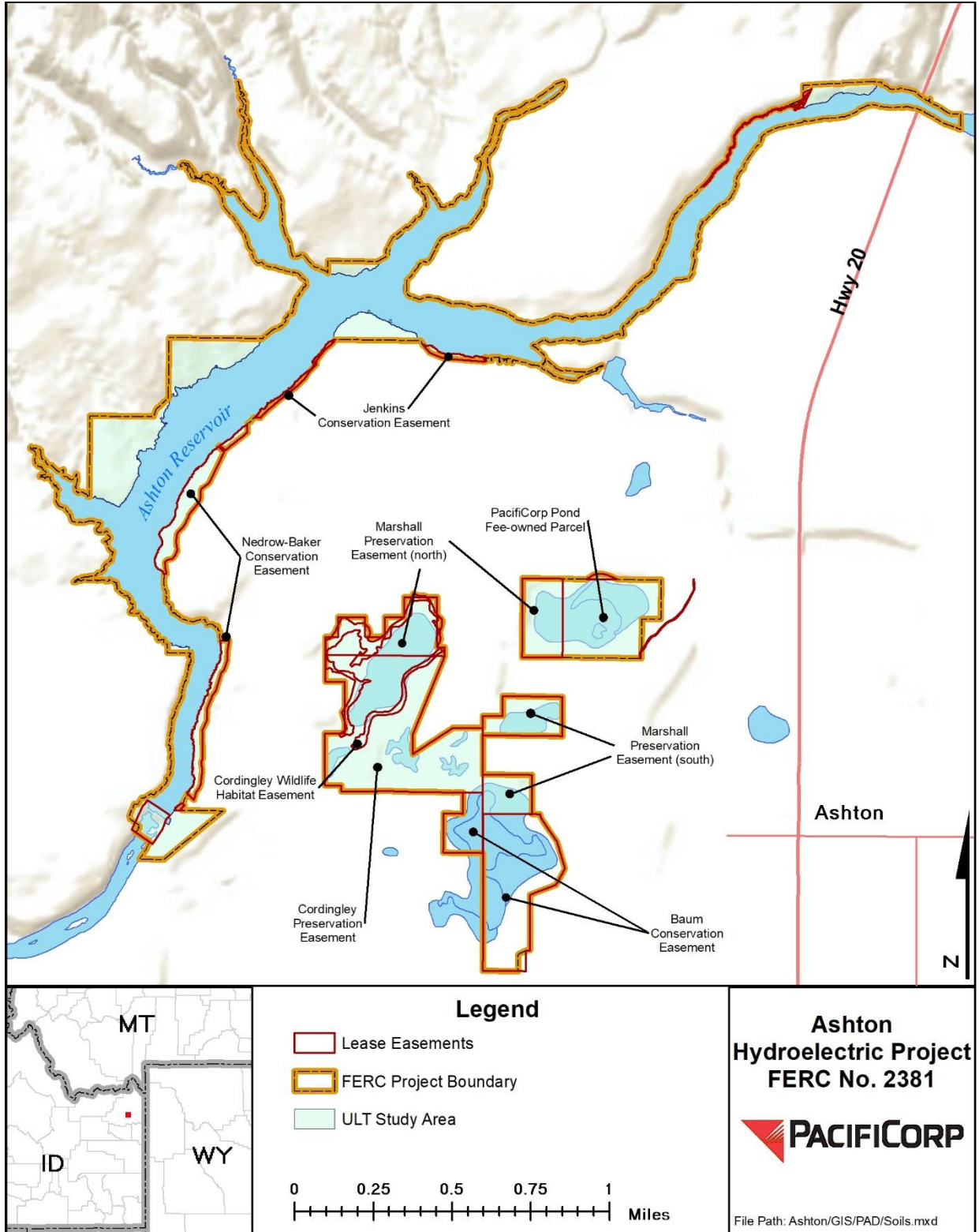
report will be addressed and incorporated into the final report for inclusion in the draft and final license applications.

*Consistency with Generally Accepted Scientific Practices*

Surveys for Ute ladies'-tresses will be completed following the protocol outlined by the FWS (1992). This protocol establishes the accepted practices for completing surveys for this species.

*Study Schedule*

The Ute ladies'-tresses survey is a 3-year protocol; therefore, field surveys are anticipated to occur in 2023, 2024, and 2025. Surveys will be scheduled for late-July through mid-to-late August, as specified in the survey protocol (FWS, 1992). This window corresponds to the period when this species is typically in flower and relatively easily to locate and identify. Analysis and reporting is anticipated to occur during the last quarter of 2025. PacifiCorp anticipates it will provide the draft study report that contains the results of the first two survey years (2023 and 2024) to the resource agencies and other interested parties during the first quarter of 2025 for a 30-day period of review and comment. Should the study schedule deviate significantly from what is anticipated, PacifiCorp would apprise the resource agencies and interested stakeholders of schedule updates.



Note Lands identified for survey within conservation easements are subject to landowner permission; see explanation under *Study Area*.

**Figure 3.3-1. Ute Ladies'-Tresses survey study area.**

### 3.4 Recreation Use and Condition Assessment

#### *Goals and Objectives*

The goals of this study are to collect information on current levels of recreation use and demand at the Project, inventory facilities and identify ADA compliant facilities, assess any potential impacts of proposed Project operational changes. To accomplish these goals, the study has the following objectives:

- 1) Conduct a recreational use-count at the boat launch facility at the upper end of Ashton Reservoir and at the Fisherman's Access site immediately downstream of the Project dam to discern demand;
- 2) Complete a site assessment of these recreational facilities to document condition and capacity relative to demand;
- 3) Identify within the site assessment, those facilities that are ADA compliant;
- 4) Based on the results of Objectives 1, 2 and 3, identify any potential recreational effects of proposed Project operational changes; and,
- 5) Document current levels of ice fishing use of Ashton Reservoir during the winter recreation season.

#### *Existing Information and Need for Additional Information*

Sections 4.8.1 and 4.8.2 of the PAD discuss and describe regional recreation resources and the two recreational facilities at the Project, respectively. PAD section 4.8.3 discusses recreational use and activities that are typically enjoyed at the Project. In PAD section 4.8.3 and 5.1.7, PacifiCorp indicates that use of the Ashton Reservoir boat launch site often exceeds capacity, while the fisherman's access immediately downstream of the Project dam is underutilized. Comments received during the joint-agency meeting held by PacifiCorp on October 4, 2022, supported the observation that Ashton Reservoir boat launch site use is over capacity. Therefore, a study is needed to identify what, if any, changes are needed at the sites to ensure the two recreation sites meet anticipated demand and ADA compliance.

In addition, IDFG stated in their comments on the DSP that, based on anecdotal accounts, ice fishing on the project reservoir has become popular. However, there is no direct accounts or exiting information that provide current level of ice fishing use of the project reservoir during the winter recreation season. Therefore, monitoring of ice fishing use of the project reservoir is needed to document current use levels and potential inform the need for potential access during the winter recreation season.

#### *Project Nexus*

The Project is located on the Henry's Fork of the Snake River, a highly prized recreational fishery, and creates a reservoir that has seen an increase in recreational boating. Article 406 of the current license requires PacifiCorp to operate and maintain the two recreation facilities at the



Project. Direct observations and anecdotal evidence indicates that current capacity of the two facilities does not meet current recreational demand. This study would establish a baseline of recreational use, including during the winter ice fishing season, and condition of the current facilities, and form the basis for inclusion of potential license requirements to protect, mitigate, or otherwise enhance recreational use at the Project.

### *Methodology*

#### Study Area

The study will focus on the two recreation sites at the Project: the Ashton Reservoir boat launch at the upper end of the reservoir, and the fisherman's access downstream of the dam (Figure 3.4-1). Other areas will be surveyed for recreational use that are visible from the boat launch, including the upstream river segment at the Project boundary and the reservoir downstream of the boat launch.

#### Recreational Use – Ashton Reservoir Boat Launch

The study will use programable all-weather cameras (Reconyx© Hyperfire 2) to record use at the boat launch (Figure 3.4-1). One camera will be installed to photograph the day use area, parking area, and boat ramps. A second camera will be located looking upriver to capture fishermen or day floaters drifting down river, and a third camera will be located to capture activities on the reservoir. The exact location of each camera at the boat launch will be determined based on sight lines, coverage area, and the ability to make the cameras inconspicuous. Cameras will be programmed to collect still photographs every 15-minutes. Each month the cameras internal SD card and batteries will be replaced to ensure cameras continue to operate as intended.

#### Recreational Use – Fisherman's Access

To capture use at the fisherman's access, a programable all-weather camera (Reconyx© Hyperfire 2) will be installed on the dam looking downstream to capture the fisherman's access area including the trail down from the parking area, the footbridge and picnic table on the island, and portions of the river. The camera will be programmed to collect still photographs every 15-minutes.

#### Recreational Use – Winter Ice Fishing

To capture winter ice fishing use on the project reservoir programable all-weather cameras (Reconyx© Hyperfire 2) will be with Cedar Hollow and Rattlesnake Creek arms of the project reservoir (Figure 3.4-1). These are the two areas identified by IDFG in their DSP comments that appear popular for winter ice fishing. The camera will be programmed to collect still photographs every 15-minutes.

#### Site Condition and Capacity Assessment

The study will assess the physical condition and capacity of infrastructure at each of the two recreation sites. Assessment visits will be timed to coincide with conditions suitable for recreational activities to allow first-hand observations of the infrastructure in use.

At each site, the following information will be collected and documented photographically:

- Condition and capacity of single vehicle and vehicle with trailer parking relative to demand.
- Condition and capacity of restrooms, picnic tables, fire pits, boat launch facilities, and walkways.
- Condition of informational/interpretive displays.
- ADA accessibility.
- Safety and security concerns.

#### Data Analysis

All pictures collected by programmable cameras will be reviewed to quantify recreational use, including number of people, vehicles, and watercraft by type (i.e., motorized or unmotorized, inflatable or hard hulls). An analysis of physical capacity at each recreation site will be completed during the site condition assessment, taking into consideration parking, restrooms and picnic facilities, and boat launch infrastructure. Results will be compared to actual use (based on use counts collected from the programmable cameras), during peak and off-peak periods. Seasonal use patterns will be summarized.

#### Reporting

A draft report will be prepared that presents the methods, analyses, and results of the study. The draft report will be distributed to the resource agencies and other interested parties during the second or third quarter of 2024 for a 30-day period of review and comment. Comments on the draft report will be addressed and incorporated into the final report for inclusion in the draft and final license applications.

#### *Consistency with Generally Accepted Scientific Practice*

This study includes observations and documentation of recreational use and capacity following methods that are generally accepted by the scientific community and utilized to study recreational use in other hydroelectric project relicensing studies.

#### *Study Schedule*

Most recreation use occurs from early May, prior to Memorial Day, through Labor Day; therefore, PacifiCorp anticipates the study would commence in early May and last through Labor Day, 2023 for the summer recreation season. The ice fishing use assessment will begin as soon as ice conditions permit safe access and conclude shortly before safe ice conditions are known to cease. Analysis and reporting is expect to be completed during the last quarter of 2023 through the first quarter of 2024. As stated above, PacifiCorp anticipates it will provide the draft study report to the resource agencies and other interested parties during the second or third quarter of 2024 for a 30-day period of review and comment. Should the study schedule deviate significantly from what is anticipated, PacifiCorp would apprise the resource agencies and interested stakeholders of schedule updates.

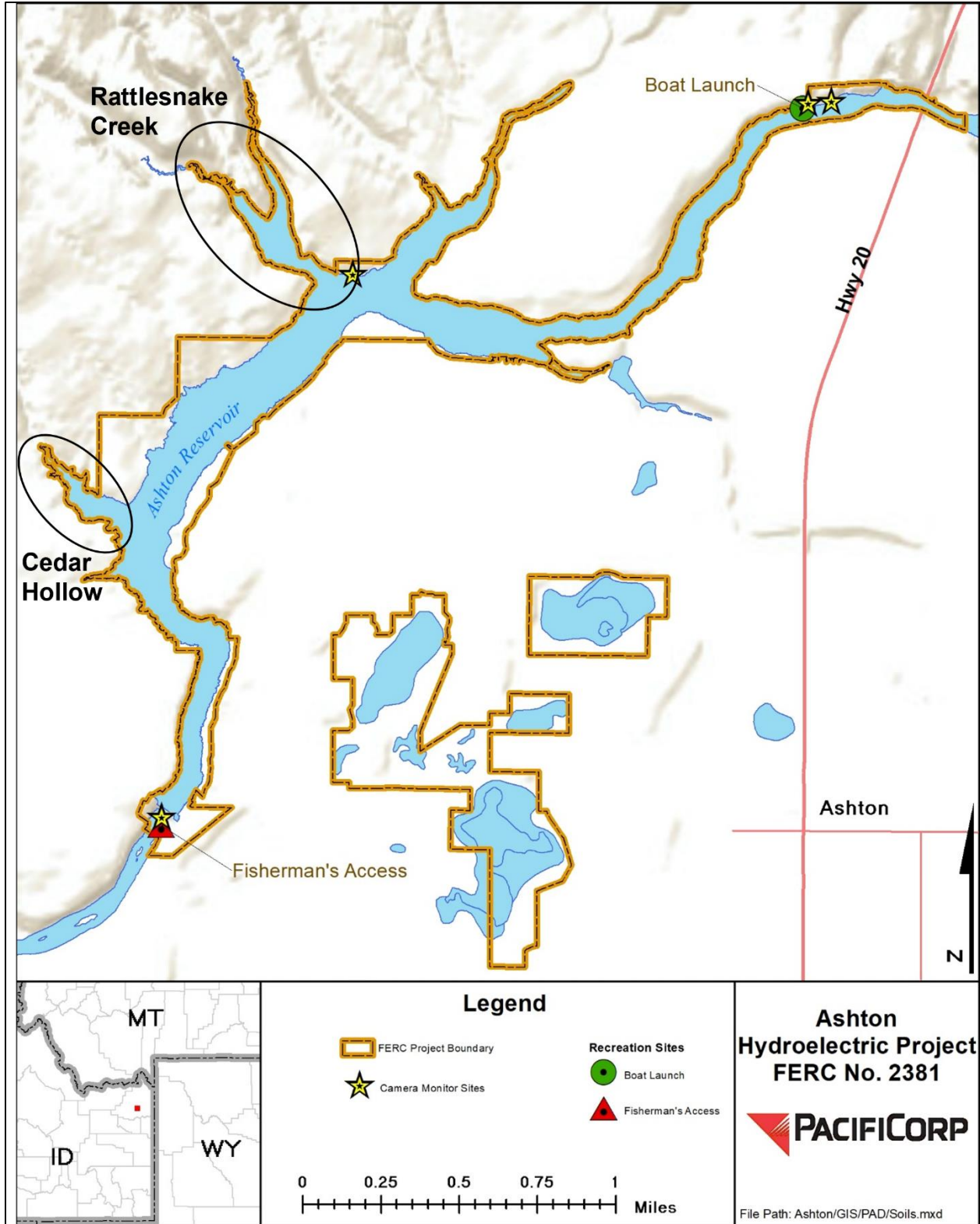


Figure 3.4-1. Recreation use and condition assessment study area.

### 3.5 Cultural Resources Survey

#### *Goals and Objectives*

The goal of this study is to collect information on cultural resources on lands within the Project boundary that are owned in fee by PacifiCorp to facilitate the evaluation of effects from Project operation, maintenance or recreation activities on such identified resources under the new license. To accomplish this goal, the study has the following objectives:

- 1) Consult with Idaho State Historic Preservation Office (ISHPO), Native American Tribes, and other consulting parties to define the area of potential effects (APE);
- 2) Conduct an intensive-level pedestrian survey of unsurveyed uplands within the Project boundary to locate and document cultural resources. Surveys of lands within the reservoir drawdown zone and around the powerhouse and related facilities have previously been completed;
- 3) Consult with the ISHPO, participating Native American Tribes, and other parties as appropriate to evaluate the National Register of Historic Places (National Register) eligibility all new cultural resource sites documented within the APE according to 36 CFR § 800.4.
- 4) Consult with the ISHPO, participating Native American Tribes and other parties as appropriate, to determine existing and potential project effects on the eligible cultural resources located and identified within the APE in accordance with 36 CFR § 800.5.

#### *Existing Information and Need for Additional Information*

ISHPO and PacifiCorp records indicate that three field inspections for historical and archaeological sites have been conducted within the Project boundary (Hovanes and Oliver, 2019; Herzog et al., 2012; Fenner et al., 2013). These surveys occurred in 1991, 2011 to 2012, and 2019. In total, these surveys resulted in the inspection of 266 acres within the Project boundary for archaeological resources and 10 acres for historical buildings and structures. The 1991 survey inspected 2 acres near the Project dam for a proposed stabilization project (Nielsen, 1991). The 2011 to 2012 survey examined 264 acres through a combination of intensive-level and reconnaissance-level methods and focused on identifying archaeological sites within the drawdown zone of the reservoir (Herzog et al. 2012; Fenner et al. 2013). Upland areas were not surveyed as part of that inspection, and no other cultural resource surveys have occurred on those uplands around the reservoir. As such, the presence or absence of archaeological sites in those upland locations remains unknown. The 2019 survey examined historical buildings and structures around the dam, powerhouse, and residential complex (Hovanes and Oliver, 2019).

The previous surveys in the Project boundary resulted in the identification of four prehistoric archaeological sites (site numbers 10FM520, 10FM521, 10FM522, and 10FM523), one historic bridge, and the Ashton Hydroelectric Project Historic District (Ashton Historic District). The four prehistoric sites documented in 2011 to 2012 were subjected to archaeological testing in 2012 to determine if buried artifacts or features (e.g., remains of hearths, structures, or burials) were present and could provide more information important to better understanding prehistoric

peoples, technologies, and lifeways. The testing determined that such buried materials were present at the sites. Subsequent to the testing, the sites were determined eligible for inclusion into the National Register of Historic Places (National Register). Therefore, these sites qualify as historic properties and are subject to the requirements of Section 106 of the National Historic Preservation Act to avoid, minimize, or mitigate adverse effects to them from present and future Project operation and maintenance.

The Ashton Hydroelectric Project Historic District consists of 24 historic and non-historic buildings and structures clustered around the Henry's Fork of the Snake River (Hovanes and Oliver, 2019, 2019). The District's character is a mix of residential and industrial uses. The types of buildings, which encompass residences, shop buildings, and buildings and structures for the generation and transmission of hydroelectric power, reflect these uses.

Section 106 consultation between PacifiCorp, the ISHPO, and other parties resulted in the determinations that both the historic bridge and Ashton Historic District are not eligible for listing on the National Register (ISHPO, 2012; ISHPO, 2019). As such, neither resource is subject to requirements for avoiding, minimizing, or mitigating adverse effects from present and future Project operation and maintenance activities.

As noted above, ISHPO and PacifiCorp records indicate that a relatively small portion of the overall Project area has been surveyed for cultural resources to date. The most substantive of the past surveys in the area comprised the inventory of historical buildings and structures at the powerhouse complex and intensive-level archaeological survey and testing of select sites in the drawdown zone of the reservoir. However, no comprehensive surveys for cultural resources has been conducted on the remaining uplands within the Project boundary. Because past surveys revealed cultural resources are present around the drawdown area of the reservoir, the possibility exists that additional cultural resources and sites in upland areas within the Project boundary may be present. Therefore, a survey of the previously unsurveyed upland areas within the Project boundary is needed.

### *Project Nexus*

The Project is operated under a license from the FERC. Issuance of that license constitutes an undertaking as defined by the National Historic Preservation Act and its implementing regulations at 36 CFR § 800. To comply with this regulation, FERC must make a good faith effort to a) define the types of Project operations with the potential to affect cultural resources; b) identify historic properties (i.e., cultural resources that are listed on or determined eligible for listing on the National Register of Historic Places) that could be affected by operations under the license; and c) develop measures to avoid, minimize, or mitigate adverse effects to historic properties. FERC may delegate portions of their responsibility for compliance with 36 CFR § 800, such as identifying historic properties, consulting with select parties, and developing a plan to manage historic properties to avoid adverse effects, to the licensee.

Past surveys for cultural resources within the Project boundary have focused on select areas within the Project boundary, while other areas of uplands remain unsurveyed. While PacifiCorp is not proposing changes to land development—i.e., no new capital improvements or ground disturbing activity—in these upland areas, accommodating recreational activities, including in

areas accessible only by boat, could affect cultural resources located in these areas. Other Project operation and maintenance activities, such as vegetation management, habitat enhancements, grazing, etc., also have the potential to affect cultural resources in these upland areas. The results of the survey would provide information on the cultural resource sites within the defined APE, and the study report would provide information on which sites are potentially eligible for inclusion into the National Register and any potential Project-related effects on the sites. If it is determined that continued Project operation and maintenance activities adversely affect such cultural resources or sites, a Historic Properties Management Plan may be needed.

### *Methodology*

#### Study Area

Prior to conducting any field survey, PacifiCorp, as delegated by FERC, must consult with the ISHPO, Native American Tribes, and other consulting parties, under 36 CFR § 800.4(a)(1) to determine the area of potential effects (APE) for the relicensing.<sup>6</sup> Typically for FERC licensing or relicensing undertakings, that APE is defined as the limits of the FERC-regulated Project boundary but may extend beyond the Project boundary to account for project effects. PacifiCorp must then consult with these parties to define efforts that will be undertaken to make a good faith effort at identifying historic properties in the APE. This effort may include a combination of previous surveys conducted in the area and new surveys. PacifiCorp assumes at the present time that this consultation will result in agreement that the only portions of the APE/Project area that require new survey are the previously unsurveyed areas around Ashton Reservoir.

The study area for the cultural resource survey would comprise those areas of uplands within the Project boundary and around Ashton Reservoir not previously inspected for cultural resources. Uplands in the wetlands complex that are not owned in fee (i.e., easements) would be excluded from the survey area. Upland areas around Ashton Reservoir that have not been inspected in detail for cultural resources comprise six locations encompassing a total of approximately 73 acres. Figure 3.5-1 presents the overall survey area.

#### Field Survey

The field survey for cultural resources within the study area would consist of an intensive-level archaeological resources survey. No buildings or structures are known to be present in any of these areas, and, as such, no historical structures inventory would be conducted. The archaeological inventory methods would adhere to the ISHPO's standard survey transect spacing (no more than 30 m apart) and site documentation protocols in place at the time of the survey, unless the aforementioned consultation under 36 CFR § 800 results in an agreement to employ alternative survey methods (ISHPO, undated). Limited subsurface testing of identified archaeological sites in the newly surveyed upland areas would be undertaken if such testing is agreed upon during consultation. The nature and extent of such testing would be defined during consultation but could include a combination of shovel probes and formal excavation

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<sup>6</sup> Area of Potential Effect is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (36 CFR § 800.16).

units. In addition, shovel test pits would be employed within survey sites that have medium to high probability for cultural resources and low ground visibility.

### Data Analysis

All sites documented during the new field survey would be evaluated for their National Register eligibility according to 36 CFR § 8004(b). Potential adverse effects from the Project on those resources qualifying as historic properties also would be carried out according to 36 CFR § 800.5.

### Reporting

A draft report of survey and testing results, if applicable, would be prepared and submitted to the ISHPO, Native American Tribes, and other consulting parties for review and comment according to 36 CFR § 800. The report would meet industry and ISHPO standards in place at the time of reporting. The draft report will be distributed to the above parties and other interested parties during the second or third quarter of 2024 for a 30-day period of review and comment. Comments on the draft report will be addressed and incorporated into the final report for inclusion in the draft and final license applications.

### *Consistency with Generally Accepted Scientific Practice*

As noted above, all of the work under this study plan would be conducted in accordance with the 36 CFR § 800 regulations and ISHPO survey and reporting protocols. These regulations and protocols establish the generally accepted scientific practice for addressing cultural resources that could be affected by licensing the Project as proposed by PacifiCorp..

### *Study Schedule*

Consultation to define the APE and approach to identifying historic properties would begin in late-winter or early-spring 2023. Any fieldwork conducted under this consultation and the study plan may take place at any time so long as snow cover is not present at the time of the survey. Ideal times to maximize ground visibility for the field survey are spring, prior to full vegetation growth, or late fall, after vegetation growth has stopped. Analysis and reporting is expected to occur during the last quarter of 2023 through the first quarter of 2024. As stated above, PacifiCorp anticipates it will provide the draft study report to the resource agencies and other interested parties during the second or third quarter of 2024 for a 30-day period of review and comment. Should the study schedule deviate significantly from what is anticipated, PacifiCorp would apprise the resource agencies and interested stakeholders of schedule updates.

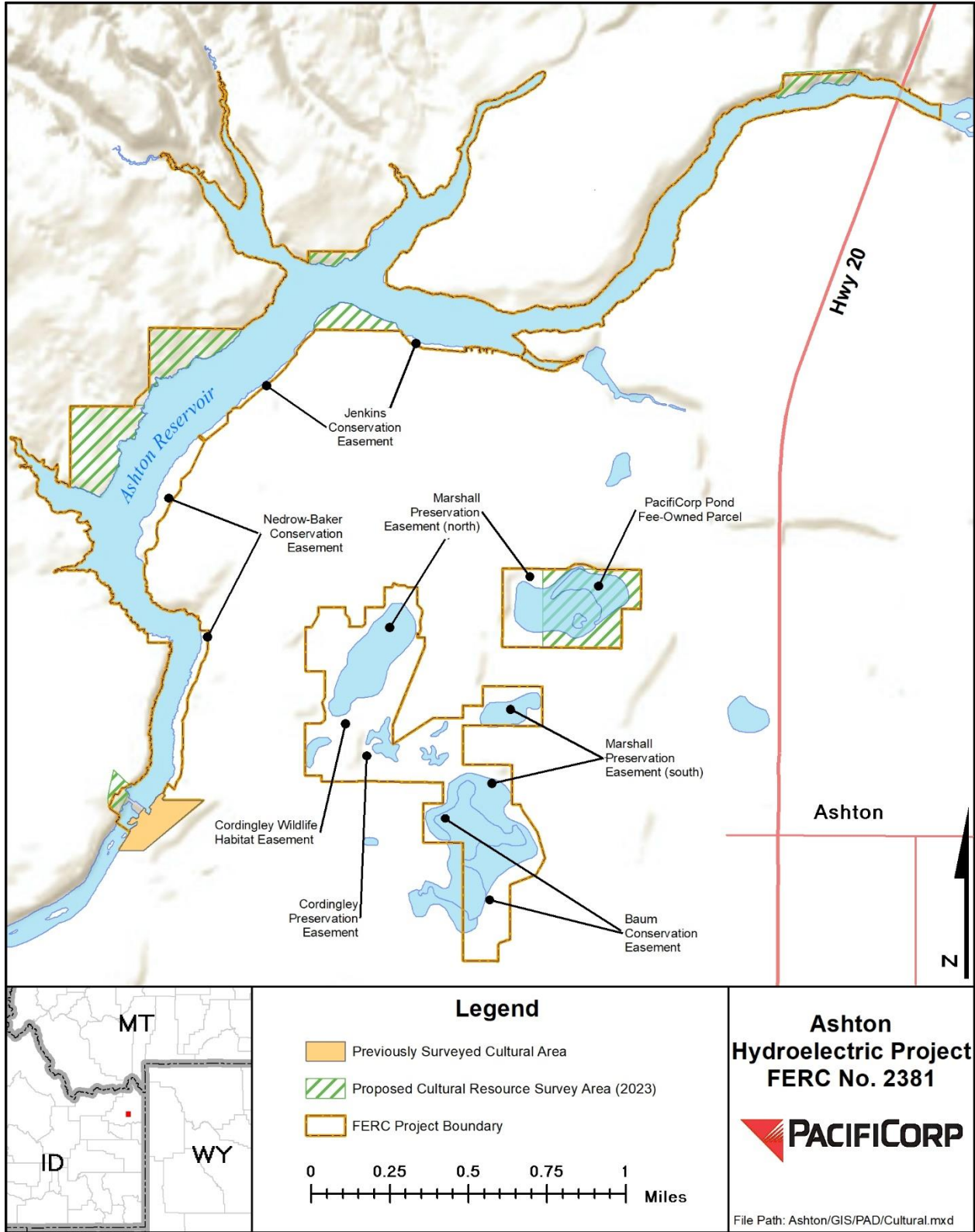


Figure 3.5-1. Cultural resources survey study area.



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## **APPENDIX A**

### **Ashton Hydroelectric Project Draft Study Plan**

## **APPENDIX B**

### **Interested Parties Comments on the Draft Study Plan**

## **APPENDIX C**

### **1992 Interim Survey Requirements Ute Ladies'-Tresses Revised 2017**

## **APPENDIX D**

### **Fertig et al. (2005) Ute Ladies'-Tresses Habitat Description Excerpt**