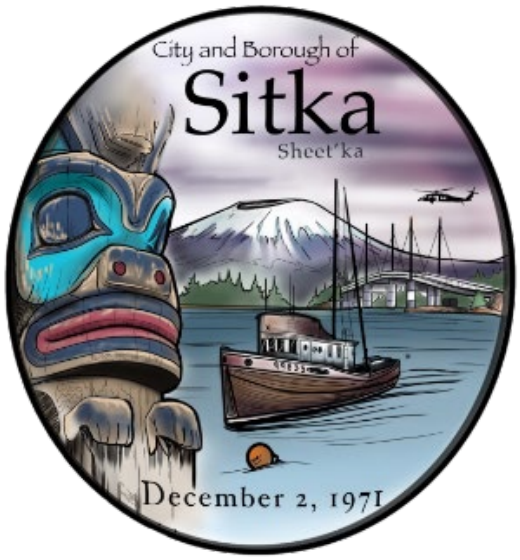
Green Lake Hydroelectric Project FERC No. P-2818



Revised Study Plan

Submitted by:
City and Borough of Sitka, Alaska

Prepared by:
McMillen, Inc.

January 2025

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Appendices

Appendix A. Proposed Study Plan Comment Letters

Appendix B. Comment/Response Matrix

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Appendix E. Recreation Plan Review

Appendix F. Sample Survey Instrument

Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
ADFG	Alaska Department of Fish and Game
ADOT	Alaska Department of Transportation
AHRS	Alaska Historic Resources Survey
APE	Area of Potential Effect
AWC	Anadromous Waters Catalog
BGEPA	Bald and Golden Eagle Protection Act
CBS	City and Borough of Sitka
CWA	Clean Water Act
DLA	Draft License Application
FERC	Federal Energy Regulatory Commission
FLA	Final License Application
FPA	Federal Powers Act
FPID	Fish Passage Inventory Database
FSH	Forest Service Handbook
FWCA	Fish and Wildlife Coordination Act
HPMP	Historic Properties Management Plan
ILP	Integrated Licensing Process
ISR	Initial Study Report
LiDAR	Light Detection and Ranging
MBTA	Migratory Bird Treaty Act
MOA	Memorandum of Understanding
MW	Megawatt
National Register	National Register of Historic Places
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOI	Notice of Intent
PA	Programmatic Agreement
PAD	Pre-Application Document
PSP	Proposed Study Plan
RSP	Revised Study Plan

SD1	Scoping Document 1
SHPO	State Historic Preservation Officer
SPD	Study Plan Determination
TCP	Traditional Cultural Property
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service

1.0 Introduction

The City and Borough of Sitka (CBS), Alaska, is in the process of relicensing the 18.54-megawatt (MW) Green Lake Hydroelectric Project (Project; FERC No. P-2818) with the Federal Energy Regulatory Commission (FERC). The Project is located in southeast Alaska on the west-central portion of Baranof Island. Green Lake sits at the headwaters of Silver Bay on the Vodopad River, approximately 10 miles southeast of Sitka and 95 miles southwest of Juneau, the capital of Alaska. On April 5, 1979, FERC issued an Order Issuing License (Major) for a 50-year license, which expires on March 31, 2029.

CBS is using FERC's Integrated Licensing Process (ILP) as established in 18 CFR, Part 5. In accordance with the requirements of the ILP, CBS filed its Notice of Intent (NOI) and Pre-Application Document (PAD) on March 26, 2024. The PAD provides a description of the Project, including its facilities, operation, and affected resources. The PAD can be viewed on FERC's website using the following link: The City & Borough of Sitka Alaska - Green Lake Hydroelectric Project, FERC Relicensing (cityofsitka.com)

CBS distributed the NOI and PAD to federal and state resource agencies, local government, Native American Tribes, and others thought to be interested in the relicensing proceeding. Following the filing of the PAD, FERC prepared and issued Scoping Document 1 (SD1) on May 20, 2024. FERC also held agency and public scoping meetings and a site visit on June 12, 2024. The FERC process plan and schedule provided agencies and interested parties an opportunity to file comments on the PAD and SD1 and requested studies by July 24, 2024.

Comments on the PAD, SD1, and/or study requests were received from Alaska Department of Fish and Game (ADFG), FERC, the U.S. Fish and Wildlife Service (USFWS), and the Environmental Protection Agency (EPA). Comments from the EPA were related to SD1 and FERC addressed EPA's comments in Scoping Document 2 (SD2), issued August 29, 2024. In accordance with the ILP requirements and SD1 process plan and schedule, CBS filed a Proposed Study Plan (PSP) on September 6, 2024. The PSP document presented CBS's proposed plan for conducting studies to inform the relicensing process.

1.1 Study Plan Meeting

CBS conducted a virtual PSP meeting via Microsoft Teams from 10:00 a.m. to 12:00 p.m., Alaska Time, on October 3, 2024, in accordance with 18 CFR § 5.11(e). During the PSP meeting, CBS summarized the PSP, including study requests and proposed methods. All stakeholders on the distribution list were invited to the PSP meeting by email sent out on August 28, 2024.

Participants in the PSP meeting included the following:

- CBS
- McMillen, consultant (including subconsultants) to City and Borough of Sitka
- FERC
- ADFG
- USFWS
- Alaska Department of Natural Resources (ADNR), Office of History and Archaeology (OHA)

A follow-up virtual meeting with CBS, McMillen and subconsultant Cultural Resources Consultants, OHA, and FERC was held November 6, 2024, to further discuss the Area of Potential Effect (APE) for the Project, determination on the eligibility of Project facilities for the National Register of Historic Places (NRHP), planned efforts to identify previously described archaeological resources in the Project area, and subsistence (subsistence will be addressed as part of the recreation study).

1.2 Comments on the Proposed Study Plan

Comments on the PSP, including any additional or revised study requests, were due by December 6, 2024. CBS received three total comment letters from OHA, FERC, and ADFG (Appendix A). The letter from ADFG simply stated that they have no comments on the PSP. The comments from OHA and FERC and CBS's responses are presented in CBS's comment/response matrix (Appendix B).

1.3 FERC Process Plan and Schedule

The remaining pre-filing ILP schedule for the Project, per the SD1, is presented in Table 1-1. If the due date falls on a weekend or holiday, the due date is the following business day. Early filings or issuances will not result in changes to these deadlines. The schedule below assumes a formal Study Dispute Resolution Process will not be necessary. If study dispute resolution is required, the process will follow the schedule presented in 18 CFR § 5.14.

Table 1-1. FERC Process Plan and Schedule

Pre-filing Major Milestone	Responsible Party	Date [Required ILP Timeframe]
File Revised Study Plan (RSP)	CBS	January 5, 2025 [30 days after PSP comments filed]
File Comments on RSP	All Stakeholders	January 20, 2025 [15 days after RSP filed]
Issue Study Plan Determination	FERC	February 4, 2025 [30 days after RSP filed]
File Initial Study Report (ISR)	CBS	February 4, 2026
Initial Study Report Meeting	CBS	February 19, 2026
File Updated Study Report	CBS	February 4, 2027
Updated Study Report Meeting	CBS	February 19, 2027
File Draft License Application (DLA)	CBS	November 1, 2026 [Not later than 150 days before filing of Final License Application]
File Comments due on DLA	All Stakeholders	January 30, 2027 [90 days after DLA filed]
File Final License Application [FLA]	CBS	March 31, 2027

2.0 Response to PAD Comments and Additional Information Requests

CBS appreciates the time and effort taken by agencies and stakeholders to review the PAD and provide comments. CBS received one comment on the PAD from ADFG. CBS's response is below. No requests for additional information were received.

2.1 PAD Comment and Response

ADFG Comment (in reference to Section 4.5.1.1 Aquatic Habitats of the PAD): *Table 4-14 lists five streams in the Anadromous Waters Catalog (AWC) that are in the vicinity of the project access road. There are two additional AWC streams, however, within the project boundary and that cross under the access road which have been omitted from the PAD. The two streams are located within Herring Cove: AWC stream no. 113-41-10230 and AWC stream no. 113-41-10240. Please ensure that these streams are also included in the environmental review of the project.*

Additionally, AWC stream no. 113-41-10230 has been documented by ADF&G to have a perched culvert. This culvert may provide fish passage at extreme high tides, but a fish presence survey and stream gradient assessment would need to be conducted to confirm adequate fish passage. ADF&G's Habitat Division plans to perform this assessment on their next site visit to Sitka in summer 2024. It is noted that although this anadromous stream is located within the FERC project boundary, the road and culvert at this location are maintained by Alaska Department of Transportation.

CBS Response: The Revised PAD Figure 4-31 (Appendix C), shows the CBS maintained portion of the Project access road, which includes AWC stream no. 113-41-10240. The remainder of the road is a state highway managed by the Alaska Department of Transportation (ADOT). As noted by ADFG in their comment, even though the FERC Project Boundary continues along the Project transmission line, and subsequently crosses AWC stream no. 113-41-10230, CBS does not maintain that portion of the road. Thus, CBS has no ability to maintain, improve, or modify the culvert associated with AWC stream no. 113-41-10230.

CBS has modified PAD Table 4-14 to include AWC stream no. 113-41-10230 and AWC stream no. 113-41-10240 and has noted whether they are crossed by the FERC Project Boundary and CBS-maintained portion of the Project access road. The Revised PAD Table 4-14 is included in Appendix C. The table presents information as it exists in the AWC at the time of this filing; however, CBS understands that ADFG's Habitat Division plans to perform

additional assessments in 2024, which may result in updates to the information in the AWC. CBS will keep this table updated with current information in subsequent filings.

3.0 Study Requests Received and Responses

Study requests were received from FERC and USFWS. These study requests, CBS's responses, and corresponding study plans are presented in Table 3-1. In their response, CBS notes if modifications to the study request were made. Study requests filed with FERC are located in Appendix D. In addition to these study requests, CBS is proposing a cultural resources study, though not in response to a study request.

Table 3-1. Study Requests Received, CBS's Response, and Corresponding Study Plans

Agency Requesting Study	Proposed Study	CBS's Response	Corresponding PSP Section
FERC	Recreation Study	CBS agrees that a recreation study would be beneficial to provide data on facilities and use. The requested study has been adopted with modifications; CBS has proposed a different methodology for collecting use data given the relatively remote location, generally low use, and weather conditions.	Section 4.1
USFWS	Access Road Water Crossing Assessment	CBS agrees that an assessment of water crossings along the access road would be beneficial with consideration of projected precipitation levels and stream processes. CBS can use this information for future road maintenance and potential upgrades. The requested study has been adopted with modifications; CBS has proposed a modified hydrology estimation method more suitable for local conditions.	Section 4.2

4.0 Proposed Studies

4.1 Recreation Study

4.1.1 Background and Purpose

A recreation study was requested by FERC. Per their request, this recreation study plan is proposed to assess the condition and uses of recreation sites/facilities within the FERC Project Boundary and site use. The study will describe existing recreational opportunities in the Project area, current recreational uses of the Project area, and the capacity of the Project area facilities to support recreational uses; determine whether existing facilities are meeting user needs; and estimate future demand for recreation at the Project.

4.1.2 Geographic Scope

The Project is in a remote area outside of Sitka. Green Lake is approximately 14 miles from downtown Sitka at the end of Green Lake access road. The Project is located on CBS-owned land, conveyed to CBS by the State of Alaska in 1979. The CBS-owned parcel is approximately 5,000 acres, which includes the entirety of the 1,232-acre Green Lake FERC Project Boundary. The land surrounding the CBS-owned parcel is part of the Tongass National Forest (Figure 4-1). Green Lake is accessed via a 7-mile gravel road that is closed to public vehicular traffic. Recreation access to the area via the road is generally limited to human-powered access methods. There are no facilities or amenities in the Project area designed or managed specifically for recreation.

The recreation study will consider activities occurring within the FERC Project Boundary and surrounding area, but will have the following key focus areas:

- Green Lake access road from the locked gate near Herring Cove to Green Lake and the spur road to the powerhouse
- Green Lake and dam
- Saltwater boat anchoring area
- Trails onto or across CBS-owned land. Except for the Beaver Lake Trail, the trails, listed below, are not developed, maintained, or formally managed for recreation. They have no signage or dedicated trailhead parking. They are likely best described as “social trails”, and a cleared trail or trail tread may only exist intermittently along each route depending on current level of use. Local names for the trails may also vary as they have not been formalized. Figure 4-1 shows the approximate location of the access point (trailhead) for these trails.

- Beaver Hump Trail
- Herring Cove & Island Trail
- Beaver Lake Trail
- Bear Mountain Ridge Trail
- Bear Lake Ridge Trail
- Medvejie Lake Trail (also known as Warm Springs Trail)
- Cross Mountain Trail (also known as Cuppola Peak and Indigo Lake Trail)

4.1.3 Study Goals and Objectives

The goals of the recreation study are to gather information on existing recreation sites and facilities, evaluate existing recreational use, determine if existing facility conditions and capacity are meeting user needs, and estimate future recreational demands within the FERC Project Boundary and surrounding area. Study objectives include the following:

- Provide an inventory and map of the existing Project facilities that have potential recreation opportunities within the FERC Project Boundary (there are currently no developed recreation amenities, such as toilets, trail signs, etc.).
- Evaluate the condition of the recreation sites and facilities and estimate their physical capacities.
- Estimate current recreation use at each Project recreation site.
- Identify potential measures to enhance recreation opportunities if necessary.

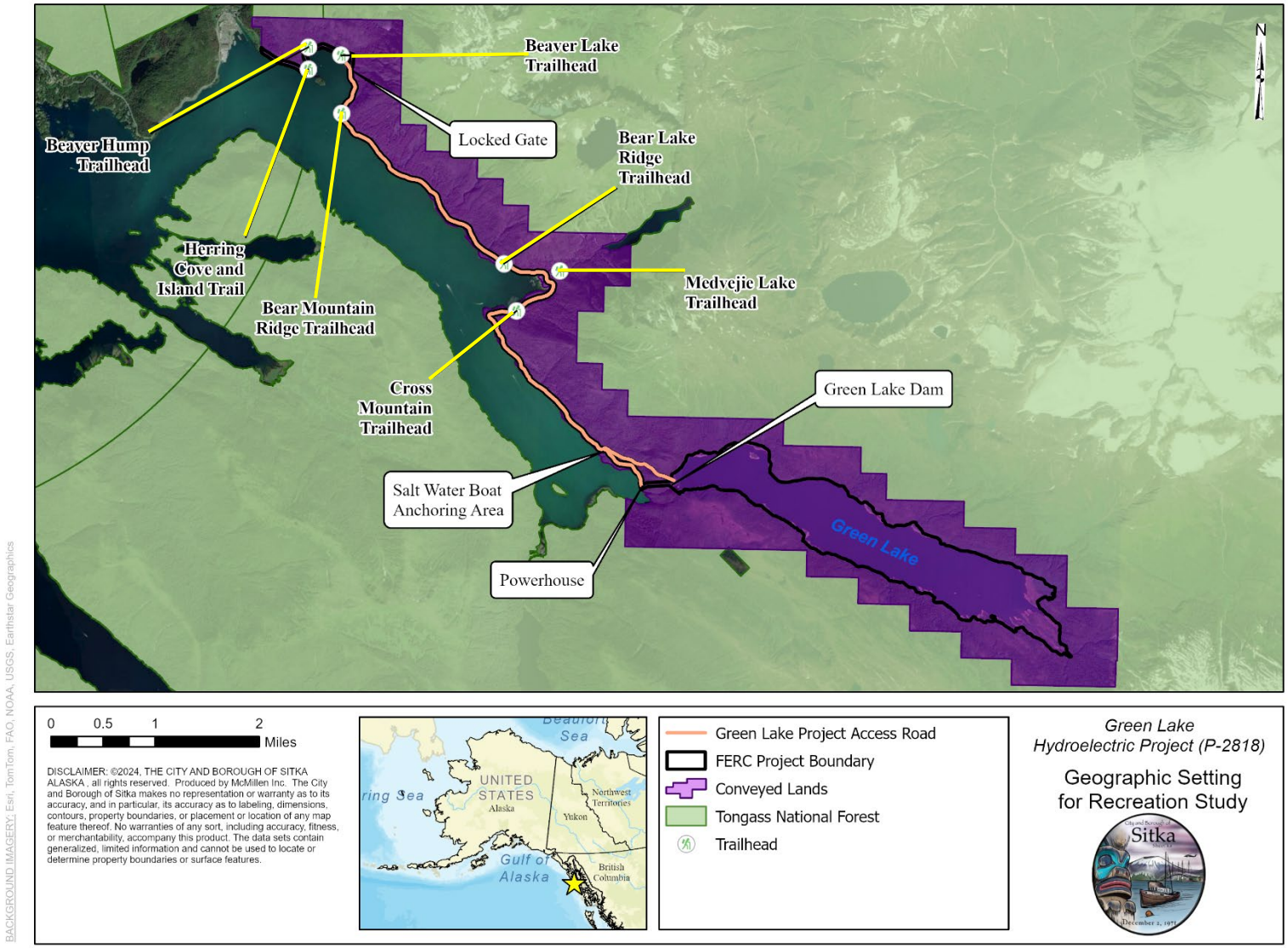

Figure 4-1. Geographic Setting for Recreation Study

4.1.4 Relevant Resource Management Goals

Several existing and proposed community and regional resource management plans are available in and around Sitka. These are summarized and their goals, if available, are stated below:

- **Sitka Trail Plan, 2023 DRAFT**

  This plan by Sitka Trail Works contains trail maintenance and development priorities. Agency and other participants include the Forest Service, CBS, and FERC.

- **USDA Forest Service, Tongass Land and Resource Management Plan, 2016**

  This plan guides all natural resource management activities and establishes management direction for the Tongass National Forest. The plan states that the Sitka municipal watershed is within the Tongass National Forest. Silver Bay is identified as a small boat and mid-size tour boat route. Silver Bay is also identified as a Saltwater Use Area, and the head of Silver Bay is identified as a boat anchorage.

- **Tongass National Forest Sustainable Trails Strategy**

  The goal of this strategy is to offer recommendations to create a more sustainable trail system within the Tongass National Forest.

- **Sitka Comprehensive Plan, 2018**

  The goals of this plan are to:

  - maintain and expand Sitka's diverse recreational opportunities; and
  - provide desirable community facilities and services in an efficient and cost-effective manner to meet the needs of Sitka's residents, businesses, and visitors.

- **Sitka Coastal Management Plan, 2007**

  In 2011 when the State of Alaska withdrew from the federal coastal management program, Sitka codified their Coastal Management Plan's enforceable policies in order to locally implement the plan. Also adopted are the boundaries; definitions; designated recreation, coastal access, and special management areas; and designated recreational use areas.

- **Sitka Short Term Tourism Plan, 2022**

  The plan was drafted in response to forecasted increases in cruise visitors nearly doubling the number from previous high visitation seasons. The increase in numbers was primarily due to the opening of the privately owned Sitka Sound Cruise Terminal. The plan has five elements: dispersion, transportation, traffic, infrastructure needs, and future planning needs. The planning horizon is five years.

- **Statewide Comprehensive Outdoor Recreation Plan, 2022**

  The Statewide Comprehensive Outdoor Recreation Plan is a statewide planning document, providing a statewide overview of outdoor recreational supply and demand profiles, resources, and issues.

A preliminary plan review to inform the recreation study methodology can be found in Appendix E Recreation Plan Review.

4.1.5 Existing Information and Need for Additional Information

Existing information was compiled from the recreation resource descriptions and inventory presented in the PAD, including a map and site visit.

Additional information needed includes the following:

- Confirm geographic information for facilities and trails within the FERC Project Boundary and surrounding area
- Field reconnaissance of recreation facilities, use areas, and trails within the FERC Project Boundary and surrounding area
- Understanding the extent of subsistence activities in the FERC Project Boundary and surrounding area to distinguish between visits for subsistence purposes and recreational purposes. Note that for the purposes of this study, subsistence includes activities that require harvesting of wild game, plants, and materials for survival at a minimum level.
- Understanding of the extent of current permitted commercial use of the area
- Identification of possible intercept survey locations
- Identification of possible automated counter and trail camera locations
- Estimates for future recreational use
- Information about current and anticipated facility maintenance and management practices and available resources
- Information about where recreation users are from (local or visitor); if visitor to Sitka, how did they get to Sitka (e.g., cruise ship, plane)
- Information about how recreation users access Green Lake (e.g., hike, bike, boat, airplane)

4.1.6 Project Nexus

Recreation is a recognized Project purpose under Section 10(a) of the FPA. Project operation can affect recreation access (e.g., fluctuating lake levels). This study will provide an understanding of the existing recreation facilities, how they are being used, and their relationship to Project land and waters. The study will also inform whether additional measures are warranted to meet the Project's existing and future recreation needs.

4.1.7 Methodology

The recreation study will analyze both water and land-based recreation uses, access considerations, and seasonality in recreational use of the Project area. Data collection will consist of multiple methods including the following:

- Compilation of historical records, plans, mapping information, and agency records
- Data about site visits and visitor behavior from observations, automated counters, and intercept surveys
- Information about visitor preferences from intercept and self-selection surveys

4.1.7.1 Facility Inventory

An initial site visit with stakeholders was held in June 2024 to become familiar with the Project area's general character and layout. A more comprehensive recreation facility inventory will be necessary during the study period. The facility inventory will accomplish the following:

- Map the location of facilities in relation to the FERC Project Boundary.
- Describe each facility.
- Describe the condition of the facility/amenity and parking capacity (if any).
- Identify whether the facility is a Project or non-Project recreation facility.
- Determine the entity responsible for the operation and maintenance of each facility.
- Describe the hours and season of operation/use.
- Document facilities with photographs.

Mapping the location of facilities in relation to the FERC Project Boundary will be done through a combination of recreation expert site visits and coordination with CBS staff who already have spatial data. This will be used to create a GIS database of points of interest and facility improvements (points), trails (lines), and recreation zones (polygons). A symbolized map of

Project zones and facility improvements will be prepared. In the database, notes will be attributed to each facility describing relevant qualities such as age, condition, materials, dimensions, parking capacity, etc. A written description of each area and its facilities will accompany the database.

Responsible parties will be attributed to each facility, distinguishing between ownership, management jurisdiction, maintenance responsibility, whether the facility is part of the Project, etc. This information will be collected through interviews with CBS staff and a review of formally recorded documents, policies, or management/maintenance agreements, to the extent these exist.

Information about when (hours of day, seasons) people use the area will be gleaned from CBS staff interviews and measured through methods described in the Recreation Use Study section (Section 4.1.7.2). Any on-site or off-site documentation of posted rules and regulations, along with their sources, will also be reported.

Each facility in the database will be documented with at least one photograph. Photographs can be stored in the GIS database and associated with a geographic location on a map. Relevant and illustrative photographs will be included in the static report.

4.1.7.2 Recreation Use Study

The recreation use study will collect information to describe recreation use in terms of amount, type, timing, distribution, and behavior. A suite of methods is proposed to comprehensively understand current recreational use patterns, preferences, and desired future opportunities and improvements. These methods include the following:

- Automated Counting and Monitoring of Visitors
- Visitor Surveys, including On-Site User Intercept Surveys and Self-Select Surveys
- Trailhead Observations

Automated Counting and Monitoring of Visitors

Automated counters are an accepted and widely applied method of conducting visitor counts during visitor-use monitoring of public lands and recreation areas (English et al. 2020, Leggett et al. 2017, Pettebone and Ziesler 2018). With proper installation, calibration, monitoring, and statistical processing of raw data, automated counters and trail cameras have been shown to produce confidently accurate estimates of visitor use at study sites (Albers et al. 2023; Pettibone et al. 2010). Automated counters are best applied to sites where visitors enter the area through a narrow entryway such as a gate or trailhead, are likely to only make one

entrance per day/visit, and where vehicle use is limited to avoid the need for persons-per-vehicle multipliers (Pettebone and Ziesler 2018).

The single entrance (one-way-in, one-way-out) and linear corridor layout of the Project area, combined with its remote location and anticipated low visitation numbers make this Project ideal for automated counters. Compared to relying solely on in-person random sampling, automated counting will provide a wider sampling period, will collect information when there are unpredictable weather-related peaks in use, and will simultaneously inventory multiple sites within the study area. The result will be a larger dataset of objectively quantifiable visit counts and more reliable estimate of current use.

Data Types and Collection

Data from infrared trail counters (TRAFx brand trail counters; www.trafx.net)will be used primarily to quantify visits and estimate visitor hours spent in different zones or at different facilities within the FERC Project Boundary. Trail camera (Reconyx Hyperfire infrared trail cameras or similar product; www.reconyx.com) images will supplement and validate trail counter data and provide additional insight into visitor's mode of travel and/or recreational activity. Cameras will also function to control counter data quality by helping distinguish between positive visitor counts and erroneous counts caused by wildlife or vegetation. CBS staff will assist in the regular monitoring of installed equipment and downloads/uploads necessary for consistent and continuous data collection. This study plan recommends visits every two weeks, when feasible, to inspect counters and cameras and download data. Some counters or cameras may be monitored less frequently based on accessibility. A full year of automated counting will capture recreation use fluctuations during all seasons and improve relative accuracy via longer monitoring duration (Muhar et al., 2002).

Counter and Camera Locations and Installation

Approximately fifteen counters and four cameras will be used. Precise monitor numbers and locations may need to be adjusted based on site conditions and troubleshooting during installation and calibration. Counters are expected to be placed along Green Lake access road (roughly at 1-mile intervals) to count road use and estimate travel distance, at trail entrances along Green Lake access road (Bear Lake Ridge, Camp Lake Trail, Cross Mountain Trail) to count trail use and departures from the road, and near facilities along Green Lake access road (hatchery, saltwater boat anchoring area, Green Lake Dam, etc.). A vehicle counter may be placed in the road at the Hering Cove-Beaver Lake trailhead (CBS Parks & Recreation Department already has an infrared trail counter on the trail). Installation and calibration will follow manufacturer guidelines and research-based best practices. Cameras are anticipated to be placed at the entrance to the Project area (at or near the locked gate on the Green Lake

access road) to ascertain group size and mode of travel and at attractions or destinations where visitors might disperse such as saltwater boat anchoring area and Green Lake Dam. Counters and cameras may be relocated periodically throughout the study to increase the sampling area, improve accuracy, or target specific locations based on growing knowledge of use of the area. For example, site visits during intercept surveys may reveal new understanding of a trail location or how a ridgeline is being accessed, necessitating relocation of a trail counter to measure traffic elsewhere for some period. Counters and cameras will be used for a full year to capture recreational use in all seasons as many activities are seasonally dependent (e.g., foraging, hunting, skiing, etc.).

Visitor Surveys

Surveys will gather information about each visitor and the details of their visit. Surveys will ask about the purpose of each visit to distinguish between recreation visits and non-recreation visits, asking specifically about subsistence activities that may be hard to distinguish from recreation by other means of observation (e.g., hunting, trapping, and foraging). Among recreational visitors, various types or levels of recreation demand will be assessed by asking about their chosen activities, settings where they choose to engage in those activities, desired experiences during the visit, and anticipated benefits resulting from the visit. Satisfaction and experience preference information can ultimately be used to assist managers in developing management objectives, standards, and indicators of performance.

Survey topics will include the following:

- Number of people in the party
- Mode of access
- Primary and secondary recreation activities
- Settings/areas visited
- Duration of visit
- Motivations and outcomes
- Desired recreational experiences
- Satisfaction
- Opportunities for improvement
- Demographics

A sample survey instrument with example questions covering the above topics can be found in Appendix F, Sample Survey Instrument. This instrument will be finalized prior to administration

based on consultation with knowledgeable local stakeholders. Visitor surveys will be administered on-site both through intercept sampling and self-selection sampling. Both sampling methods will utilize the same or very similar survey instruments and collect the same information. Survey instruments for both sampling methods will be produced in print/paper versions and as an online survey. The online survey portal will be used for data entry and in some cases for participation (see below).

On-Site Visitor Intercept Sampling

Intercept sampling, a form of convenience sampling, of visitors will be conducted throughout the study period by various means:

- Consultants and/or CBS staff will conduct intercept surveys during concentrated field-study efforts during the summer and fall 2025. Each field study will last roughly one week with daily sampling from various locations within the Project area. The first visit will begin the survey effort and coincide with installing automated counters and cameras as well as additional observation and ground truthing of recreational trails leaving the road. Observations from this field effort will further inform sampling methods (in terms of timing, station locations) for the remainder of the study period. A second field study effort will take place in the fall when recreation use may shift. This will present another opportunity to adjust sampling methods and locations as needed based on successes and challenges experienced through the summer.
- CBS staff will conduct intercept surveys as they encounter visitors in-person during regular visits to the Project area to check automated counters (once every two weeks). As much as is feasible for CBS staff schedules, the day of the week and time of day of these visits will be randomized to improve the variety and distribution of days and times of observations in the sample. Precise protocols for staff will be based on observations from the initial week of daily field observations and intercept surveys.

Intercept surveys may be self-administered or interviewer-administered depending on the visitor's preference. In both cases, the interviewer/administrator will read first from a short prepared script, explaining the purpose and voluntary nature of the study, requesting the visitor to fill out a survey, and asking if they need assistance, If self-administered, the interviewer will provide the visitor with a survey for the visitor to read and respond to each question on their own using a tablet or paper and pencil. Self-administration, if acceptable to the respondent, is preferred to eliminate any potential interviewer bias. If interviewer-administered, the interviewer/administrator will assist willing visitors with completing surveys by reading questions aloud and/or by writing their spoken response and repeating the response back to them. Administrator observations will also be recorded (time of day, number in party, mode, and direction of travel, etc.). A detailed protocol for staff and consultants to

follow will be prepared for the study and all potential interviewers will be trained on the protocol by the consultants.

Visitor Self-Select Surveys

To increase response rates and sampling days and times, a self-selected, self-administered survey option will be available for visitors who are not intercepted by staff during staff visits or who do not wish to interact with interviewers. This will also provide participants more flexibility on when and where they can respond. Signs placed at trafficked areas on site (e.g. at parking locations or the Green Lake Road gate) will introduce visitors to the study and survey opportunity. Because there is not believed to be cell phone service in the area, the signs will include a web address or Quick Reference code image, which will link to the online survey, and instructions to "take a picture of the sign and follow the link when you return home or have cellular phone service." The sign will also instruct the reader where they can attain a print copy of the survey if desired. The Project team may also reach out to local stakeholders such as trail organizations and/or the Parks and Recreation Department to encourage sharing and participation in the survey.

Trailhead Observations

Regular trailhead observations will document the number of cars parked at the Herring Cove–Beaver Lake Trail Head parking lot near the gate on the Green Lake access road. CBS staff will record the date and time of the observations and any other noteworthy details. CBS staff will complete these observations during visits to the Project site to monitor automated counters and cameras. Observations at the trailhead and of visitors encountered along the trail will be recorded on a prepared form and sent to the study team. The form will include basic inputs that might be observed such as:

- Date and Time
- Weather
- Number of Vehicles by Type (sedan, SUV, truck)
- Passengers per Vehicle
- Number of Visitors and Group Sizes
- Visitor Activities
- Number of Intercept Surveys Administered

- Other Notes

4.1.8 Modifications to Requested Study

FERC's original study request included an objective to "Estimate current recreation use and Project use capacity at each Project recreation site." For this study, use capacity will be estimated by analyzing the conditions and availability of the physical resources such as available space for parking and dimensions and tread characteristics of roads and trails.

FERC's study request calls for "spot counts" (interpreted in this study plan as "visits" or "visitor counts") of at least two hours per site on each day. Given (1) the remoteness of the location, (2) low visitation as reported by CBS, (3) likelihood that visitation is weather-dependent, and (4) the limited and linear nature of access to the Project area, we propose automated monitoring using infrared trail counters and trail cameras as the primary means of measuring current visitation levels.

FERC's study request calls for collecting visitors' "perceptions of levels of use." Because of the remoteness of the Project area and the previously observed low use, crowding is not anticipated to be an issue and will not be a topic of focus in the visitor use survey. However, the relative importance of and ability to realize various desired recreation experiences, including the opportunity for solitude, will be assessed through recreation experience and benefits questions in the survey. This survey method is described in Section 4.1.7.2. and in Appendix F, Sample Onsite Survey Instrument.

4.1.9 Proposed Deliverables and Schedule

4.1.9.1 Deliverables

In conformance with the FERC relicensing guidelines, CBS will deliver a study report that includes the following:

- The facility inventory with a map of Project area recreational facilities
- Results and analysis of data from automated counters and cameras
- Results and analysis of in-person and self-selected surveys
- Prioritized opportunities for recreation facility improvement
- Projected changes to recreation demand in the Project area over the term of the new license (30-50 years)

4.1.9.2 Schedule

Spring/summer 2025:

- Begin study season
- Purchase equipment and coordinate with CBS staff
- Conduct facility inventory
- Install automated counter and camera installation and calibration
- Begin intercept surveys

Summer/fall 2025:

- Continued data collection (counters, cameras, trailheads, surveys).
- Continue intercept surveys

Fall/winter 2025/2026:

- Continued data collection and analysis (counters, cameras, trailheads, surveys).
- Prepare Initial Study Report (ISR).

Winter 2026:

- Continued data collection and analysis (counters, cameras, trailheads, surveys)
- File ISR
- Hold ISR meeting and respond to public comments

Spring/summer 2026:

- File ISR meeting summary
- Demobilize/uninstall counters and cameras and analyze data

4.1.10 Level of Effort and Cost

The preliminary cost estimate to conduct the recreation study is $138,000 to $178,000. The range in cost reflects assumptions in data availability, quantity, and timing of targeted intercept surveys, and final reporting timelines. This includes a total of two week-long field visits to Sitka and the Project site costing approximately $16,000 each.

4.2 Access Road Water Crossing Study

4.2.1 General Description of Proposed Study

This study was requested by the USFWS and will provide a baseline inventory and assessment of stream crossing structures along the Green Lake access road. These data will be used to understand the current road condition and to develop a long-term maintenance strategy that considers projected precipitation levels and stream processes to minimize the road's adverse impacts on water quality and aquatic habitat. The subsequent strategy may identify crossings in need of more frequent maintenance and/or eventual upgrades.

4.2.2 Geographic Scope

CBS is proposing to conduct this study along the approximately 7-mile stretch of the Green Lake access road from the end of the ADOT maintained section of road just before the locked gate near Herring Cove to Green Lake, as well as on the spur road to the Project powerhouse (Figure 4-2). CBS controls and maintains this stretch of access road and the spur road to the powerhouse. The portion of the road that is owned and maintained by ADOT and will not be included in this study (Figure 4-2).

4.2.3 Study Goals and Objectives

The goal of the study is to provide a baseline inventory and assessment of water crossing features along the CBS-maintained portion of the Green Lake access road, with consideration of stream characteristics and how those characteristics might change.

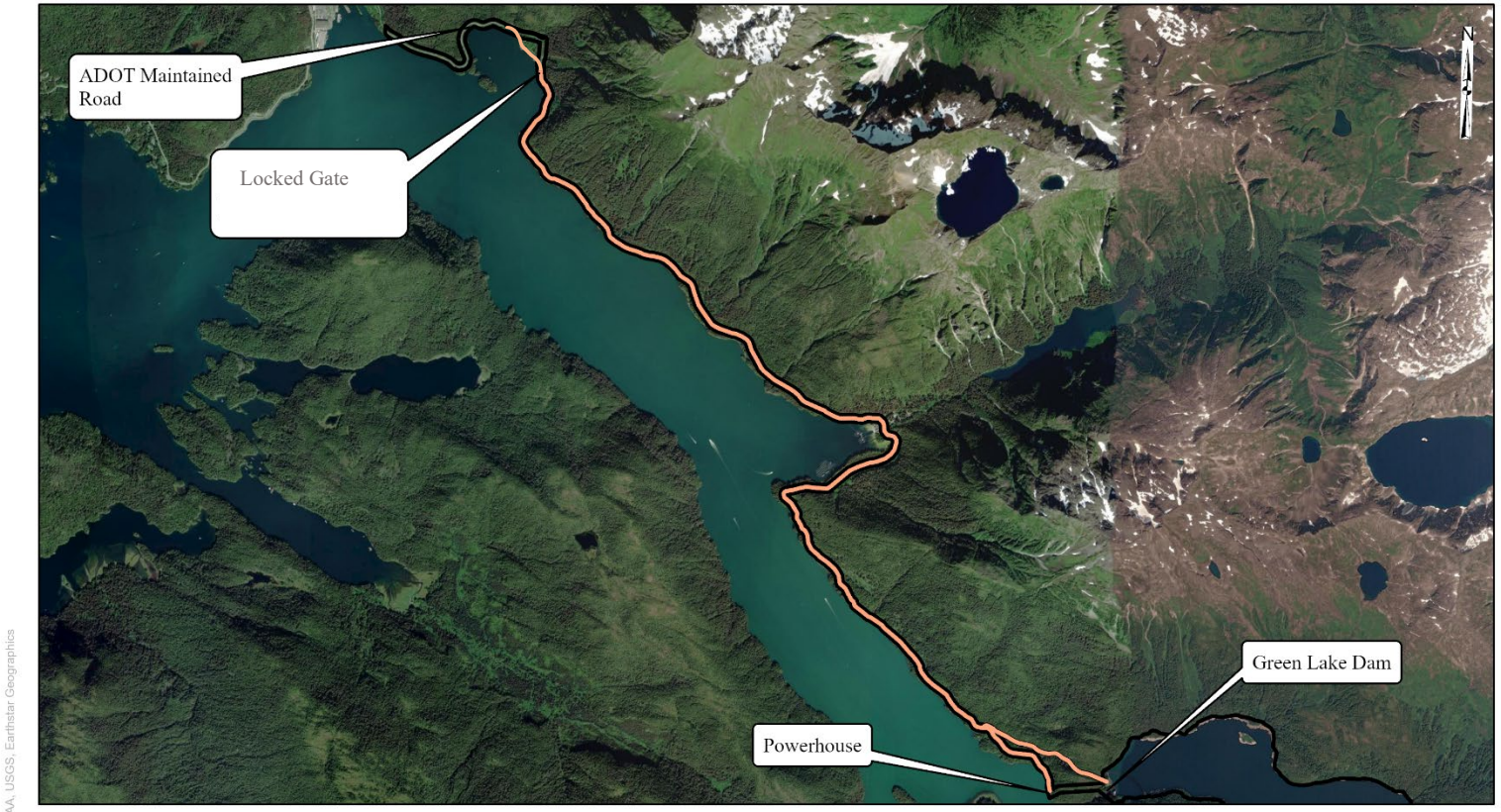

Figure 4-2. Geographic Setting for Access Road Water Crossing Study

Specific objectives of the study are the following:

- Identify and survey water crossing structures along the CBS-maintained portion of the Green Lake access road following the Forest Service Handbook (FSH) road condition survey protocol (USDA Forest Service 2000) and document any issues with the structures.
- Categorize the streams at each crossing structure along the CBS-maintained portion of the Green Lake access road following FSH protocols for determining stream value class and channel type. Document any resource concerns and potential site-specific mitigation measures.
- Determine flood flow frequencies for the frontal watersheds feeding the stream crossings with consideration for climate projections.
- Given the condition of the structures, stream characteristics, and projected flood flow frequencies, document considerations for maintenance and/or upgrades at each crossing structure along the CBS-maintained portion of the Green Lake access road.
- Build an inventory of the crossing structures along the CBS-maintained portion of the Green Lake access road, their stream features, and relevant notes and recommendations.

4.2.4 Relevant Resource Management Goals

The overarching resource management goal of the USFWS is to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people.

The USFWS has authority to request fish and wildlife resource studies related to this Project in accordance with provisions in the Federal Power Act (FPA, 16 U.S.C. § 791 et seq.), Fish and Wildlife Coordination Act (FWCA, 48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), Clean Water Act (CWA, 33 U.S.C. 1344), National Environmental Policy Act (NEPA) of 1969 (83 Stat. 852; 42 U.S.C. 4321 et seq.), Bald and Golden Eagle Protection Act (BGEPA) (54 Stat. 250, as amended, 16 U.S.C. 668a-d), and Migratory Bird Treaty Act (MBTA) (40 Stat. 755, as amended; 16 U.S.C. 703 et seq.).

Under Section 10(j) of the FPA, National Marine Fisheries Service (NMFS) and USFWS are authorized to recommend license conditions necessary to adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat) affected by the development, operation, and management of hydropower projects. Moreover, Section 10(a)(1) of the FPA requires FERC to condition hydropower licenses to best improve or develop a waterway or waterways for the adequate protection, mitigation, and

enhancement of fish and wildlife (including related spawning grounds and habitat) based on NMFS and USFWS recommendations and plans for affected waterways. Specific management goals are the protection of anadromous, trust fish species, and their habitats.

Consistent with their mission and with the legal authorities described above, the resource goal in this matter is to conserve existing fish and wildlife resources and their habitats along the CBS-maintained portion of the Green Lake access road and downstream to Silver Bay.

4.2.5 Existing Information and Need for Additional Information

ADFG maintains the Fish Passage Inventory Database (FPID; ADFG 2024), which contains data on over 2,500 stream crossings for fish passage, including five culvert structures along the CBS-maintained portion of the Green Lake access road. ADFG surveyed these five culverts in 2012 and recorded culvert and stream measurements; the reports for each culvert are available on the FPID. Updated information on the condition of these culverts and stream characteristics is needed to determine maintenance and/or upgrades needs. Additionally, there is no available information on culverts along the access road that have not been surveyed by ADFG.

Climate projections for southeast Alaska indicate that annual precipitation will continue to increase, and it is likely the increases will be driven by precipitation events of greater intensity (Lader et al. 2022). These changes could put stress on road infrastructure not designed for the magnitude and frequency of future flow levels. Additionally, alluvial fan channels are abundant in the Project area and present unique challenges for road maintenance and erosion control. Projected flood flow frequencies are needed to determine the adequacy of culvert structures along the CBS-maintained portion of the Green Lake access road.

4.2.6 Project Nexus

The access road is an important Project component. Road drainage, when not maintained, can lead to road failures during floods, contributing large volumes of sediment downslope, sometimes into streams. Culverts in alluvial fans are especially susceptible to clogging by bedload sediment and woody debris and may require accelerated maintenance schedules. When it is necessary to replace crossing structures in alluvial fans, new structures should accommodate climate-projected flow levels and any special measures necessary to stabilize road drainage.

This study will identify and survey current road crossings and determine their condition. This information will be used to inform a road maintenance strategy that minimizes impacts to water quality and aquatic habitat.

4.2.7 Methodology

For this study, CBS will use the USFWS recommended methodology for assessing the culvert structures, the FSH for road condition survey (USDA Forest Service 2000). For the stream value class and channel type components of the survey, CBS will use the USFWS recommended methodologies: Tier I protocol in the FSH – Aquatic Habitat Management (USDA Forest Service 2001) and the Region 10 Channel Type Revision (USDA Forest Service 2024). CBS will use USGS guidelines for estimating flood magnitude and frequency on ungaged sites on streams in Alaska to determine frequencies of flood flows for the frontal watersheds that feed stream crossings at the access road, with special consideration for climate projections (Curran et al. 2016), in conjunction with precipitation information from Lader et. al. 2022. The proposed methodology has been used by other agencies include ADFG and the U.S. Forest Service in southeast Alaska to inventory and assess extensive road systems.

The potential location of culverts along the access road will be identified using any existing databases CBS has as well as available Light Detection and Ranging (LiDAR) topography information to identify places where the access road crosses drainage valleys. The access road will then be surveyed in its entirety to visually identify and confirm the presence of the culverts. Locational information will be collected using the ArcGIS Field Maps application and the FSH survey protocols will be conducted for each culvert. ArcGIS Field Maps will be used to store the database of the culverts and will include the information collected during the condition assessment and flood frequency analysis.

4.2.8 Modification to Requested Study

In their study request, USFWS recommended using a different USGS guidance document for determining frequencies of flood flows (England et al. 2018 [2019]) than the one CBS proposed above in Section 4.2.7, Curran et al. (2016). The streams that cross the CBS-maintained portion of the Green Lake access road do not have stream gages, and the guidance document by England et al. (2018 [2019]) is aimed at larger watersheds and streams with gages. The guidance document by Curran et al. (2016) includes ungaged streams and is specific to streams in Alaska. CBS believes the guidance document by Curran et al. (2016) will provide more accurate estimates for the specific conditions along the CBS-maintained portion of the Green Lake access road. CBS discussed this proposed change in guidance document with USFWS in a virtual meeting on August 14, 2024. USFWS was supportive of this change.

Proposed Deliverables and Schedule

Spring/early summer 2025:

- Conduct field work for study

Winter 2025/2026:

- Document study results in the ISR

4.2.9 Level of Effort and Schedule

This study will be a single study season effort (2025). The estimated cost for this study is approximately $45,000.

4.3 Cultural Resources Study

Although OHA did not specifically request a study, FERC's ILP, under the FPA (16 USC § 791-828c) and its implementing regulations (18 CFR § 5.6 (d)(3)(x)), require the applicant to describe known cultural or historical resources within the proposed project and surrounding area. Relicensing is also considered a federal undertaking (36 CFR § 800.16(y)) under Section 106 of the National Historic Preservation Act (NHPA; formerly 16 USC § 470, now 54 USC § 300101 et seq.) and its implementing regulations (36 CFR § 800). Section 106 requires that possible effects of a federal undertaking on historic properties be assessed.

Historic properties are defined as any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places (National Register). Traditional cultural properties (TCPs) are a type of historic property eligible for the National Register because of their association with cultural practices or beliefs of a living community (Parker and King 1998).

With a May 2024 Notice of Intent to File License Application for a New License and Commencing Pre-filing Licensing Process, FERC designated "the City and Borough of Sitka as the Commission's non-federal representative for carrying out informal consultation, pursuant…section 106 of the National Historic Preservation Act." There will be continuing Section 106 consultation regarding the preliminary Area of Potential Effect (APE) and what actions are needed to complete a reasonable, good faith effort to identify historic properties. To facilitate this discussion, consulting parties will be provided an opportunity to review an analysis of the Project's anticipated needs of ongoing operation and maintenance.

4.3.1 General Description of Proposed Study

Although archaeological surveys have occurred for the Green Lake Project in the past, no formal cultural resources surveys have been conducted within the FERC Project Boundary for this relicensing proceeding. This study will review information on known historic properties in the APE, defined below under Geographic Scope (Section 4.3.2), and will support FERC's Section 106 consultation process. The consultation process will provide FERC with information from the Alaska State Historic Preservation Officer (SHPO), Native American tribes (Tribes), and the Advisory Council on Historic Preservation (ACHP), enabling informed management decisions.

CBS will acquire textual and digital Alaska Historic Resources Survey (AHRS) data for known sites in the general Project area for inclusion in their GIS system. A literature review of ethnographic, historical, and oral history data will identify cultural sites not yet listed in the AHRS. If possible, information from these additional sources will be transformed into data files for utilization in ArcGIS. GIS-compatible data files will also be obtained from repositories such as the Alaska State Geo-Spatial Data Clearinghouse.

Draft and final reports will be prepared that meet contemporary professional standards and follow OHA's Standards and Guidelines for investigating and reporting archaeological and historic properties in Alaska (Historic Preservation Series Number II) and the Secretary of Interior's Standards and Guidelines for Reports (FR Vol. 48, No. 190, pp. 44734-44737). The final report will include formal recommendations of National Register eligibility for FERC review, and subsequent review and concurrence by consulting parties. If needed, a Historic Properties Management Plan (HPMP) will be prepared for the Project.

The cultural resources study will also include an inventory and assessment of TCPs. The requirement for identification of TCPs is included in 54 USC 302102-302108, Protection of Historic Properties (Federal Register, Volume 65, Number 239, December 12, 2000). A TCP is eligible for inclusion in the National Register "because of its association with cultural practices or beliefs of a living community" (Parker and King 1990, 1). TCPs are historic properties and as such are subject to the same Section 106 process as other archaeological and historical sites. A TCP is a tangible property that meets one or more of the four basic criteria set forth in the National Register regulations (54 USC 100101). The APE for TCPs may be larger than the APE for archaeological and historical sites and include more of the general Project area.

4.3.2 Geographic Scope

Based on the current knowledge of the Project, the preliminary APE includes the lands enclosed by the existing FERC Project Boundary (Figure 4-3). Consultation may also identify

other lands or properties outside the FERC Project Boundary where continued Project operation or other Project-related activities may cause changes in the character or use of historic properties, if any historic properties exist.

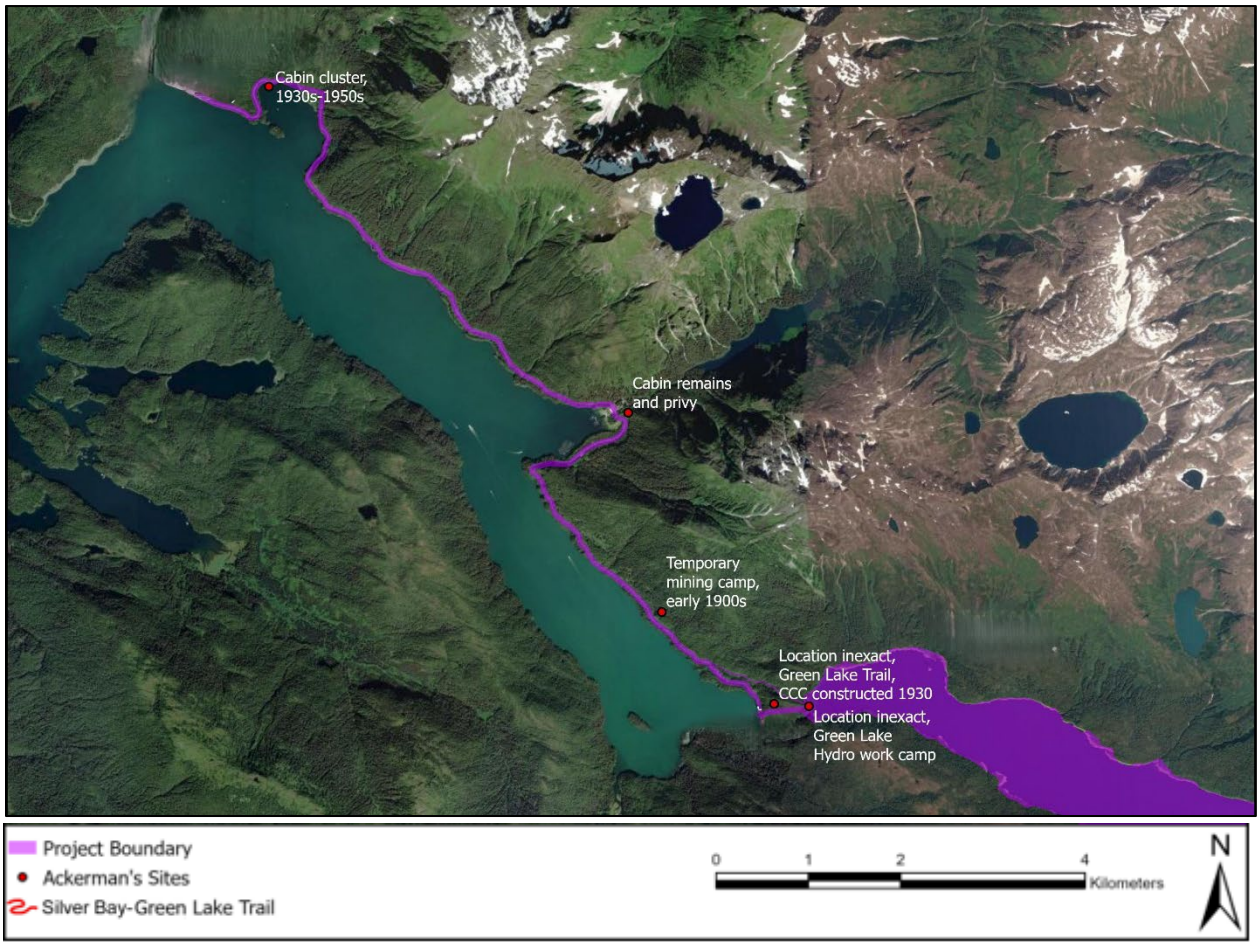

Figure 4-3. Preliminary Project APE (Project Boundary) and sites recorded by Robert Ackerman in 1977.

4.3.3 Study Goals and Objectives

The goal of the study is to comply with Section 106 of the NHPA through programmatic, ongoing consultation with the Alaska SHPO, Tribes, and other interested parties. A cultural resource study report will be produced that presents information relative to the scope and context of potential effects of the Project. This report will document known historic properties in the APE and present management recommendations in a technical report. This information will be used to analyze possible Project impacts and propose any necessary protection, mitigation, and enhancement measures in the relicensing license application for the Project.

4.3.4 Relevant Resource Management Goals

For hydropower licensing actions, FERC typically complies with Section 106 by entering into a Programmatic Agreement (PA) or Memorandum of Agreement (MOA) with the license applicant, the ACHP, and SHPO. This agreement is then incorporated by reference into the Project license when it is issued. Because it is not always possible for FERC to determine all the effects of various activities that may occur over the course of a license, the PA or MOA typically provides, and FERC may require as a license condition, that the licensee develop and implement a HPMP that includes consideration and appropriate management of effects on historic properties throughout the term of the license.

4.3.5 Existing Information and Need for Additional Information

The following information regarding cultural resources in the Green Lake (Tlingit: Gageit' Tá) Project area comes from the AHRS and the PAD. Since this is a public document, location information for cultural sites is intentionally vague in the following discussion.

4.3.5.1 Existing Discovery Measures

Three previous anthropological or archaeological studies have included the Project area. In 1946, Walter Goldschmidt and Theodore Haas (1998) interviewed Sitka Tlingit elders to evaluate Tribal possessory rights in the region based on land use prior to 1884. Their research was republished in book form in 1998.

In 1977, Robert Ackerman and Peter Mehringer from Washington State University carried out field investigations consisting of an extensive archaeological survey and interviews with local people about history and land use patterns in the proposed Project area. They conducted a 6-day ground survey of the Silver Bay shoreline from Herring Cove to the Green Lake outlet, the shoreline from Green Lake outlet to Salmon Lake outlet, the proposed powerhouse and damsite areas, both shores of Green Lake, and the valley bottom and slopes of the Vodopad River above Green Lake. Their survey included areas that could be impacted by construction of the access roads, the transmission line, an alternate section of the line, the substation, and the powerplant facilities, as well as lands that would be affected by the increased impoundment of Green Lake waters. Based on their survey, the investigators concluded that the Project “will not threaten significant archaeological sites. In fact, there appear to be few sites of even inconsequential archaeological value within the entire area” (Ackerman 1977, 25).

In 2005, Paul Rushmore (2005) with Wrangell Research Associates, interviewed Sitka Tribal members about traditional use of the Sawmill Creek area for relicensing of the Blue Lake Hydroelectric Project, which included traditional use of Herring Cove and Silver Bay. Adjacent to the Project area, U.S. Forest Service (USFS) archaeologist W. Mark McCallum (2010) visited

three mining sites in 2010 to evaluate their eligibility for listing on the National Register prior to mine entrance closure. The Sawmill Creek Road, also adjacent to the Project area, was surveyed and tested in 1983, 1993 (Kell 2012), 2003 (Mobley 2003), and 2009 to 2011 (Kell 2012). Charles Mobley's (2003) survey included interviews with people who lived along the road. USFS archaeologist Myra Gilliam documented the Sawmill Creek Campground (SIT-01073) in 2016. In 2017, Aubrey Morrison (Morrison and Yarborough 2017) documented historic structures in Sawmill Cove that were removed during a dock construction Project.

Limited additional information about Sitka people's early contact with traders and explorers is available in eighteenth and nineteenth century journals (e.g., De Armond 1978). Russian Missionary Ivan Veniaminov (1984 [1840]), U.S. Census agent Ivan Petrof (1884), and U.S. Navy Lieutenant George Thornton Emmons (1991) described the culture of Sitka and other Tlingit people during the nineteenth century.

Sealaska Corporation did not claim any lands in the Project area as part of the Alaska Native Claims Settlement Act of 1971. From 1988 to 1992, Herb Hope (2000) led interviews and expeditions to identify the route of the Sitka Kiks.ádi Survival March Trail (SIT-00778), which includes the mountain ridges overlooking Silver Bay.

4.3.5.2 Cultural Sites

Previously identified sites near the Project area, but outside the FERC Project Boundary, are associated with Sawmill Creek and Cove: Sawmill Creek Road bridge (SIT-00708) and campground (SIT-01073), the Alaska Pulp Mill administration building (SIT-00792) and dock remains (SIT-01074), and a subsurface road of crushed rock (SIT-00935) associated with the 1940s farm. All these AHRS sites have been found ineligible for listing on the National Register. The 1983 and 1993 Sawmill Creek Road surveys by other investigators identified bark-stripped yellow cedar along the road adjacent to the Project area, although no AHRS numbers were assigned (Kell 2012). Bob Sam said that every river between Whale Park and the mill behind Thimbleberry Lake used to have petroglyphs as survey markers, but they were moved to Sitka so they would not be vandalized (Rushmore 2005).

Ackerman (1977) investigated about a dozen standing cabins and cabin ruins in the Project area that were never assigned AHRS numbers (see Figure 4-3). The cabin in northwest Sawmill Cove, outside the FERC Project Boundary, was built in 1933 by Jack Calvin and burned down in 1964. A cabin in Herring Cove was built by Edwin M. Halverson as early as 1958. Other cabins in Herring Cove date as early as 1933 to the 1940s. Ackerman (1977) also documented then-modern cabin ruins in Bear Cove, a then-modern mining debris surface scatter at Point Rasal, and a cabin ruin and dock at the head of the trail to Green Lake, which was said to have been constructed in the late 1920s or early 1930s by Andrew Dixon for

mining. Ackerman (1977) also documented what he reported as a 1930s Civilian Conservation Corps (CCC) trail between Silver Bay and Green Lake (Figure 4-4), although CBS's research for this study plan suggests that this was a mining trail rather than one built by the CCC.

Although the Project area includes river mouths, the shores of sheltered bays, and lakeshores, Ackerman (1977) suggested that the steep slopes and lack of salmon streams would limit the size of archaeological sites, resulting in, at most, temporary campsites, like those documented during Ackerman's (1977) interviews.

The current hydroelectric facilities at Green Lake consist of the dam, reservoir, spillway, penstock, powerhouse, and transmission lines. Green Lake Dam is a concrete, double-curvature, variable-radius, arch dam. The dam was constructed in 1982 and will reach 50 years of age during the proposed relicensing period. The crest length of the dam is 461.6 feet, the height above the foundation is 228.4 feet, and the maximum base thickness is 23 feet. The power intake is 141 feet below the dam crest and is controlled by a vertical-lift headgate. The water conveyance has a short section of 8-foot-diameter steel penstock with two mechanical couplings. There is an initial steel-lined section that transitions to a 1,900-foot-long, 9-foot-diameter, reinforced concrete-lined power tunnel that conveys water downstream to the powerhouse. The tunnel bifurcates into two, steel-lined penstocks immediately upstream of the powerhouse.

The powerhouse is a reinforced-concrete structure located on the cove at the southeast end of Silver Bay and is not an integral component of the main dam structure. The building is 78 feet long and 48 feet wide and houses two turbine-generator units, each with an installed capacity of 9.27 MW (18.54 MW total). From the substation located adjacent to the Green Lake powerhouse, an overhead 69 kV transmission lines follow the Green Lake access road within a 200-foot-wide easement for approximately 9 miles to an interconnection at the Blue Lake powerhouse and substation (FERC No. 2230).

Other recorded sites include a mine adit and shoring (XPA-00355) south of the outlet of Green Lake. Also, William Hanlon, interviewed by Ackerman in 1977, identified a mine shaft, "Robert's Tunnel," dug in 1936, in the Project area, but Ackerman was unable to locate the site and concluded that it was likely not on the shore of Green Lake. Ethnologist John R. Swanton (1908, 453, in Emmons 1991, 421) wrote of a spirit that exists in the persistent winds out of Silver Bay.

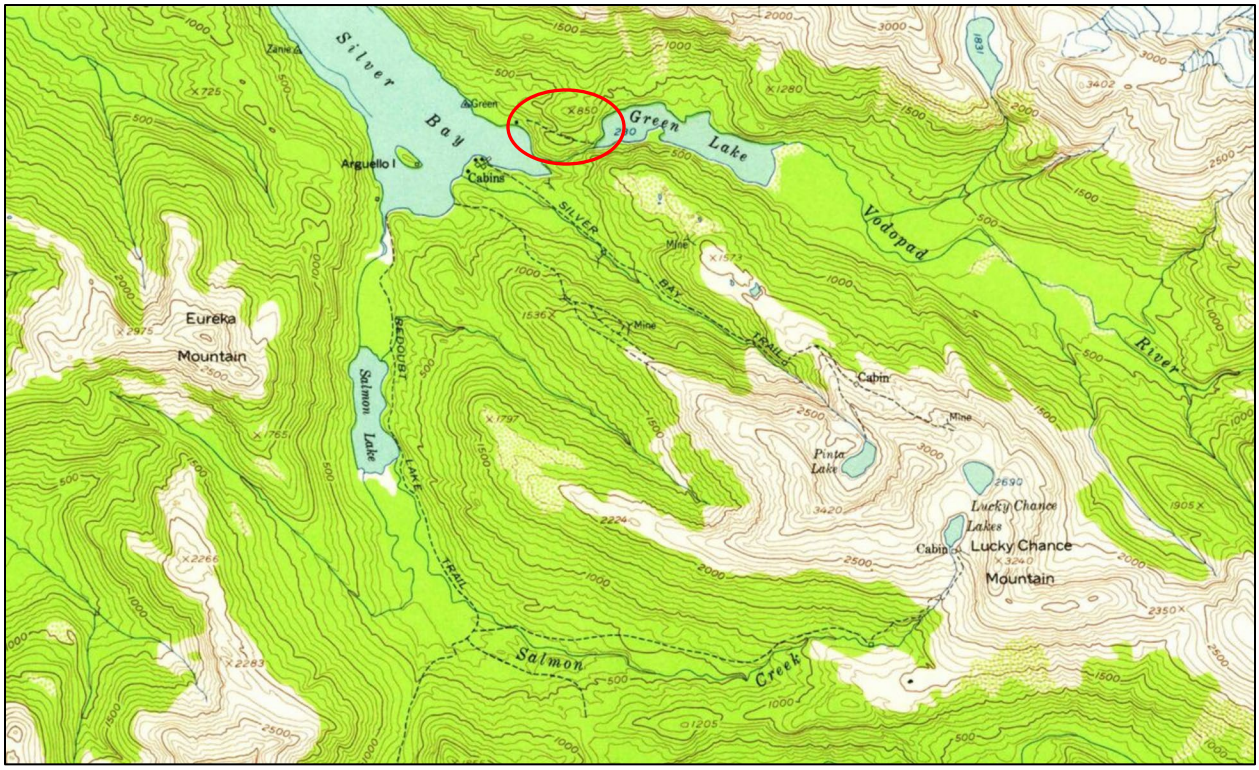

Figure 4-4. Northeastern portion of the 1951 Port Alexander (D-4) USGS map showing trails in the Green Lake area, including the trail to the lake from Silver Bay.

Sawmill Cove

A Russian mill, initially developed in 1845 in the Sawmill Cove area, located outside the FERC Project Boundary, was replaced by an American mill in 1882 (Kell 2012). In 1913, the cove was the site of W.P. and May Mills' hydroelectric generating station. In 1940, Edward Morke developed the mouth of Sawmill Creek into a farm called Sanitary Dairy, which included a road of crushed rock (SIT-00935). He sold the property in 1952 to John and Freda Van Hornin. The Van Hornins renamed the dairy Blue Lake Farms and operated it until the mid-1950s. Afterwards, the site was used by the Alaska Lumber and Pulp Company as a mill and hydroelectric power station. The property included the Alaska Pulp Mill administration building (SIT-00792) and dock remains (SIT-01074).

Most evidence of early historic use of Sawmill Cove has been destroyed by later development (Ackerman 1977). All AHRS sites in Sawmill Cove have been found ineligible for listing on the National Register. Investigations in 1983 and 1993 identified bark-stripped yellow cedar on Sawmill Road; although, no AHRS numbers were assigned (Kell 2012).

Silver Bay Village

In 2005, Bob Sam, who was born in 1953 and whose family had a trapline in the vicinity of Herring Cove, remembered the "main [Tlingit] village site was down in Herring Cove area," although there were "no smokehouses or anything" (Rushmore 2005:22). It is unclear whether he was remembering an archaeological site or a story of a village on the cove, as all known historic villages are much nearer to modern Sitka. Sam anticipated that a survey of the Blue Lake area would yield "pre-historic artifacts, like stones" (Rushmore 2005:23). The possible village location was outside Rushmore's (2005) project area, so it was not surveyed. While Ackerman (1977) identified cabin ruins during pedestrian survey in that area, he did not identify any subsurface archaeological sites.

Petrof (1884, 32) reported that 39 Tlingit people lived on Silver Bay in 1880. Although the 1883 and 1891 Coast Pilots, based on information collected sometime between 1865 and 1889, described Silver Bay in some detail, neither mentions a village on the bay. Rushmore (2005) believed that the reported village may have been near the Salmon Lake outlet, located outside the FERC Project Boundary, due to access to subsistence resources. George Lewis knew of a camp ruin with a smokehouse on a sockeye salmon stream on Silver Bay that an Indigenous man named Laacaeke had used to smoke fish prior to the mid-1940s (Goldschmidt and Haas 1998). Ackerman (1977) argued that this camp was likely at the outlet of Salmon Lake. The 1883 Coast Pilot (1883:144) records that of the two streams that enter the head of Silver Bay, "One which enters here from the south abounds in salmon and was formerly trapped at its mouth, where in the proper season the Russians had an establishment for the preparation of the fish for winter use."

Nearby Sites

Several AHRS sites have been identified near the Project area but outside the FERC Project Boundary, including the Sitka Dump (SIT-00649), the Sarvela Homestead garage (SIT-00651), and a renovated roadhouse (SIT-00653). All these sites have been found ineligible for listing on the National Register. An abandoned vessel (SIT-01006) has been partially submerged in the intertidal zone near the mouth of Silver Bay for at least 50 years, although it has not been evaluated.

Historical mines and prospects are common near the head of Silver Bay (Figure 4-5). Four sites on the shore of Silver Bay listed in the AHRS include the Liberty Mine (SIT-00796), Baranof Queen Mine (XPA-00071), Silver Bay sheer zone site (XPA-00072), and Golden Eagle Mine (XPA-00354). These sites have not been evaluated for National Register eligibility. The early 1900s temporary mining camp Ackerman (1977) identified could belong to either the Baranof Queen Mine or Silver Bay Prospect.

Other prospects near the APE, not listed in the AHRS, include the Silver Bay Prospect, the Patton Claim (see Figure 4-5), and the Gangola Prospect, between Herring and Bear coves. The latter was staked in 1970 (Berg and Grybeck 2005).

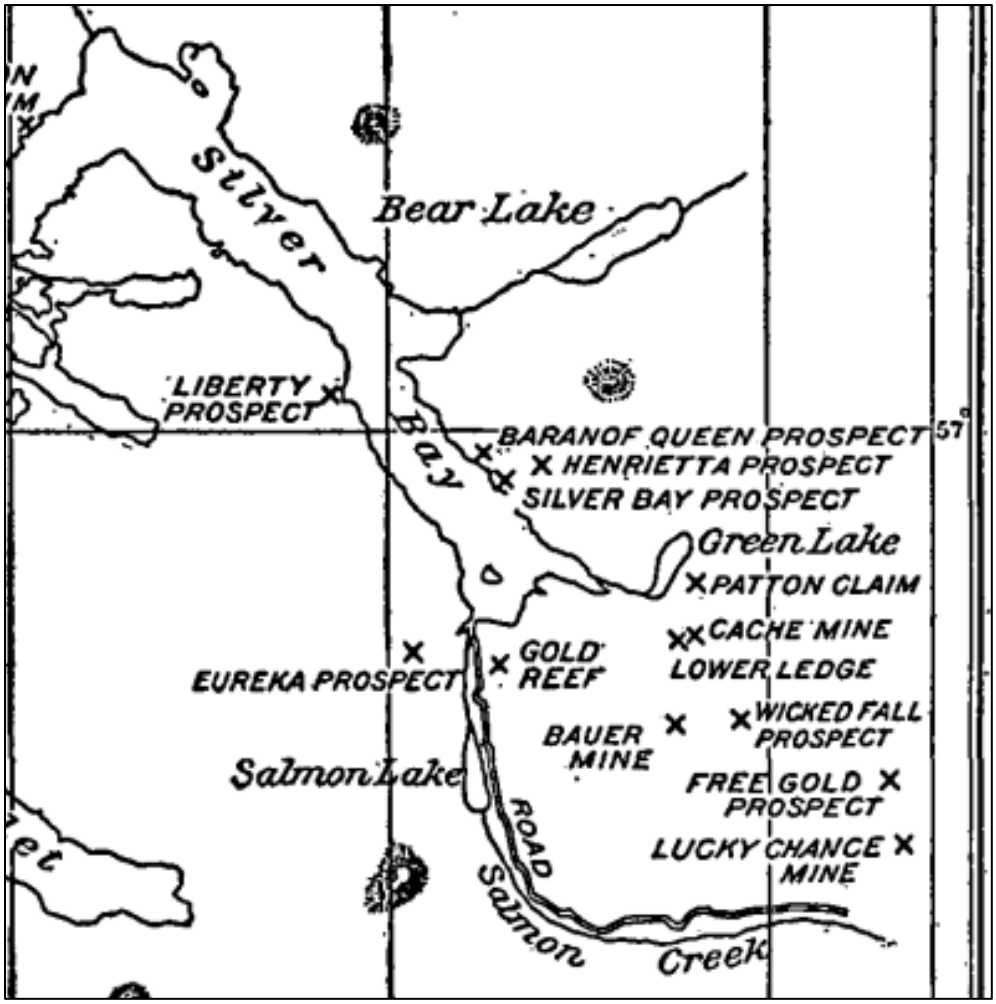

Figure 4-5. Mines near Silver Bay in 1912 (Knopf 1912: Figure 4).

The 1889 Coast Pilot (1889:173) recorded a wagon road built from the head of Silver Bay to Lucky Chance Mine, about a mile up the mountain (see Figure 4-5). By 1951, the corduroy road (Sitka Trail Works 2014) followed part of the Redoubt/Salmon Lake Trail, although by then several trails connected Silver Bay and the Lucky Chance Mine on USGS topographic maps.

4.3.5.3 Tribes That May Attach Cultural Significance to Historic Properties

Indigenous groups that may attach religious or cultural significance to historic properties in the Project vicinity include the Sitka Tribe of Alaska, Shee Atika, Inc., and Sealaska Corporation. Although no Traditional Cultural Properties have been identified in the Project area, the Sitka

Kiks.ádi Survival March Trail (SIT-00778) includes the mountain ridge overlooking Silver Bay from the northwest. The site was found ineligible for the National Register in 1996 because investigators could not define an exact route. The Sitka Tribe challenged the finding in court (Hoonah Indian Association v. Morrison 1998) and subsequently nominated the site for listing on the National Register. The nomination is still pending.

4.3.6 Project Nexus

This study plan is intended to provide sufficient information regarding the nature of historic properties located in the APE so that potential effects of continued operation of the Project can be adequately assessed. Findings of Effect on historic properties in the APE will be included in the study report and reviewed with consulting parties. Study information will aid in developing measures to be proposed in the draft and final relicensing applications to protect or minimize any adverse effects on historic properties. The Section 106 compliance study will establish a consultation process that ensures that the Project remains in compliance with Section 106 throughout the life of the license.

4.3.7 Methodology

Much of the research and identification of cultural resources will follow the steps of the Section 106 process as outlined in 54 U.S.C.§ 36108. CBS, or their representative, will be responsible for:

- responding to Project notifications;
- attending meetings;
- conducting an in-depth literature review to identify known cultural resources within the Project study area;
- assisting in determining an APE;
- consulting with Tribes, local entities, and state and federal agencies;
- completing appropriate analyses; and
- preparing reports and other documents.

All services and products developed during the cultural resources study process will meet industry standards, largely codified in the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation, National Register Bulletins, and the OHA Historic Preservation Series.

Methods for completing environmental documentation will include the following:

- A review of existing information to identify and document known historic properties located within the defined APE
- Draft and final reports, including any necessary determinations of eligibility and recommendations related to potential effects of the Project
- Completion of an HPMP, if needed

The need for any field activities will be determined after an evaluation of the relationship between known significant cultural resources in the APE and the needs of ongoing Project operation and maintenance. The nature and extent of a survey would be contingent on the level of documentation needed to support the Project moving forward. Although subject to a thorough ethnographic and pedestrian survey, the Project area has not been surveyed since 1977 (Ackerman 1977). All the cabins, cabin ruins, and historic debris scatters Ackerman reported were evaluated over 40 years ago.

Other issues pertaining to cultural resources include the National Register eligibility of the Green Lake Dam and the other Project facilities. The Silver Bay-Green Lake Trail has also not been evaluated for the National Register eligibility. Ackerman's description of the trail seems to reflect the generally prevailing attitude of the time toward early twentieth century historic trails:

> While not exactly of concern in terms of historic cultural values, the scenic value of the trail constructed by the Civilian Conservation Corps in the 1930s to Green Lake should be considered. The access roads will cross this trail at two points. I am unaware of plans that are being considered in terms of the recreational value of the Green Lake Dam, but the trail itself is quite spectacular. Preservation of the trail should be considered in the land use plan (Ackerman 1977, 20).

Although the trail may not have been a CCC project as Ackerman (1977:20) suggested, it is nonetheless old enough to be considered historic and evaluated for National Register eligibility.

The cultural resources study will be accomplished or supervised by personnel who meet the Secretary of the Interior's Professional Qualification Standards (48 FR 4473 - 44739). CBS will comply with applicable laws and regulations, will follow the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716-18), and will comply with the identification and testing procedures presented in the Guidelines for Evaluating and Registering Archaeological Properties (Little et al. 2000). Reports will meet contemporary professional standards and will follow OHA's Standards and Guidelines for

investigating and reporting archaeological and historic properties in Alaska (Historic Preservation Series Number 11) and the Secretary of Interior's Standards and Guidelines for Reports (FR Vol. 48, No. 190, pp. 44734-44737). A completed OHA Cultural Resources Report Coversheet will be submitted with each report.

Archaeological and historic resources identified during previous anthropological or archaeological studies will be referenced to the Project plans and include GPS coordinates and, if they do not already have one, assign an AHRS number from the OHA. CBS will complete sufficient investigation and research on identified sites within the FERC Project Boundary that could be potentially affected by continued operation of the Project. This will support any needed recommendations of National Register eligibility, which will be submitted to the SHPO for concurrence.

CBS has received a delegation of informal consultation authority from FERC. In keeping with the Advisory Council on Historic Preservation Policy Statement on Indigenous Knowledge and Historic Preservation, FERC and CBS will actively engage with Alaska Native entities early and often to inform environmental review and eventual decision-making. FERC will also directly consult with the interested Alaska Native entities, including federally recognized tribes, regarding culturally sensitive topics such as sacred areas, traditional cultural places, and subsistence.

Consultation with Tribal governments, Native organizations, the SHPO, and other interested parties was initiated in 2024 and will continue throughout the duration of the relicensing process. Entities engaged as consulting parties pursuant to Section 106 of the NHPA will include the Sitka Tribe of Alaska, Shee Atika, Inc., Sealaska Corporation. Central Council of the Tlingit & Haida Indian Tribes, Organized Village of Kake, Angoon Community Association, Sitka Historic Preservation Commission, and Sealaska Heritage Institute.

4.3.8 Proposed Deliverables and Schedule

Winter 2025:

- Hold consultation meetings as appropriate, including consultation on the APE and TCPs.
- Perform additional literature review.
- Send letters to consulting parties.
- Review background information and research.
- Hold additional consultation meetings to discuss Project and address additional concerns as appropriate.

Spring/summer 2025:

- Complete the study season.

Spring 2026:

- Provide an Initial Study Report.

4.3.9 Level of Effort and Cost

It is estimated that the Section 106 compliance study will cost approximately $75,000 to $150,000. A range of costs is provided because it is yet uncertain to what extent the Project has the potential to impact significant cultural resources. FERC uses standardized Programmatic Agreement formats to implement HPMPs that require little negotiation or alteration prior to execution.

5.0 Study Schedule and Process

CBS intends to conduct the studies outlined in Section 4.0 during the 2025 field season, although the recreation study will extend into 2026 to capture a full year of data. The estimated start and completion dates for the field efforts associated with the proposed studies are provided in Table 5-1. Study progress reports will be filed with FERC halfway through the study season (i.e., approximately August 2025).

The ISR is scheduled for preparation following the 2025 field season and will be issued no later than one year following FERC's Study Plan Determination (SPD), which is anticipated February 4, 2025. CBS will schedule the ISR meeting once the date for the availability of the ISR is known. Using the schedule in the SD1, CBS anticipates that the ISR will be available by February 4, 2026, and the ISR meeting will occur in late February 2026. CBS will file an Updated Study Report (year two studies, if necessary) within the time limits provided in 18 CFR § 5.15(f) as detailed in FERC's process plan and schedule currently published in SD1. It is notable that given the limited impacts associated with the continued operation of this Project and the minimal areas identified from stakeholders, the potential exists for a single study season in 2025, except for the recreation study, which will extend into 2026 to capture a full year of data.

Table 5-1. Estimated Start and Completion Field Dates for Proposed Studies

Proposed Study	Estimated Start Date	Estimated Completion Date
Recreation Study	May 2025	May 2026
Access Road Water Crossing Study	April 2025	May 2025
Cultural Resources Study	June 2025	September 2025

6.0 References

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Appendix A. Proposed Study Plan Comment Letters

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The Alaska State Historic Preservation Office (AK SHPO) recommends expanding the entities engaged as consulting parties pursuant to Section 106 of the National Historic Preservation Act. Preliminary review suggests consideration of the Central Council of the Tlingit & Haida Indian Tribes, the Organized Village of Kake, Angoon Community Association, the Sitka Historic Preservation Commission, and the Sealaska Heritage Institute.

In keeping with the Advisory Council on Historic Preservation Policy Statement on Indigenous Knowledge and Historic Preservation, we encourage FERC and CBS to actively engage with Alaska Native entities early and often to inform environmental review and eventual decision-making. We also recommend that FERC directly consults with the interested Alaska Native entities, including federally recognized tribes, regarding culturally sensitive topics such as sacred areas, traditional cultural places, and subsistence.

We look forward to continuing Section 106 consultation regarding the area of potential effects and what actions will be needed to complete a reasonable, good faith effort to identify historic properties. To facilitate consultation, we recommend providing consulting parties an opportunity to review the analysis of the project's anticipated needs of ongoing operation and maintenance and corresponding preliminary area of potential effects consistent with 36 CFR 800.4.

FEDERAL ENERGY REGULATORY COMMISSION
Washington, DC 20426
November 25, 2024

OFFICE OF ENERGY PROJECTS

Project No. 2818-025 – Alaska
Green Lake Hydroelectric Project
City and Borough of Sitka, Alaska

VIA FERC Service

Kord Christianson
City and Borough of Sitka
Project & Regulatory Engineer
105 Jarvis Street, Sitka, Alaska 99835

Reference: Comments on Proposed Study Plan

Dear Mr. Christianson:

After reviewing the Green Lake Hydroelectric Project's Proposed Study Plan (PSP) submitted on September 6, 2024 and attending the proposed study plan meeting held on October 3, 2024, we have comments on some of the proposed studies (enclosed in Schedule A). Please provide the requested information in your revised study plan, which must be filed by January 5, 2025.

The Commission strongly encourages electronic filing. Please file the requested information using the Commission's eFiling system at https://ferconline.ferc.gov/eFiling.aspx. For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov, (866) 208-3676, or for TTY, contact (202) 502-8659. In lieu of electronic filing, you may submit a paper copy. Submissions sent via the U.S. Postal Service must be addressed to: Debbie-Anne A. Reese, Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Room 1A, Washington, DC 20426. Submissions sent via any other carrier must be addressed to: Debbie-Anne A. Reese, Secretary, Federal Energy Regulatory Commission, 12225 Wilkins Avenue, Rockville, Maryland 20852.

If you have any questions regarding this letter, please contact Jeffrey Ackley at Jeffrey.ackley@ferc.gov.

Sincerely,

David Turner, Chief Northwest Branch
Division of Hydropower Licensing

Enclosure: Schedule A – Staff Comments on Proposed Study Plan

Schedule A – Staff Comments on Proposed Study Plan

Recreation Use Study

1. Section 4.1.5 of the proposed study plan states that additional information is needed regarding, "understanding the extent of subsistence activities in the FERC project boundary and surrounding area," yet nowhere in the study plan do you explain how that information is going to be collected. Please revise the study plan to include the relevant methodology and an understanding of subsistence activities as a goal and objective for this study.

2. Appendix D of the proposed study plan includes a sample on-site survey instrument. The survey instrument includes various recreation activities for participants to choose from. Some of the recreation activities included are "berry picking", "fishing", and "harvesting/foraging wild plants" but there is no way to distinguish if these activities would be chosen for pleasure/recreation or for subsistence. Please revise the study plan to distinguish between potential motivations for the activities provided.

3. Section 4.1.7 of the proposed study plan states that data collection will consist of "intercept and self-selection surveys" yet nowhere in the study plan are the self-selection surveys described. Please revise the study plan to include a description of the methodology proposed for the self-selection surveys and clarify if the survey content will differ between self-selection and intercept surveys.

4. Please clarify if a trail camera will be located at the Herring Cove-Beaver Lake trailhead parking lot. If you do not propose to install at trail camera at this location, please explain why.

Cultural Resources

5. In comments on the PSP, the Alaska State Historic Preservation Office recommended expanding the entities engaged as consulting parties to include the Sitka Historic Preservation Commission and the Sealaska Heritage Institute.[1] It appears that these entities may have relevant information concerning archaeological sites, burial sites, existing historic properties, subsistence concerns, and sites of religious or cultural importance in the project area and the potential impact of the project on these resources. We remind you that you should either include these entities in your consultation efforts or explain why you have not done so.

[1] FERC eLibrary Accession No. 20241003-5165

THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Fish and Game

Division of Sport Fish
Research & Technical Services

333 Raspberry Road
Anchorage, Alaska 99518-1565
Main: 907.267.2100

November 27, 2024

Kord Christianson, Project & Regulatory Manager
City and Borough of Sitka
105 Jarvis Street
Sitka, AK 99835

Subject: Green Lake Hydroelectric Project (P-2818-025)
Comments on Proposed Study Plan Document

Dear Mr. Christianson:

On September 7, 2024, the City and Borough of Sitka, Alaska (CBS) filed a Proposed Study Plan Document (PSP) with the Federal Energy Regulatory Commission (FERC) for the Green Lake Hydroelectric Project (FERC No. 2818) and solicited stakeholder comments for the Project's relicensing.

Alaska Department of Fish and Game staff have reviewed the PSP and has no comments.

If you have any questions, please contact me at ann.larquier@alaska.gov or (907) 267-2311. Thank you for your consideration.

Sincerely,

Ann Marie Larquier

Ann Marie Larquier
FERC Hydropower Coordinator
Alaska Department of Fish and Game
(907) 267-2311

Cc: J. Klein, ADF&G
T. Tydingco, ADF&G
G. Albrecht, ADF&G
A. Dupuis, ADF&G
J. Wieliczkiewicz, ADF&G
S. Bethune, ADF&G
L. Sill, ADF&G
J. Ackley, FERC
E. Lack, McMillen
C. Mahara, USFWS
J. Rosset, NMFS

Appendix B. Comment/Response Matrix

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Green Lake Proposed Study Plan Comment-Response Table

Comment #	Agency/Interested Party	Proposed Study Plan Section (Page) *"Text"*	Comment	Response
Recreation Use Study				
1	FERC	Section 4.1.5 (page 10) "*Understanding the extent of subsistence activities in the FERC project boundary and surrounding area"*	Section 4.1.5 of the proposed study plan states that additional information is needed regarding, "understanding the extent of subsistence activities in the FERC project boundary and surrounding area," yet nowhere in the study plan do you explain how that information is going to be collected. Please revise the study plan to include the relevant methodology and an understanding of subsistence activities as a goal and objective for this study.	The goal in section 4.1.5 has been modified for clarity to read: "Understanding the extent of subsistence activities in the FERC project boundary and surrounding area to distinguish between visits for subsistence purpose from recreational purpose." Section 4.1.7.2 under the heading "Visitor Surveys" has added clarification on how this topic will be measured: "Surveys will ask about the purpose of each visit to distinguish between recreation visits and non-recreation visits, asking specifically about subsistence activities that may be hard to distinguish from recreation by other means of observation (e.g., hunting, trapping, and foraging)."
2	FERC	Appendix D	Appendix D of the proposed study plan includes a sample on-site survey instrument. The survey instrument includes various recreation activities for participants to choose from. Some of the recreation activities included are "berry picking", "fishing", and "harvesting/foraging wild plants" but there is no way to distinguish if these activities would be chosen for pleasure/recreation or for subsistence. Please revise the study plan to distinguish between potential motivations for the activities provided.	The draft/example survey instrument has been modified to ask respondents to indicate the purpose of each activity participated in (survey page 4): "*If the purpose of this activity is primarily for SUBSISTENCE, write "S" in the appropriate box. "Subsistence" includes activities that require harvesting wild game, plants, and materials for survival at a minimum level."
3	FERC	Section 4.1.7 (page 11) "*intercept and self-selection surveys"*	Section 4.1.7 of the proposed study plan states that data collection will consist of "intercept and self-selection surveys" yet nowhere in the study plan are the self-selection surveys described. Please revise the study plan to include a description of the methodology proposed for the self-selection surveys and clarify if the survey content will differ between self-selection and intercept surveys.	A description of self-select surveys and their methods has been added in section 4.1.7.2. under the heading "Visitor Surveys" and subheading "Visitor Self-Select Surveys." The introduction under "Visitor Surveys" explains that "Both sampling methods [(On-site intercept and self-select)] will utilize the same or very similar survey instruments and collect the same information."
4	FERC	General	Please clarify if a trail camera will be located at the Herring Cove-Beaver Lake trailhead parking lot. If you do not propose to install at trail camera at this location, please explain why.	To measure traffic at Hering Cove, a pneumatic vehicle counter is recommended to simplify data analysis and correlate vehicle count findings with staff trailhead vehicle counts and data from the infrared trail counter already installed by Parks & Recreation on the Beaver Lake trail. A trail camera is instead proposed slightly farther down the road, past the locked gate where vehicles traffic is prohibited. This will make better use of the camera to capture mode of travel and group size.
Cultural Resources Study				
5	AK SHPO	General	The Alaska State Historic Preservation Office (AK SHPO) recommends expanding the entities engaged as consulting parties pursuant to Section 106 of the National Historic Preservation Act. Preliminary review suggests consideration of the Central Council of the Tlingit & Haida Indian Tribes, the Organized Village of Kake, Angoon Community Association, the Sitka Historic Preservation Commission, and the Sealaska Heritage Institute. In keeping with the Advisory Council on Historic Preservation Policy Statement on Indigenous Knowledge and Historic Preservation, we encourage FERC and CBS to actively engage with Alaska Native entities early and often to inform environmental review and eventual decision-making. We also recommend that FERC directly consults with the interested Alaska Native entities, including federally recognized tribes, regarding culturally sensitive topics such as sacred areas, traditional cultural places, and subsistence.	Per your recommendation, CBS has expanded the entities engaged as consulting parties to include the Central Council of the Tlingit & Haida Indian Tribes, the Organized Village of Kake, Angoon Community Association, the Sitka Historic Preservation Commission, and the Sealaska Heritage Institute. These entities have been included on the distribution list and will be included in all correspondence going forward on this project. FERC included the Central Council of the Tlingit & Haida Indian Tribes, the Organized Village of Kake, and Angoon Community in their Initial Consultation with Tribes for the Green Lake Hydroelectric Project.

Green Lake Proposed Study Plan Comment-Response Table

Comment #	Agency/Interested Party	Proposed Study Plan Section (Page) *"Text"*	Comment	Response
6	AK SHPO	General	We look forward to continuing Section 106 consultation regarding the area of potential effects and what actions will be needed to complete a reasonable, good faith effort to identify historic properties. To facilitate consultation, we recommend providing consulting parties an opportunity to review the analysis of the project's anticipated needs of ongoing operation and maintenance and corresponding preliminary area of potential effects consistent with 36 CFR 800.4.	Consulting parties will be provided an opportunity to review an analysis of the project's anticipated needs of ongoing operation and mainteneance (see Section 4.3).
7	FERC	General	In comments on the PSP, the Alaska State Historic Preservation Office recommended expanding the entities engaged as consulting parties to include the Sitka Historic Preservation Commission and the Sealaska Heritage Institute. It appears that these entities may have relevant information concerning archaeological sites, burial sites, existing historic properties, subsistence concerns, and sites of religious or cultural importance in the project area and the potential impact of the project on these resources. We remind you that you should either include these entities in your consultation efforts or explain why you have not done so.	See response to comment #5.

Appendix C. Revised Pre-Application Document Table 4-14 and Figure 4-31

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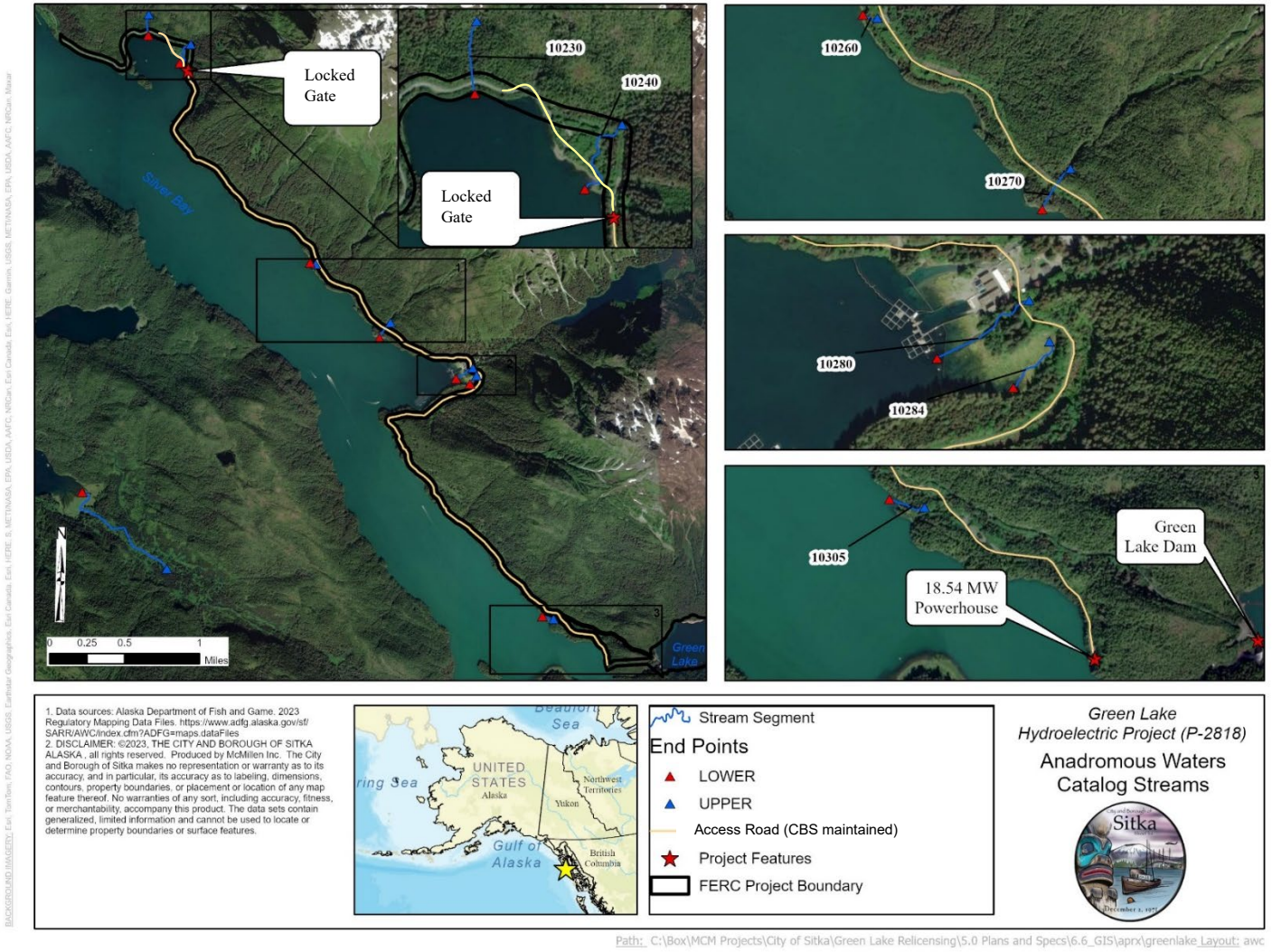
Revised PAD Table 4-14. Anadromous Water Catalog Designated Streams in the Vicinity of the FERC Project Boundary

AWC Stream #	Name	Length (ft)	Confluence	Species Observations	Life Stage	Crossed by CBS-maintained portion of access road?	Crossed by FERC Project Boundary?
113-41-10305	Unnamed	400	Silver Bay	Coho Salmon	Rearing	No	No
113-41-10284	Unnamed	370	Bear Cove	Chum, Coho, Pink Salmon; Dolly Varden	Present, Rearing	No	No
113-41-10280	South Fork Medvejie Creek	400	Bear Cove	Chum, Coho, Pink Salmon; Dolly Varden	Present, Rearing	Yes	Yes
113-41-10270	Unnamed	650	Silver Bay	Chum, Coho, Pink	Present	Yes	Yes
113-41-10260	Unnamed	250	Silver Bay	Chum, Coho, Pink	Rearing	No	Yes
113-41-10240	Unnamed	317	Herring Cove	Chum, Pink	Present, Rearing	Yes	Yes
113-41-10230	Unnamed	232	Herring Cove	Dolly Varden	Present	No	Yes



Revised PAD Figure 4-31. Anadromous Waters Catalog Streams

Appendix D. Study Requests Filed with FERC

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FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426
July 16, 2024

OFFICE OF ENERGY PROJECTS

Project No. 2818-025—Alaska
Green Lake Hydroelectric Project
City and Borough of Sitka, Alaska

Mr. Kord Christianson
Electric Department
City and Borough of Sitka, Alaska
105 Jarvis Street
Sitka, AK 99835

VIA FERC Service

Reference: Staff Study Request

Dear Mr. Christianson:

Based on the Green Lake Hydroelectric Project Pre-Application Document, we request that the City and Borough of Sitka, Alaska (CBS) conduct the recreation study described in the attached schedule A.

If you have any questions, please contact Jeffrey Ackley at Jeffrey.Ackley@ferc.gov.

Sincerely,

David Turner, Chief
Northwest Branch

Enclosures: Schedule A

Schedule A

Study Request

We are requesting the following recreation study. We support this request based on the study criterion in section 5.9 of the Commission's regulations.

Recreation Use and Facility Assessment Study

§5.9(b)(1) – *Describe the goals and objectives of each study proposal and the information to be obtained.*

The goal of the study is to describe existing recreation facilities, describe their recreational use and capacity, determine if existing facilities are meeting user needs, and estimate future demand at the project. The objectives of this study are to:

1) Inventory and map the existing project recreation sites within the project boundary, including amenities;

2) Identify who owns, operates, and maintains each recreation site;

3) Evaluate the condition of the recreation sites and facilities; and

4) Estimate current recreation use and project use capacity at each project recreation site; and

5) Identify potential measures to enhance recreation opportunities, if necessary.

§5.9(b)(2) – *If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied.*

Not applicable.

§5.9(b)(3) – *if the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study.*

Sections 4(e) and 10(a) of the FPA require the Commission to give equal consideration to all uses of the waterway on which a project is located, and what conditions should be placed on any license that may be issued. In making its license decision, the Commission must equally consider the environmental, recreational, fish and

wildlife, and other non-developmental values of the project, as well as power and developmental values.

The Green Lake Project provides public recreation opportunities, and the Commission encourages its licensees to provide public recreation where it is compatible with project operation. To evaluate whether the project facilities are meeting existing recreation needs and to balance those needs with their costs, a recreation study that evaluates the existing and projected future use is relevant to the Commission's public interest determination.

§5.9(b)(1) – *Describe existing information concerning the subject of the study proposal, and the need for additional information.*

In the Preliminary Application Document (PAD), CBS provides a brief discussion of recreation in the surrounding area and at the project. The recreational facilities mentioned in the PAD are the Green Lake barge landing and the Green Lake Access Road. However, article 39 of the license required revising the Recreation Plan to include the development of a parking area and visitor kiosk/user register at the main gate, a visitor kiosk/user register at the barge landing, modification of the main access road gate to allow for bicycle access, and project signage. Based on the environmental compliance inspection conducted on August 3, 2009, Commission staff found the kiosk/visitor register at the main gate and parking area to be heavily vandalized and required a plan and schedule for installing a new Part 8 sign at the main gate to be filed by December 16, 2009; however, no plan was filed. It is unclear whether CBS has installed all the required recreation signs and kiosks. Further, because the PAD does not list these facilities as project recreation facilities it is not clear who maintains these facilities. The PAD suggests that recreation demand is increasing in the greater Sika area, including new uses such as the use of e-bikes. Apparently, no recent recreation use studies have been completed in the area. Therefore, we cannot tell whether project facilities are meeting current recreation needs, such as parking.

A recreation study that identifies existing facilities, their condition, their current use and expected use would assist staff in determining if recreation enhancements, if any, are warranted at the project.

§5.9(b)(1) - *Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements.*

Recreation is a recognized project purpose under section 10(a) of the FPA. Project operation can affect recreation access. Understanding what recreation facilities are there

now, how they are being used, who is maintaining those facilities, and their relationship to project land and waters would inform whether additional measures are warranted to meet project existing and future recreation needs.

§5.9(b)(6) – *Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge.*

The recreation study should consist of a facility inventory, a recreation user survey of visitors at project recreation sites, and spot counts.

Facility Inventory

The recreation inventory should: (1) map the location of facilities in relation to the project boundary; (2) describe the amenities provided at each facility; (3) describe the condition of the facility/amenity and parking capacity; (4) identify whether the facility is a project or non-project recreation facility; (5) determine the entity responsible for the operation and maintenance of each facility; (6) describe the hours/seasons of operation and; (7) document the facilities with photographs.

In-Person User Survey and Spot Counts

In-person user surveys and spot counts should also be conducted at the main gate parking area and the barge landing area.

Data collection should last for at least two hours per site on each day. The spot counts should record the number of users observed at the site on each day and should be conducted on at least four (4) days per month which should include two (2) randomly selected weekdays and two (2) randomly selected weekend days. If a month contains a three-day holiday weekend, one (1) day per holiday weekend should be included in addition to the standard survey days. A schedule should be developed for the distribution of the recreation use surveys and should occur during the recreation season.

The recreation user survey should be administered to users to gain opinions regarding the existing project recreation facilities and opportunities. The survey should record the number of people in a party, their primary reason (recreational activity and location) for visiting the project (if at all), their perception of level of use, and their opinions regarding the amount, condition, and types of recreation opportunities offered within the project area and any potential need for new opportunities/facilities.

Report Preparation

CBS should prepare a report that includes information and results on the facility inventory, user surveys, and spot counts. The report should include a determination of the percent of the site's capacity that is currently being utilized and the collected information should be used to project changes to project recreation demand over the term of any new license, if issued. Other information, including details on surrounding recreational use and demand within the project vicinity (e.g., e-bike use) would help inform what opportunities exist and may be needed in the project area.

§5.9(b)(7) – *Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.*

The anticipated cost for the recreation use and facility assessment survey is estimated to be about $60,000.

United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE
Southern Alaska Fish and Wildlife Field Office
Anchorage Fish and Wildlife Conservation Office
4700 BLM Road
Anchorage, Alaska 99507

In Reply Refer to:
FWS/R7/SAFWFO

Mr. Kord Christianson
Project and Regulatory Manager
City and Borough of Sitka
105 Jarvis Street
Sitka, Alaska 99835

Subject: Study Request and Comments on the Pre-Application Document for the Green Lake Hydroelectric Project (P-2818-025), Service File Number 2024-0119884

Dear Mr. Christianson,

Thank you for your Notice of Intent and Pre-Application Document (PAD) for Green Lake Hydroelectric Project (Federal Energy Regulatory Commission [FERC] project number 2818), which were filed with FERC on March 25, 2024, and for the agency meeting and site visit on June 12, 2024. The U.S. Fish and Wildlife Service has reviewed the PAD and submits the enclosed study request.

We appreciate the opportunity to comment on the PAD and request studies. For more information or if you have any questions, please contact Senior Fish and Wildlife Biologist Ecological Services, Ms. Carol Mahara at (907) 280-9751 or at carol_mahara@fws.gov and reference Service file number 2024-0119884.

Sincerely,

Acting for:
Douglass M. Cooper
Branch Chief, Ecological Services

Enclosure

Study Request: Access Road Water Crossing Assessment

A baseline inventory and assessment of stream crossing structures along the Green Lake access road is important for understanding the current road condition, and developing a long-term maintenance strategy that considers projected precipitation levels and stream processes to minimize the road's adverse impacts on water quality and aquatic habitat. The subsequent strategy may identify crossings in need of more frequent maintenance and/or eventual upgrades.

Goals and Objectives

§5.9(b)(1) — Describe the goals and objectives of each study proposal and the information to be obtained.

Goals

The goal is to provide a baseline inventory and assessment of water crossing features along the Green Lake access road, with consideration of stream characteristics and how those characteristics might change.

Objectives

Specific objectives of this study are to:

1. Identify and survey water crossing structures along the project road following the Forest Service Handbook (FSH) road condition survey protocol. Survey notes should document any issues with the structures.
2. Categorize the streams at each crossing following FSH protocols for determining stream value class and channel type. Stream notes should document any resource concerns and potential site-specific mitigation measures.
3. Determine flood flow frequencies for the frontal watersheds feeding the stream crossings using U.S. Geological Survey (USGS) guidance, with consideration for climate projections.
4. Given the conditions of the structures, stream characteristics, and projected flood flow frequencies, document considerations for maintenance and/or upgrades at each crossing.
5. Build and maintain an inventory of the crossings, their stream features, and relevant notes and recommendations.

Relevant Resource Management Goals

§5.9(b)(2) — If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied.
§5.9(b)(3) — If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study.

The overarching resource management goal of the U.S. Fish and Wildlife Service (Service) is described in our mission:

> To conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people.

The Service has authority to request fish and wildlife resource studies related to this project in accordance with provisions in the Federal Power Act (FPA, 16 U.S.C. § 791 et seq.), Fish and Wildlife Coordination Act (FWCA, 48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), Clean Water Act (CWA, 33 U.S.C. 1344), National Environmental Policy Act (NEPA) of 1969 (83 Stat. 852; 42 U.S.C. 4321 et seq.), Bald and Golden Eagle Protection Act (BGEPA) (54 Stat. 250, as amended, 16 U.S.C. 668a-d), and Migratory Bird Treaty Act (MBTA) (40 Stat. 755, as amended; 16 U.S.C. 703 et seq.).

Under section 10(j) of the FPA, National Marine Fisheries Service (NMFS) and the Service are authorized to recommend license conditions necessary to adequately and equitably protect, mitigate damages to, and enhance, fish and wildlife (including related spawning grounds and habitat) affected by the development, operation, and management of hydropower projects. Section 10(a)(1) of the FPA requires the Federal Energy Regulatory Commission to condition hydropower licenses to best improve or develop a waterway or waterways for the adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat) based on NMFS and Service recommendations and plans for affected waterways. Specific management goals are the protection of anadromous, trust fish species, and their habitats.

Consistent with our mission and with the legal authorities described above, our resource goal in this matter is to conserve existing fish and wildlife resources and their habitats along the project road and downstream to Silver Bay.

Background and Existing Information

§5.9(b)(4) — Describe existing information concerning the subject of the study proposal, and the need for additional information.

The Pre-Application Document (PAD) noted five anadromous streams in the vicinity of the Green Lake access road; two anadromous streams cross the access road, and the anadromous segments of the other three streams do not cross the access road (PAD page 67). The condition of these crossing structures, as well as any non-anadromous stream crossing structures, are not discussed in the PAD.

Climate projections for Southeast Alaska indicate that annual precipitation will continue to increase, and it is likely the increases will be driven by precipitation events of greater intensity (Lader et al. 2022). These changes could put stress on road infrastructure not designed for the magnitude and frequency of future flow levels. Additionally, alluvial fan channels are abundant in the project area and present unique challenges for road maintenance and erosion control.

Alluvial fans are situated between steep hillslopes and valley bottoms or lowlands, and they create a complex stream system with a wide range of erosion, transport, and deposition processes. Alluvial fan channels are frequently poorly contained and dynamic, easily shifting because of log jams and debris deposits. The lower reaches of an alluvial fan are often accessible to fish who use the pools created by debris accumulation, while higher reaches are often inaccessible to fish except where the stream gradient is low enough to enable passage.

Regardless of fish use within the alluvial fan, these channels can influence downstream water quality and fish habitat productivity.

Project Nexus

§5.9(b)(5) — Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements.

The access road is an important project facility. Road drainage, when not maintained, can lead to road failures during floods contributing large volumes of sediment downslope, sometimes into streams. Culverts in alluvial fans are especially susceptible to clogging by bedload sediment and woody debris and may require accelerated maintenance schedules. When it is necessary to replace crossing structures in alluvial fans, new structures should accommodate climate-projected flow levels and any special measures necessary to stabilize road drainage.

The Service requests that the Applicant conduct this study to identify and survey current road crossings and determine their condition. This information can be used to inform a road maintenance strategy that minimizes impacts to water quality and aquatic habitat.

Proposed Methodology

§5.8(b)(6) — Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field seasons(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant Tribal values and knowledge.

The recommended methodology comes from the U.S. Forest Service Handbook for road condition surveys (FSH 7709.58 – Transportation System Maintenance), as used by the Alaska Department of Fish and Game (ADF&G, 2000). For the stream value class and channel type components of the survey, the recommended methodologies are the Tier I protocol in the (FSH 2090.21 – Aquatic Habitat Management) and the Region 10 Channel Type Revision. We recommend using USGS guidelines for determining frequencies of flood flows (England et al. 2019) for the frontal watersheds that feed stream crossings at the access road, with special consideration for climate projections. The proposed methodology has been used by the U.S. Forest Service in Southeast Alaska to inventory and assess extensive road systems.

Level of Effort and Cost

§5.9(b)(7) — Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.

The level of effort and cost will be refined as the study plan is finalized, but the cost would be commensurate with the 18.5 megawatts of electricity this project would continue to produce.

Literature Cited

Alaska Department of Fish and Game. 2000. Tongass road condition survey report. Technical Report No. 00-1. 191 pp.

England, J.F., Jr., T.A. Cohn, B.A. Faber, J.R. Stedinger, W.O. Thomas Jr., A.G. Veilleux, J.E. Kiang, and R.R. Mason Jr. 2018. Guidelines for determining flood flow frequency—Bulletin 17C (ver. 1.1, May 2019): U.S. Geological Survey Techniques and Methods, book 4, chapter B5. 148 p. https://doi.org/10.3133/tm4B5

Lader, R., U.S. Bhatt, J.E. Walsh, and P.A. Bieniek. 2022. Projections of hydroclimatic extremes in Southeast Alaska under the RCP8.5 Scenario. Earth Interactions, 26, 180-194. 1-32.

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[USDA]. 2001. USDA Forest Service Handbook, FSH 2090.21 – aquatic habitat management handbook. USDA Forest Service, Alaska Region, Juneau, Alaska. Amendment No. 2090.21-2001-1. November. https://www.fs.usda.gov/cgi-bin/Directives/get_dirs/fsh?2090.21!r10

[USDA]. 2024. Forest Service. Region 10 channel type revision. Update to channel type user guide 1994. <https://www.fs.usda.gov/detail/tongass/maps-pubs/?cid=stelprdb5413798> Accessed July 21, 2024.

Appendix E. Recreation Plan Review

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Green Lake Hydroelectric Project Relicensing
Document Review and Research - Recreation

Pre-Application Document (PAD)

This document accompanies a Notice of Intent (NOI) with FERC by the CBS' Electric Department to relicense the existing Green Lake Hydroelectric Project. The PAD is a tool for providing existing engineering, operational, environmental, and socioeconomic information pertaining to the project that is reasonably available at the time the NOI and PAD are filed. The PAD is intended to provide information to help identify and evaluate potential effects on the project area resources resulting from continued project information.

The PAD states the Vodopad River watershed is protected by water quality criteria for fresh water designated water uses including recreation.

The PAD indicates that the project and the surrounding area offer a wide selection of recreational opportunities. The vast natural areas and inherent beauty of Baranof Island attract locals and travelers from around the world to engage in outdoor activities that include hiking, biking, hunting, fishing, subsistence harvesting, water activities, wildlife viewing, camping/cabins, winter sports, and motorized recreation. Tourism in the Sitka area has seen exponential growth in recent years. For example, the number of cruise ship visitors increased from 200,000 prior to the pandemic to 380,000 in 2022. CBS estimates up to 510,000 cruise ship arrivals in 2023 and beyond. The influx of cruise ship passengers and independent visitors has led to concerns about overcrowding, damage to trails, and conflicts between user groups, but tourism also provides economic opportunity (Sitka Trail Works 2023). Federal and state agencies, other local entities, and CBS are working together to address recreational opportunities and conflicts on Baranof Island. Specific issues include increased trail demand, trails crossing multiple land jurisdictions, funding, maintenance, and demand for new opportunities such as e-bike use and cabins (Alaska Trails n.d.). CBS has investigated constructing cabins on an island for recreational use. If cabins are built, they would be located above the maximum flood elevation of 20 feet to avoid a change in the hazard rating of Green Lake Dam (it is currently a low hazard dam).

Within the Project boundary, recreational facilities include the following:

- Green Lake: Recreational activities include brook trout fishing, boating, hunting, and wildlife viewing. Brook trout reach considerable size in Green Lake; the state record is from Green Lake in 2012, which weighed 3 pounds and measured 20 inches.

Recreators reach Green Lake via the Green Lake access road or Silver Bay by boat, a landing is located near the powerplant.

- Green Lake Access Road: Recreational activities include hiking, running, biking, and skiing. The 7-mile stretch of Green Lake Road from near the Medvejie hatchery to Green Lake is closed to public vehicle traffic, but CBS allows public access by foot or bicycle only. The road is gated with an access opening for pedestrians. The access road provides 7 miles (one way) of road access for hiking/biking and is rated as easy to moderate; there are a few small hills along the road and a large hill as the road climbs to Green Lake. Recreators might encounter light traffic due to both the Project and the Medvejie hatchery staff vehicles.

In the greater area surrounding the Project boundary, additional recreational opportunities are widely available. An impressive trail network is available in the Sitka area; 54 trails totaling 76 miles are located on federal, state, and municipal lands. The plan also includes recommendations for policy, programming, and infrastructure to enhance outdoor recreation in Sitka.

Recreation and associated facilities in the greater Sitka area are well known to be a high priority due to high demand. Affected entities, including CBS, are working together to address issues, such as increased trail demand, trails crossing multiple land jurisdictions, funding, maintenance, and demand for new opportunities such as e-bike use and cabins. CBS plans to maintain the existing recreation facilities in the Green Lake Project boundary, and public access to these facilities, as they currently are. Green Lake and the Green Lake access road contribute to recreation opportunities in the greater Sitka area.

CBS plans to maintain the existing recreation facilities in the Green Lake Project boundary and public access to these facilities, as they currently are. However, CBS has identified several information gathering opportunities to help address the larger recreation demand issues in the greater Sitka area including the following:

- CBS will collaborate with other recreation stakeholders in the Sitka area regarding an e-bike use policy. CBS would consider adopting a policy for e-bikes on the Green Lake access road consistent with policies at other recreation facilities.
- Lucky Chance Historic Trail has been identified as a potential new 14-mile loop trail (9 miles of new construction) in the Sitka Trail Plan 2023 Draft. Lucky Chance Historic Trail is located on the south side of the Vodopad River. Access to this trail could be provided by constructing a new bridge across the Vodopad River gorge and extending the Green Lake access road. However, CBS is opposed to providing access across the

Vodopad River for security and safety reasons. Routing hikers by the switchyard and tailrace is considered a liability.

Sitka Trail Plan 2023 Draft

By Sitka Trail Works

Contains trail maintenance and development priorities. One of note is the Lucky Chance Historic Trail.

This proposal would create a loop trail of two historic trails: Lucky Chance Mine and Salmon Lake. It would allow hikers to see the remnants of the first major hard rock mines in Alaska, while taking users through old-growth forests, alpine lakes, muskegs, and narrow gorges. It could potentially connect to Sitka's road system with installation of a substantial bridge, cable car crossing, or public skiff system from the end of Green Lake Road. The entire loop would result in a 14-mile trail which would satisfy desires for multi-day backpacking trails and access to backcountry skiing.

Agency & Participants: Forest Service, City & Borough of Sitka, Federal Energy Regulatory Commission

USDA Forest Service Tongass Land and Resource Management Plan, 2016

The plan guides all natural resource management activities and establishes management direction for the Tongass National Forest. The plan establishes land use designations within the forest for different uses or activities. Development in the land use designation must be consistent with the plan. The plan also establishes the standard for the allowed use or activity and guidelines for accomplishing the standards.

The plan states that the Sitka municipal watershed is with the Tongass. Silver Bay is identified as a small boat and mid-size tour boat route. Silver Bay is also identified as a Saltwater Use Area, and the headwaters area of Silver Bay is identified as a boat anchorage.

Hydroelectric resources are generally allowed, as is access to hydroelectric resources as a special use, in accordance with standards and guidelines. There are exceptions.

Tongass National Forest Sustainable Trails Strategy, Alaska Trails

The strategy was prepared under a Challenge Cost Share Agreement between the USFS and Alaska Trails. The strategy is for the entire Tongass Forest, with chapters specific to each ranger district within the forest, including Sitka. The strategy has a planning horizon of 10-

20 years. The goal of the strategy is to offer recommendations to create a more sustainable trail system within the Tongass National Forest.

The strategy acknowledges Sitka Trail Works as an organization that can secure resources, including volunteers to augment USFS funding, and recommends USFS invest in community scale trails plans.

The USFS National Visitor Monitoring Data of Interest indicates more than 85% of visitors to Sitka engage in hiking/walking.

The strategy indicates that increased cruise travel to Sitka will increase trail demand for walking, hiking, e-biking, and biking. Trails need to range from safe roadside paths to adventurous hikes.

No projects are recommended in the project area.

Sitka Comprehensive Plan, 2030, Adopted 2018

The Comprehensive Plan is intended as a framework to guide development and strategic community investment over the next 15-20 years. The plan consists of two documents: Sitka Comprehensive Plan, which summarizes key data and offers abbreviated versions of issues and challenges to address, including goals, objectives, priority actions, future growth maps, and focus area narratives; and the Technical Plan, which includes all plan data, references, sources, and a detailed review of background and contextual material as well as issues and challenges to address. The Technical Plan also includes a community profile comprised of history, demographics, income, physical environment, natural hazards, and coastal management.

Goal: Maintain and expand Sitka's diverse recreational opportunities.

The plan notes that alpine and other uplands provide the possibility for future recreational development. Recreation is highly valued by the community.

Goal: Provide desirable community facilities and services in an efficient and cost-effective manner to meet the need of Sitka's residents, businesses and visitors.

The plan notes that electric rates will be positively affected by increasing the number of consumers and demand.

Green Lake and Silver Bay are not mentioned.

The Technical Plan discussed electric power distribution and Green Lake.

Future Growth Focus Areas includes Remote Municipally Owned Land, which includes Green Lake as follows:

Continue hydroelectric, aquaculture, and recreational use.

> The CBS owns approximately 5,000 acres surrounding Green Lake and vicinity. Access is via a road that is a continuation of Sawmill Creek Hwy. The road follows the shoreline of Silver Bay from Herring Cove about 7 miles before turning uphill to end at the shores of Green Lake. The road was built as a utility service road for Green Lake Dam. Public access is by foot or bicycle only. Many people walk, jog, or bicycle along the road. Restricted access vehicular use is light and is by the Green Lake Hydroelectric Facility and the Medvejie Salmon Hatchery at Bear Cove that is run by the Northern Southeast Regional Aquaculture Association (NSRAA). In the winter, the road is often packed snow and ice. A 0.5-mile trail leads from Bear Cove to Medvejie Lake, nestled in a deep valley between Bear Mountain and Cross Mountain. Silver Bay is a cost recovery fishing site for NSRAA.

The Sitka community values recreation, particularly access to scenic and pristine area for fishing, beachcombing, picnicking, hunting, camping, etc. The business community recognizes recreation as important to a strong economy.

In explanation of the state of access to uplands/alpine for future recreation, the Technical Plan states that as uplands in Sitka are developed, it is important for the CBS to retain, or as needed, acquire rights-of-way or easements to provide future access to the undeveloped alpine and Sitka Cross Trail hiking route.

Sitka Coastal Management Plan, Adopted 2007

In 2011, when the State of Alaska withdrew from the federal coastal management program, Sitka codified their Coastal Management Plan's enforceable policies in order to locally implement the plan. Also adopted are the boundaries, definitions, designated recreation and coastal access areas, special management areas, and designated recreational use areas.

Green Lake and Silver Bay are not included as a special management area or designated as a recreational use area.

Sitka Short Term Tourism Plan, Adopted 2022

The plan was drafted in response to forecasted increases in cruise visitors nearly doubling the number from previous high visitation seasons. The increase in numbers was primarily due to the opening of the privately owned Sitka Sound Cruise Terminal. The plan has five elements: dispersion, transportation, traffic, infrastructure needs, and future planning needs. The

planning horizon is 5 years. The plan addresses each of the elements, presents options, evaluates pro/cons, and makes recommendations. The plan recommends a comprehensive impact study to understand the impacts of cruise visitation and increasing passenger volumes. Green Lake and Green Lake Road are not mentioned. The plan focuses primarily on the core downtown.

Statewide Comprehensive Outdoor Recreation Plan, 2022

The Statewide Comprehensive Outdoor Recreation Plan (SCORP) is a statewide planning document, providing a statewide overview of outdoor recreational supply and demand profiles, resources, and issues. The SCORP also presents a more detailed evaluation of six regions. Sitka is within the Southeast Region.

The SCORP notes that the Southeast Region had the highest survey response engaging in outdoor recreation (99%). The plan also notes the trend of increased cruise ship visitors and the need to expand and improve regional recreation infrastructure. Sitka is noted as an example several times in the plan for innovative partnerships related to providing recreation infrastructure and programming.

The plan establishes seven statewide goals. Each goal includes objectives and strategies to meet the stated objectives.

Appendix F. Sample Survey Instrument

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APPENDIX B: SAMPLE ONSITE AND SELF-SELECT SURVEY INSTRUMENT

RECREATION VISITOR SURVEY – GREEN LAKE HYDROELECTRIC PROJECT

ABOUT THE PROJECT

The City and Borough of Sitka (CBS) is studying recreation use at the Green Lake Hydroelectric Project (Project), including Green Lake Road and Green Lake Dam. The Project is undergoing relicensing in accordance with the Federal Energy Regulatory Commission (FERC) Integrated Licensing Process.

ABOUT THIS SURVEY & RECREATION STUDY

The purpose of this survey is to learn about your recreational experiences, including your recreational activities (for example, walking, biking, sport fishing, boating, etc.) within the Project area.

The survey may take up to 20 minutes to complete and has four (4) sections:

1. Your Visit to the Green Lake Area
2. Reasons You Visit the Green Lake Area
3. Your Evaluation and Suggestions
4. About you

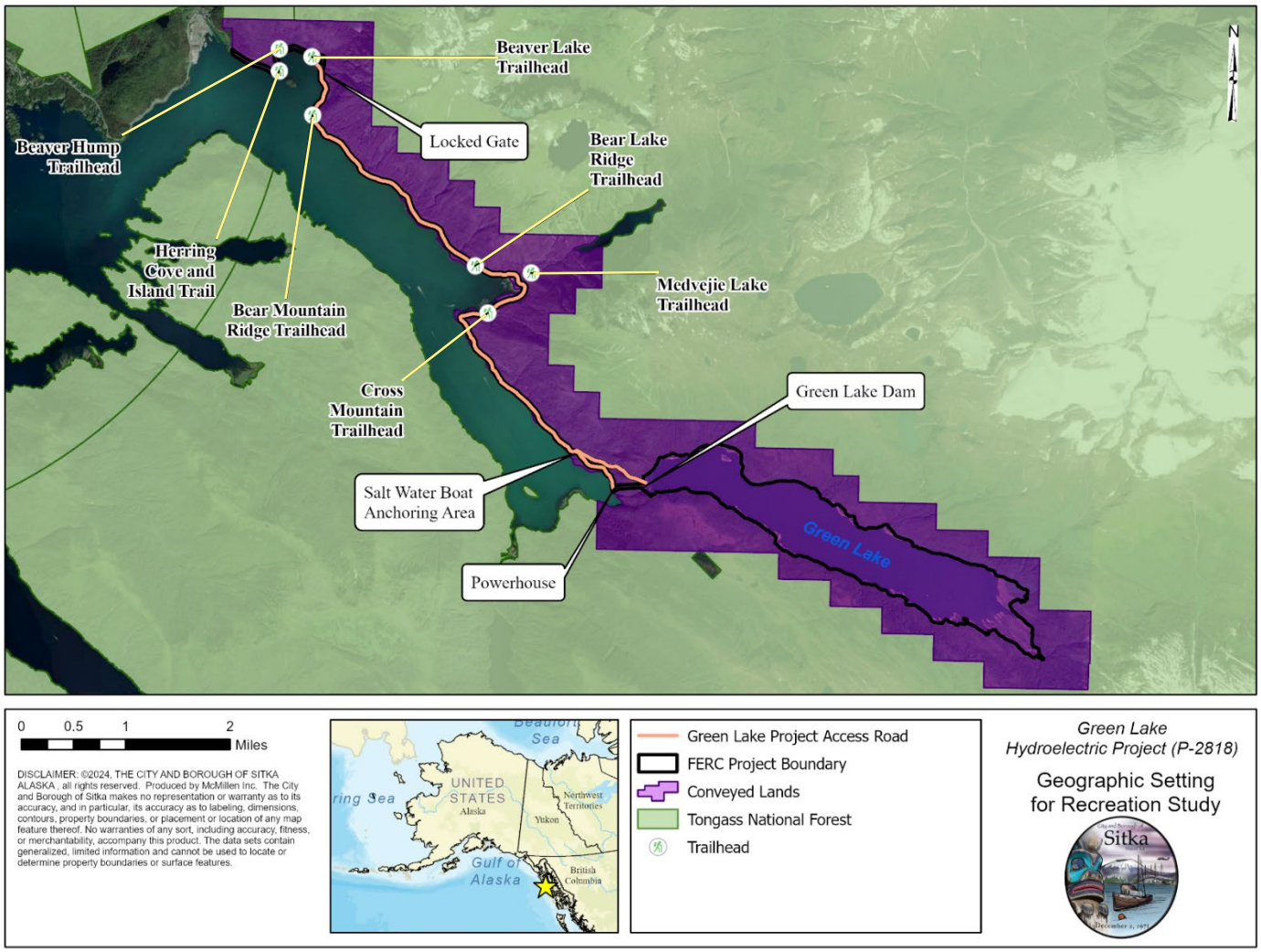
INFORMED CONSENT: YOUR PARTICIPATION IS VOLUNTARY

Participation is voluntary and all responses will be kept anonymous. By completing and submitting this survey, you consent to have your responses used by CBS and project partners to inform the FERC relicensing process. A study report will be prepared by CBS and will be available for public review near the end of 2026.

GREEN LAKE HYDROELECTRIC PROJECT AREA

The survey asks about you and your experiences recreational activities within the Project area, including Green Lake Road, Green Lake Dam, and Green Lake. Refer to the map below to review the Green Lake Hydroelectric Project area.

PROJECT AREA MAP



YOUR VISIT TO THE GREEN LAKE HYDROELECTRIC PROJECT AREA

1. **Have you answered this survey before in the last year?**
   - ☐ Yes
   - ☐ No
2. **Including today's visit, approximately how many times have you visited the Green Lake Hydro Project are in the last 6 months?**
   - ○ Between 1-5 times
   - ○ Between 6-10 times
   - ○ Between 11-20 times
   - ○ More than 20 times
3. **From where did you access the Project area today?**
   - ○ Green Lake Road
   - ○ Saltwater Beach
   - ○ Other:_____
4. **How did you get to the Project area?** *(Select one, or multiple if used in combination)*
   - ○ By car
   - ○ By foot
   - ○ By bicycle
   - ○ By ATV/UTV
   - ○ By boat/skiff (motorized)
   - ○ By paddle boat/kayak/canoe
   - ○ Other:_____
5. **Including yourself, how many are in your party during your visit to the Project area?**
   a. Number of people in party: _____
   b. Number of dogs: _____
6. **Are you visiting any of the following trails today?**

   Check all that apply:

   - ○ Beaver Hump Trail
   - ○ Herring Cove – Beaver Lake Trail Head
   - ○ Bear Mountain Ridge Trail
   - ○ Bear Lake Ridge Trail
   - ○ Medvejie Lake Trail (aka Warm Springs Trail)
   - ○ Cross Mountain Trail (aka Cuppola Peak and Indigo Lake Trail)
   - ○ Hering Cove Point & Island Trail
   - ○ Other: _____
7. **We would like to know where you are going throughout the Project area and what activities you are participating in at those location.** Please check the appropriate boxes to indicate your main and secondary recreational activities and the areas at which you participated in those activities.

Recreation Activity	Zone 1 (Green Lake Road)		Zone 2 (Silver Bay/Saltwater Anchoring Area)		Zone 3 (Green Lake and Dam)		Zone 4 (Trails & Uplands)	
	Main activity (select 1)	Other (select all that apply)	Main activity (select 1)	Other (select all that apply)	Main activity (select 1)	Other (select all that apply)	Main activity (select 1)	Other (select all that apply)
Paddling/floating								
Boating (Motorized)								
Camping								
Biking								
Winter/fat tire biking								
E-Biking								
Photography								
Watching birds or other wildlife								
Sightseeing								
Commercial guiding								
*Scouting for wild game								
*Berry picking								
*Harvesting other wild plants								
*Fishing or angling								
Hiking/walking								
Snowshoeing								
Cross-Country Skiing								
*Trapping								
*Hunting for big game								
Other:								

If the purpose of this activity is primarily for **SUBSISTENCE, write "**S**" in the appropriate box. "Subsistence" includes activities that require harvesting wild game, plants, and materials for survival at a minimum level.*

YOUR REASONS FOR VISITING GREEN LAKE HYDROELECTRIC PROJECT

8. What motivated you to use the area around the Green Lake Hydroelectric Project?
There are many reasons you might have decided to recreate in the Project area. Considering today's visit, **please rate how important were each of these experiences in motivating you to use the area.**

Motivating Experiences	*Not at all important*	*Not very important*	*Neutral*	*Somewhat Important*	*Extremely Important*
Getting exercise or keeping physically fit					
Improving mental health or reducing stress					
Challenging myself					
Being close to nature					
Explore new places or environments					
Escaping crowds or experiencing solitude					
Teaching or sharing outdoor skills with others					
Socializing with family or friends					
Using or testing my equipment					
Doing something thrilling or exciting					
Exercising my pets					
Other Reason (write in):					

YOUR EVALUATION AND SUGGESTIONS

9. Please select the option that best represents how satisfied you have been with your experience using the Project area

Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied

10. If inclined, please tell us why you are satisfied or dissatisfied with your recreational experience:

11. **How many other groups or parties (including individuals alone), other than your own, have you encountered on your visit to the Project area?**
    a. Number of groups encountered: _____
    b. Number of individuals (approximate) encountered: _____

12. **On a scale of 1-5, how would you like to see the Project area developed?**

	← **Less development.** 1	2	**Keep as is.** 3	4	**More development.** → 5
Desired level of development					

13. **Pedal-assisted electric bicycles ("e-bikes")** have recently gained popularity and the City and Borough of Sitka is considering whether to allow the use of e-bikes on Green Lake Road, which is currently a non-motorized facility. **Do you support allowing public use of e-bikes on Green Lake Road?**

	Strongly Opposed	Somewhat Opposed	Neutral	Somewhat Supportive	Strongly Supportive
Level of support for e-bike use					

14. **Are there any improvements you would like to see made at Project area for a better recreation experience? If yes, please describe.**

ABOUT YOU

15. What is your zip code?

Write the five-digit zip code of your physical address or residence.

Zip Code: _____

16. If you are NOT from Sitka, what best represents the nature of your travel to the area?

- ☐ Cruise Ship Destination
- ☐ Independent Travel – Recreational/Vacation
- ☐ Independent Travel – For Work
- ☐ Other: _____

17. What is your age group?

- ☐ Under 16 years
- ☐ 16 – 25 years
- ☐ 26 – 35 years
- ☐ 36 – 45 years
- ☐ 46 – 55 years
- ☐ 56 – 65 years
- ☐ Over 65 years

18. What is your race and/or ethnicity?

Select all that apply.

- ○ American Indian or Alaska Native
- ○ Asian
- ○ Black or African American
- ○ Hispanic or Latino
- ○ Middle Eastern or North African
- ○ Native Hawaiian or other Pacific Islander
- ○ White
- ○ Some other race: _____

19. What is your gender identity?

- ☐ Man
- ☐ Woman
- ☐ Non-Binary
- ☐ Prefer not to answer

THANK YOU

Thank you for your time and feedback!

Your input will inform the relicensing process for the Green Lake Hydroelectric Project.