



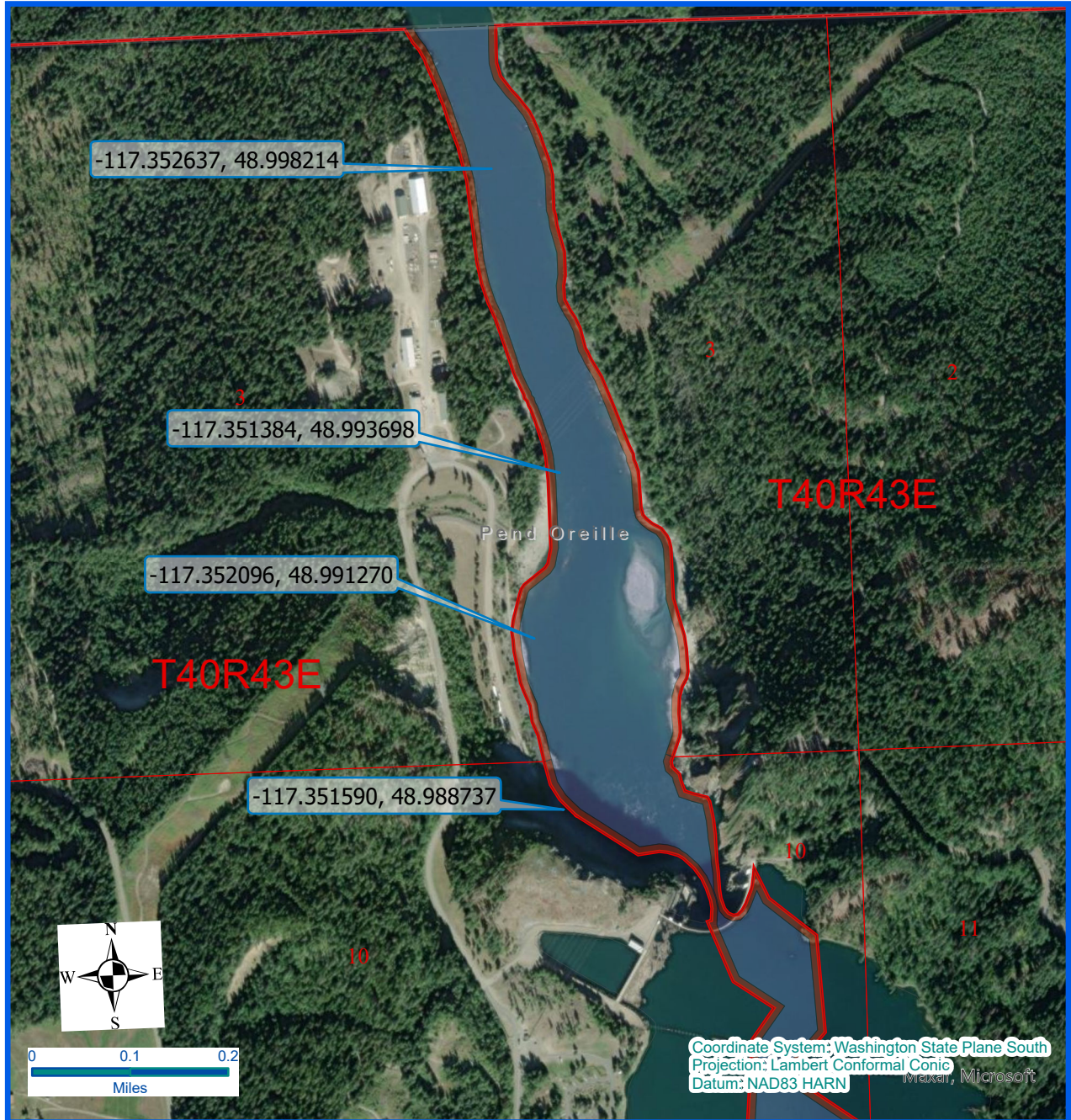
WASHINGTON STATE DEPT OF  
**NATURAL  
RESOURCES**

## Application for Use of State-Owned Aquatic Lands

**Applicant Name:** Seattle City Light  
**County:** Pend Oreille County  
**Water Body:** Pend Oreille River  
**Type of Authorization - Use:** Right of Entry – Telemetry Equipment Placement  
**Authorization Number:** 23-A97810  
**Term:** Five (5) years

**Description:** This agreement will allow the use of State-owned aquatic lands for the sole purpose of Telemetry Equipment Placement. The equipment is located in the Pend Oreille River, in Pend Oreille County, Washington.

**Seattle City Light**  
**Authorization No. 23-A97810**  
**Authorized Use: Telemetry Equipment Placement**  
**Location: Pend Oreille River, Pend Oreille County**



## Vicinity Map

Every attempt was made to use the most accurate and current geographic data available. However, due to multiple sources, scales, and the currency of the data used to develop this map Washington Department of Natural Resources cannot accept responsibility for errors and omissions in the data. Furthermore, this data is not survey grade information and cannot be substituted for an official survey. Therefore, there are no warranties that accompany this material

### Legal Description:

**Section 3 & 10, Township 40N, Range 43E, W.M.**

**Lat: 48.998214, Long: -117.352637**

**Lat: 48.993698, Long: -117.351384**

**Lat: 48.991270, Long: -117.352096**

**Lat: 48.988737, Long: -117.351590**

Prepared By: AC  
Date: 01/22/2024



**WASHINGTON STATE**  
**Joint Aquatic Resources Permit**  
**Application (JARPA) [\[help\]](#)**



US Army Corps  
of Engineers  
Seattle District

AGENCY USE ONLY

Date received: \_\_\_\_\_;  Town  
 Application Fee Received;  Fee N/A  
 New Application;  Renewal Application  
Type/Prefix #: \_\_\_\_\_; NaturE Use Code: \_\_\_\_\_  
LM Initials & BP#: \_\_\_\_\_  
RE Assets Finance BP#: \_\_\_\_\_  
New Application Number: \_\_\_\_\_  
Trust(s): \_\_\_\_\_; County: \_\_\_\_\_  
AQR Plate #(s): \_\_\_\_\_  
Gov Lot #(s): \_\_\_\_\_  
Tax Parcel #(s): \_\_\_\_\_

**Attachment E:**  
**Aquatic Use Authorization on**  
**Department of Natural Resources**  
**(DNR)-managed aquatic lands [\[help\]](#)**

Complete this attachment and submit it with the completed JARPA form only if you are applying for an Aquatic Use Authorization with DNR. Call (360) 902-1100 or visit <http://www.dnr.wa.gov/programs-and-services/aquatics/leasing-and-land-transactions> for more information.

- DNR recommends you discuss your proposal with a DNR land manager before applying for regulatory permits. Contact your regional land manager for more information on potential permit and survey requirements. You can find your regional land manager by calling (360) 902-1100 or going to <http://www.dnr.wa.gov/programs-and-services/aquatics/aquatic-districts-and-land-managers-map>. [\[help\]](#)
- The applicant may not begin work on DNR-managed aquatic lands until DNR grants an Aquatic Use Authorization.
- Include a \$25 non-refundable application processing fee, payable to the “Washington Department of Natural Resources.” (Contact your Land Manager to determine if and when you are required to pay this fee.) [\[help\]](#)

DNR may reject the application at any time prior to issuing the applicant an Aquatic Use Authorization. [\[help\]](#)

Use black or blue ink to enter answers in white spaces below.

<b>1. Applicant Name (Last, First, Middle)</b>	
Lepine, Kris	
<b>2. Project Name (A name for your project that you create. Examples: Smith’s Dock or Seabrook Lane Development) <a href="#">[help]</a></b>	
Boundary Project Fisheries Acoustic Telemetry Monitoring 2023-2025	
<b>3. Phone Number and Email</b>	
(206) 999-2090 kris.lepine@seattle.gov	
<b>4. Which of the following applies to Applicant? Check one and, if applicable, attach the written authority – bylaws, power of attorney, etc. <a href="#">[help]</a></b>	
<input type="checkbox"/> Corporation <input type="checkbox"/> Limited Partnership <input type="checkbox"/> General Partnership <input type="checkbox"/> Limited Liability Company  Home State of Registration: _____	<input type="checkbox"/> Individual <input type="checkbox"/> Marital Community (Identify spouse): _____ <input checked="" type="checkbox"/> Government Agency <input type="checkbox"/> Other (Please Explain): _____



<b>5.</b> Washington UBI (Unified Business Identifier) number, if applicable: <a href="#">[help]</a>
178048953
<b>6.</b> Are you aware of any existing or previously expired Aquatic Use Authorizations at the project location?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know If Yes, Authorization number(s): <u>23-097810</u>
<b>7.</b> Do you intend to sublease the property to someone else?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, contact your Land Manager to discuss subleasing.
<b>8.</b> If fill material was used previously on DNR-managed aquatic lands, describe below the type of fill material and the purpose for using it. <a href="#">[help]</a>
Hydrophones attached to a steel mount assembly with attached cable were temporarily installed on aquatic lands. The purpose of the hydrophones is to: <ol style="list-style-type: none"> <li>1. Map acoustically tagged native salmonid residence and movement within and through the reservoir, forebay, and tailrace regions of the Boundary Hydroelectric project.</li> <li>2. Quantify entrainment rates of tagged native salmonids and other fish species-of-interest via individual spill gates and combined Project turbines; and develop a statistical framework to determine native salmonid entrainment rates.</li> <li>3. Evaluate and describe potential factors influencing the distribution, movement and potential downstream entrainment of native salmonid species in the Boundary Reservoir.</li> </ol>

**To be completed by DNR and a copy returned to the applicant.**

Signature for projects on DNR-managed aquatic lands:

Applicant must obtain the signature of DNR Aquatics District Manager OR Assistant Division Manager if the project is located on DNR-managed aquatic lands.

I, a designated representative of the Dept. of Natural Resources, am aware that the project is being proposed on Dept. of Natural Resources-managed aquatic lands and agree that the applicant or his/her representative may pursue the necessary regulatory permits. My signature does not authorize the use of DNR-managed aquatic lands for this project.

Carrie Nelson  
**Printed Name**  
 Dept. of Natural Resources  
 District Manager or Assistant Division Manager

Carrie Nelson  
**Signature**  
 Dept. of Natural Resources  
 District Manager or Assistant Division Manager

12/07/2023  
**Date**

If you require this document in another format, contact the Governor's Office for Regulatory Innovation and Assistance (ORIA) at (800) 917-0043. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341. ORIA Publication ORIA-16-016 rev. 10/2016



# WASHINGTON STATE

## Joint Aquatic Resources Permit Application (JARPA) Form<sup>1,2</sup> [\[help\]](#)

USE BLACK OR BLUE INK TO ENTER ANSWERS IN THE WHITE SPACES BELOW.



US Army Corps  
of Engineers  
Seattle District

AGENCY USE ONLY

Date received: \_\_\_\_\_

Agency reference #: \_\_\_\_\_

Tax Parcel #(s): \_\_\_\_\_

\_\_\_\_\_

### Part 1–Project Identification

1. Project Name (A name for your project that you create. Examples: Smith's Dock or Seabrook Lane Development) [\[help\]](#)

Boundary Project Fisheries Acoustic Telemetry Monitoring 2023-2025

### Part 2–Applicant

The person and/or organization responsible for the project. [\[help\]](#)

2a. Name (Last, First, Middle)

Lepine, Kris

2b. Organization (If applicable)

Seattle City Light (SCL)

2c. Mailing Address (Street or PO Box)

P.O. Box 34023

2d. City, State, Zip

Seattle, WA, 98124-4023

2e. Phone (1)

(206) 999-2090

2f. Phone (2)

2g. Fax

(206) 386-4589

2h. E-mail

kris.lepine@seattle.gov

<sup>1</sup>Additional forms may be required for the following permits:

- If your project may qualify for Department of the Army authorization through a Regional General Permit (RGP), contact the U.S. Army Corps of Engineers for application information (206) 764-3495.
- Not all cities and counties accept the JARPA for their local Shoreline permits. If you need a Shoreline permit, contact the appropriate city or county government to make sure they accept the JARPA.

<sup>2</sup>To access an online JARPA form with [\[help\]](#) screens, go to

[http://www.epermitting.wa.gov/site/alias\\_resourcecenter/jarpa\\_jarpa\\_form/9984/jarpa\\_form.aspx](http://www.epermitting.wa.gov/site/alias_resourcecenter/jarpa_jarpa_form/9984/jarpa_form.aspx).

For other help, contact the Governor's Office for Regulatory Innovation and Assistance at (800) 917-0043 or [help@oria.wa.gov](mailto:help@oria.wa.gov).

### Part 3—Authorized Agent or Contact

Person authorized to represent the applicant about the project. (Note: Authorized agent(s) must sign 11b of this application.) [\[help\]](#)

<b>3a. Name</b> (Last, First, Middle)			
<b>3b. Organization</b> (If applicable)			
<b>3c. Mailing Address</b> (Street or PO Box)			
<b>3d. City, State, Zip</b>			
<b>3e. Phone (1)</b>	<b>3f. Phone (2)</b>	<b>3g. Fax</b>	<b>3h. E-mail</b>

### Part 4—Property Owner(s)

Contact information for people or organizations owning the property(ies) where the project will occur. Consider both **upland and aquatic** ownership because the upland owners may not own the adjacent aquatic land. [\[help\]](#)

- Same as applicant. (Skip to Part 5.)
- Repair or maintenance activities on existing rights-of-way or easements. (Skip to Part 5.)
- There are multiple upland property owners. Complete the section below and fill out [JARPA Attachment A](#) for each additional property owner.
- Your project is on Department of Natural Resources (DNR)-managed aquatic lands. If you don't know, contact the DNR at (360) 902-1100 to determine aquatic land ownership. If yes, complete [JARPA Attachment E](#) to apply for the Aquatic Use Authorization.

<b>4a. Name</b> (Last, First, Middle)			
Carin Vadala			
<b>4b. Organization</b> (If applicable)			
U.S. Forest Service (USFS)			
<b>4c. Mailing Address</b> (Street or PO Box)			
765 South Main Street			
<b>4d. City, State, Zip</b>			
Colville, WA 99114			
<b>4e. Phone (1)</b>	<b>4f. Phone (2)</b>	<b>4g. Fax</b>	<b>4h. E-mail</b>
(509) 447-7316	(509) 690-2012		Carin.e.vadala@usda.gov

## Part 5—Project Location(s)

Identifying information about the property or properties where the project will occur. [\[help\]](#)

- There are multiple project locations (e.g. linear projects). Complete the section below and use [JARPA Attachment B](#) for each additional project location.

**5a.** Indicate the type of ownership of the property. (Check all that apply.) [\[help\]](#)

- Private  
 Federal  
 Publicly owned (state, county, city, special districts like schools, ports, etc.)  
 Tribal  
 Department of Natural Resources (DNR) – managed aquatic lands (Complete [JARPA Attachment E](#))

**5b.** Street Address (Cannot be a PO Box. If there is no address, provide other location information in 5p.) [\[help\]](#)

See 5p for location information. Also, see Figure 1.

**5c.** City, State, Zip (If the project is not in a city or town, provide the name of the nearest city or town.) [\[help\]](#)

Nearest town: Metaline Falls, WA, 99153

**5d.** County [\[help\]](#)

Pend Oreille

**5e.** Provide the section, township, and range for the project location. [\[help\]](#)

¼ Section	Section	Township	Range
SE & NE	3	40N	43E
NE	10	40N	43E

**5f.** Provide the latitude and longitude of the project location. [\[help\]](#)

- Example: 47.03922 N lat. / -122.89142 W long. (Use decimal degrees - NAD 83)

Hydrophone Identification	Hydrophone Location		Receiver/Job Box Location	
	Latitude	Longitude	Latitude	Longitude
Boundary Dam Tailrace Border	48.998214	-117.352637	48.998173	-117.353862
Boundary Dam Tailrace North #1	48.993698	-117.351384	48.989106	-117.352128
Boundary Dam Tailrace Center #2	48.991270	-117.352096	48.989106	-117.352128
Boundary Dam Tailrace South #3	48.988737	-117.351590	48.989106	-117.352128
Boundary Dam Spillway West #5	48.986910	-117.349516	48.986987	-117.349640
Boundary Dam Spillway East #6	48.987407	-117.346692	48.986987	-117.349640
Boundary Dam Intake Forebay #7	48.986851	-117.351573	48.986987	-117.349640

**5g.** List the tax parcel number(s) for the project location. [\[help\]](#)

- The local county assessor's office can provide this information.

All hydrophones are on the Pend Oreille River. Available tax parcel information for receiver/job box locations is provided in the table below.



Hydrophone Identification	Receiver/Job Box Location		
	Property Owner	Property ID	Geographic ID
Boundary Dam Tailrace Border	City of Seattle	8266	434003500002
Boundary Dam Tailrace North #1	USFS	No information	No information
Boundary Dam Tailrace Center #2	USFS	No information	No information
Boundary Dam Tailrace South #3	USFS	No information	No information
Boundary Dam Spillway West #5	USFS	No information	No information
Boundary Dam Spillway East #6	USFS	No information	No information
Boundary Dam Intake Forebay #7	USFS	No information	No information

**5h.** Contact information for all adjoining property owners. (If you need more space, use [JARPA Attachment C.](#)) [\[help\]](#)

Name	Mailing Address	Tax Parcel # (if known)
US Forest Service – Colville National Forest	765 South Main Street	N/A
	Colville, WA 99114	
City of Seattle – Real Estate Service	PO Box 34023	434010460001
	Seattle, WA 98124-4023	
Shoshone Tree Farms, Inc. – C/O Riley Creek	PO Box 220	434003500003
	Laclede, ID 83841-0220	

**5i.** List all wetlands on or adjacent to the project location. [\[help\]](#)

Wetlands occur in places along the banks of the Pend Oreille River commonly near tributary deltas and on river bars. Monitoring stations are located away from wetlands.

**5j.** List all waterbodies (other than wetlands) on or adjacent to the project location. [\[help\]](#)

Pend Oreille River

**5k.** Is any part of the project area within a 100-year floodplain? [\[help\]](#)

Yes    No    Don't know

**5l.** Briefly describe the vegetation and habitat conditions on the property. [\[help\]](#)

The acoustic telemetry monitoring project occurs at several locations on the Pend Oreille River within the Boundary Dam forebay, and tailrace reaches. The project area is in the Selkirk Mountains, a western extension of the Rocky Mountains. Climax vegetation includes the Douglas-fir/Grand-fir Zone on drier sites and the Western Hemlock/Cedar Zone on more mesic sites. Forested slopes adjacent to Pend Oreille River are dominated by second-growth Douglas-fir and western larch. Mixed stands of Western red cedar and Western hemlock occur in ravines and other shaded, moist areas. Riparian and wetland communities along the Pend Oreille River are uncommon, particularly downstream of Metaline Falls, where they occur in sheltered coves and at the mouths of tributaries.

The Boundary Dam forebay contains deep waters. Aquatic vegetation (macrophytes) is generally absent but occurs on narrow shallow water zones along the edges of the reservoir. West of the dam, the property contains steep rock faces that are largely unvegetated but several ledges support growth of native herbaceous, shrub,

and tree vegetation. Beneath the transmission lines at the top of the rock face, vegetation is herbaceous with scattered shrubs. West of the transmission line, vegetation is forest.

The Boundary Dam tailrace reach has deep pool habitat at the base of the dam and turbine afterbays but elsewhere is generally shallow and resembles a natural river. Along the left (west) bank of the river and adjacent to the Boundary Dam Access Road, habitat is rocky consisting of riprap, bedrock, cobbles, and gravels. West of the road, vegetation consists of lawn with occasional trees and immature forest. North of the access road, habitat conditions are forested surrounding the facilities area.

The Boundary Reservoir and its tributaries support warm, cool and cold-water fish species of native and hatchery origin. Cool and cold-water fish species are more common downstream of Boundary Dam; however, supersaturation of gases and dissolved oxygen at the dam tailrace alter fish habitat. Water temperatures in Boundary Reservoir are cold in winter and warm in summer. The reservoir primarily supports a fish assemblage of suckers, yellow perch, peamouth, smallmouth bass, redbelt shiner and Northern pikeminnow. Additional, commonly present fish species include minnows, tench, pumpkinseed, brown bullhead, and mountain whitefish. Native trout species (rainbow, cutthroat, and bull trout) are rare in Pend Oreille River but have been observed near the mouths of tributary streams where cool inflow provides refugia.

**5m.** Describe how the property is currently used. [\[help\]](#)

The Pend Oreille River serves a variety of recreational purposes for residents and visitors. The Boundary Dam, powerhouse, and facilities are used to support production of hydropower.

**5n.** Describe how the adjacent properties are currently used. [\[help\]](#)

Adjacent properties are used for timber harvest and management; power transmission; and recreation (Boundary Dam Forebay Campground).

**5o.** Describe the structures (above and below ground) on the property, including their purpose(s) and current condition. [\[help\]](#)

Existing structures on the properties include the Boundary Dam, powerhouse, Boundary Dam Access Road, tailrace boat launch, facilities buildings, and USGS stream gage. Structures are in good condition.

**5p.** Provide driving directions from the closest highway to the project location, and attach a map. [\[help\]](#)

Boundary Dam is located 107 miles north of Spokane in Pend Oreille County in the northeast corner of Washington state (see Figure 1 – Vicinity Map). To reach the dam, drive north from the Town of Metaline on SR 31, turn left on Boundary Road, turn right on Boundary Dam Access Road, and proceed to the guard station. Access to the Boundary Dam and tailrace boat ramp requires being accompanied by SCL personnel with arrangements made ahead of time. Contact Kris Lepine to arrange for a site visit.

Monitoring stations affixed to the dam are accessed via decks and roadways on the dam. The monitoring stations in the Boundary Dam tailrace are accessed by boat using the tailrace boat ramp.

## Part 6–Project Description

**6a.** Briefly summarize the overall project. You can provide more detail in 6b. [\[help\]](#)

The project is a continuation of fisheries acoustic telemetry monitoring that began in 2016. The study area for monitoring conducted between 2023 and 2025 includes the Boundary Dam forebay and tailrace reaches on the Pend Oreille River. Within this approximately one-mile long study area, seven acoustic telemetry receivers will collect a near-continuous record of acoustically tagged fish position data. This data set will be evaluated to identify movement patterns of native salmonids and other fish species. Fish movement will be evaluated over long-term temporal and spatial scales to describe utilization of native salmonid distributions over time and downstream passage rates. Fish movement will also be evaluated relative to environmental conditions and dam operations over varying time scales within the 2023-2025 study period. Summaries of relevant fish movement and entrainment metrics will be refined over time, as cumulative acoustic telemetry study results are developed and evaluated. Upon completion of the study period, monitoring equipment will be removed.

**6b. Describe the purpose of the project and why you want or need to perform it. [help]**

The purpose of the project is to:

1. Map acoustically tagged native salmonid residence and movement within the forebay and tailrace reaches of the Boundary Hydroelectric project.
2. Quantify entrainment rates of tagged native salmonids and other fish species-of-interest at Boundary Dam including individual spill gates and combined turbines; and develop a statistical framework to determine native salmonid entrainment rates.

The goals of the fisheries acoustic telemetry assessment project are to identify patterns of species-specific native salmonid residence and movement within the forebay and tailrace reaches of the Boundary hydroelectric project, and specifically to quantify potential downstream passage of these species through the Boundary Dam. This information will be used to guide and inform future investigations and subsequent fish passage mitigation options based upon the observed movement patterns of native salmonids.

**6c. Indicate the project category. (Check all that apply) [help]**

- Commercial     
  Residential     
  Institutional     
  Transportation     
  Recreational  
 Maintenance     
  Environmental Enhancement

**6d. Indicate the major elements of your project. (Check all that apply) [help]**

- |   |   |  |   |
|---|---|--|---|
| <input type="checkbox"/> Aquaculture          | <input type="checkbox"/> Culvert              | <input type="checkbox"/> Float               | <input type="checkbox"/> Retaining Wall (upland)                  |
| <input type="checkbox"/> Bank Stabilization   | <input type="checkbox"/> Dam / Weir           | <input type="checkbox"/> Floating Home       | <input type="checkbox"/> Road                                     |
| <input type="checkbox"/> Boat House           | <input type="checkbox"/> Dike / Levee / Jetty | <input type="checkbox"/> Geotechnical Survey | <input checked="" type="checkbox"/> Scientific Measurement Device |
| <input type="checkbox"/> Boat Launch          | <input type="checkbox"/> Ditch                | <input type="checkbox"/> Land Clearing       | <input type="checkbox"/> Stairs                                   |
| <input type="checkbox"/> Boat Lift            | <input type="checkbox"/> Dock / Pier          | <input type="checkbox"/> Marina / Moorage    | <input type="checkbox"/> Stormwater facility                      |
| <input type="checkbox"/> Bridge               | <input type="checkbox"/> Dredging             | <input type="checkbox"/> Mining              | <input type="checkbox"/> Swimming Pool                            |
| <input type="checkbox"/> Bulkhead             | <input type="checkbox"/> Fence                | <input type="checkbox"/> Outfall Structure   | <input type="checkbox"/> Utility Line                             |
| <input type="checkbox"/> Buoy                 | <input type="checkbox"/> Ferry Terminal       | <input type="checkbox"/> Piling/Dolphin      |   |
| <input type="checkbox"/> Channel Modification | <input type="checkbox"/> Fishway              | <input type="checkbox"/> Raft                |   |

Other:

**6e. Describe how you plan to construct each project element checked in 6d. Include specific construction methods and equipment to be used. [help]**

- Identify where each element will occur in relation to the nearest waterbody.
- Indicate which activities are within the 100-year floodplain.

For the 2023-2025 monitoring period, the study area is confined to the Boundary Dam forebay, and tailrace reaches including six previous sites and a new site (Boundary Dam Tailrace Border) where a hydrophone and receiver/job box was installed during September 2023 (Figure 2). All hydrophones occur within the 100-year floodplain. The receivers/job boxes occur on land adjacent to the 100-year floodplain. In July 2023, hydrophones and receivers/job boxes were removed from seven sites on the Boundary Reservoir (Box Canyon, Sweet Creek, Sullivan Creek, Slate Creek, Z Canyon, Rat Island, and Boundary Dam Forebay West #8) and one site in the tailrace reach (Boundary Dam Upper Tailrace #4).

Each fixed tag detection monitoring site consists of at least one underwater hydrophone and associated cable(s) connected to a receiver and other associated hardware on shore. Each hydrophone provides an omni-directional tag detection field surrounding the monitoring installation. The deployed acoustic tag detection sites are located to provide near-complete cross-reservoir or cross-tailrace detection capabilities for

tagged fish, where possible. The study area is monitored using three HTI-Vemco *Model 290 Acoustic Tag Receiver's* (ATR's) operating at 307 kHz. Each ATR simultaneously monitors multiple hydrophones.

#### Boundary Dam Tailrace Monitoring Sites

Four hydrophones are deployed to monitor acoustically tagged fish passage and residence in the Tailrace Reach located downstream of Boundary Dam. These hydrophones provide tagged fish detection capabilities to approximately 1,500 meters downstream of the dam.

The Boundary Dam Tailrace Border, Tailrace North #1, Tailrace Center #2, and Tailrace South #3 monitoring sites each consist of hydrophones deployed using 400-pound riverine mounts placed on the river bottom (Figures 3 and 4). Each tailrace bottom mount was secured to a tree or other hard structure on the shoreline using a 1/4-inch stainless steel cable paired to the hydrophone cable. Cables from the Tailrace North #1, Tailrace Center #2, and Tailrace South #3 hydrophones connect to a secured job box located near the powerhouse entrance tunnel. A cable from the Boundary Dam Tailrace Border hydrophone connects to a secure job box located adjacent to the Boundary facilities area. Each job box contains an ATR, network communication components, and a heater.

#### Boundary Dam Forebay Reach Monitoring Sites

The Boundary Dam Forebay is monitored with hydrophones immediately upstream of the dam including the Boundary Dam Spillway West #5, Spillway East #6, and Intake Forebay #7 sites (Figure 2).

The Spillway East #6 hydrophone is installed on a 40-pound bottom gravity mount that was deployed from a boat and the paired hydrophone/stainless steel cable assembly was routed back to shore and anchored to hard structure on the shore (via either a drilled bolt to a large rock or non-intrusive attachment to a tree).

The Intake Forebay #7 hydrophone is mounted on an SCL-designed and fabricated transducer pole mount (Figure 5).

The Spillway West #5 hydrophone was deployed by a diver and placed on the west parapet wall just upstream of the radial and skimmer gates (Figure 6). The hydrophone cable is anchored to a flat bottom midway up the wall using three sandbags and routed to the surface via a 2-inch inner diameter protective conduit anchored to the face of the dam (Figure 7).

All hydrophone cables from the Boundary Dam forebay reach monitoring sites are routed across the deck of the dam to a trailer that houses the ATR.

**6f.** What are the anticipated start and end dates for project construction? (Month/Year) [\[help\]](#)

- If the project will be constructed in phases or stages, use [JARPA Attachment D](#) to list the start and end dates of each phase or stage.

Start Date: September 2023      End Date: December 2025       See JARPA Attachment D

**6g.** Fair market value of the project, including materials, labor, machine rentals, etc. [\[help\]](#)

\$300,000

**6h.** Will any portion of the project receive federal funding? [\[help\]](#)

- If **yes**, list each agency providing funds.

Yes     No     Don't know

## **Part 7–Wetlands: Impacts and Mitigation**

- Check here if there are wetlands or wetland buffers on or adjacent to the project area.  
(If there are none, skip to Part 8.) [\[help\]](#)

**7a.** Describe how the project has been designed to avoid and minimize adverse impacts to wetlands. [\[help\]](#)

Not applicable

**7b. Will the project impact wetlands?** [\[help\]](#)

Yes  No  Don't know

**7c. Will the project impact wetland buffers?** [\[help\]](#)

Yes  No  Don't know

**7d. Has a wetland delineation report been prepared?** [\[help\]](#)

- If Yes, submit the report, including data sheets, with the JARPA package.

Yes  No

**7e. Have the wetlands been rated using the Western Washington or Eastern Washington Wetland Rating System?** [\[help\]](#)

- If Yes, submit the wetland rating forms and figures with the JARPA package.

Yes  No  Don't know

**7f. Have you prepared a mitigation plan to compensate for any adverse impacts to wetlands?** [\[help\]](#)

- If Yes, submit the plan with the JARPA package and answer 7g.
- If No, or Not applicable, explain below why a mitigation plan should not be required.

Yes  No  Don't know

**7g. Summarize what the mitigation plan is meant to accomplish, and describe how a watershed approach was used to design the plan.** [\[help\]](#)

**7h. Use the table below to list the type and rating of each wetland impacted, the extent and duration of the impact, and the type and amount of mitigation proposed. Or if you are submitting a mitigation plan with a similar table, you can state (below) where we can find this information in the plan.** [\[help\]](#)

Activity (fill, drain, excavate, flood, etc.)	Wetland Name <sup>1</sup>	Wetland type and rating category <sup>2</sup>	Impact area (sq. ft. or Acres)	Duration of impact <sup>3</sup>	Proposed mitigation type <sup>4</sup>	Wetland mitigation area (sq. ft. or acres)

<sup>1</sup> If no official name for the wetland exists, create a unique name (such as "Wetland 1"). The name should be consistent with other project documents, such as a wetland delineation report.

<sup>2</sup> Ecology wetland category based on current Western Washington or Eastern Washington Wetland Rating System. Provide the wetland rating forms with the JARPA package.

<sup>3</sup> Indicate the days, months or years the wetland will be measurably impacted by the activity. Enter "permanent" if applicable.

<sup>4</sup> Creation (C), Re-establishment/Rehabilitation (R), Enhancement (E), Preservation (P), Mitigation Bank/In-lieu fee (B)

Page number(s) for similar information in the mitigation plan, if available: \_\_\_\_\_

**7i. For all filling activities identified in 7h, describe the source and nature of the fill material, the amount in cubic yards that will be used, and how and where it will be placed into the wetland.** [\[help\]](#)



7j. For all excavating activities identified in 7h, describe the excavation method, type and amount of material in cubic yards you will remove, and where the material will be disposed. [\[help\]](#)

## Part 8–Waterbodies (other than wetlands): Impacts and Mitigation

In Part 8, “waterbodies” refers to non-wetland waterbodies. (See Part 7 for information related to wetlands.) [\[help\]](#)

Check here if there are waterbodies on or adjacent to the project area. (If there are none, skip to Part 9.)

8a. Describe how the project is designed to avoid and minimize adverse impacts to the aquatic environment. [\[help\]](#)

Not applicable

Best Management Practices (BMPs) will be utilized when installing and removing monitoring station equipment.

8b. Will your project impact a waterbody or the area around a waterbody? [\[help\]](#)

Yes  No

8c. Have you prepared a mitigation plan to compensate for the project’s adverse impacts to non-wetland waterbodies? [\[help\]](#)

- If Yes, submit the plan with the JARPA package and answer 8d.
- If No, or Not applicable, explain below why a mitigation plan should not be required.

Yes  No  Don’t know

Installation of monitoring equipment is temporary and will not result in adverse impact to non-wetland waterbodies.

8d. Summarize what the mitigation plan is meant to accomplish. Describe how a watershed approach was used to design the plan.

- If you already completed 7g you do not need to restate your answer here. [\[help\]](#)

8e. Summarize impact(s) to each waterbody in the table below. [\[help\]](#)

Activity (clear, dredge, fill, pile drive, etc.)	Waterbody name <sup>1</sup>	Impact location <sup>2</sup>	Duration of impact <sup>3</sup>	Amount of material (cubic yards) to be placed in or removed from waterbody	Area (sq. ft. or linear ft.) of waterbody directly affected
7 hydrophones and associated equipment (cables, steel anchors, sandbags, and/or pipe conduit)	Pend Oreille River	In	2 years (2023-2025)	Less than 1 cubic yard per hydrophone assembly	Less than 2 square feet per hydrophone assembly
3 receivers/job boxes	Pend Oreille River	Adjacent undeveloped shore	2 years (2023-2025)	N/A	N/A

<sup>1</sup> If no official name for the waterbody exists, create a unique name (such as "Stream 1") The name should be consistent with other documents provided.

<sup>2</sup> Indicate whether the impact will occur in or adjacent to the waterbody. If adjacent, provide the distance between the impact and the waterbody and indicate whether the impact will occur within the 100-year flood plain.

<sup>3</sup> Indicate the days, months or years the waterbody will be measurably impacted by the work. Enter "permanent" if applicable.

**8f.** For all activities identified in 8e, describe the source and nature of the fill material, amount (in cubic yards) you will use, and how and where it will be placed into the waterbody. [\[help\]](#)

Temporary fill material consists of gravity mounts which each consist of less than a cubic yard. The gravity mounts are placed into the water and lowered to the bottom of the river using a crane mounted on a boat.

**8g.** For all excavating or dredging activities identified in 8e, describe the method for excavating or dredging, type and amount of material you will remove, and where the material will be disposed. [\[help\]](#)

N/A

**8h.** Have you prepared a Water Quality Monitoring Plan (WQMP) for all in-water work (below ordinary high water), over water work or discharges to waters of the state?

Yes  No

If NO describe the monitoring that you will be conducting including parameters, equipment and locations, or explain why monitoring will not be necessary. [\[help\]](#)

A WQMP is not necessary because the monitoring project will not create pollution.

### Part 9–Additional Information

Any additional information you can provide helps the reviewer(s) understand your project. Complete as much of this section as you can. It is ok if you cannot answer a question.

**9a.** If you have already worked with any government agencies on this project, list them below. [\[help\]](#)

Agency Name	Contact Name	Phone	Most Recent Date of Contact
WDNR	Alex Clift	(509) 220-3009	9/22/2023

**9b.** Are any of the wetlands or waterbodies identified in Part 7 or Part 8 of this JARPA on the Washington Department of Ecology's 303(d) List? [\[help\]](#)

- If Yes, list the parameter(s) below.
- If you don't know, use Washington Department of Ecology's Water Quality Assessment tools at: <https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-303d>.

Yes  No

Temperature (water)  
pH (water)  
Polychlorinated Biphenyls (tissue)

**9c. What U.S. Geological Survey Hydrological Unit Code (HUC) is the project in?** [\[help\]](#)

- Go to <https://water.usgs.gov/GIS/huc.html> to help identify the HUC.

HUC 17010216

**9d. What Water Resource Inventory Area Number (WRIA #) is the project in?** [\[help\]](#)

- Go to <https://ecology.wa.gov/Water-Shorelines/Water-supply/Water-availability/Watershed-look-up> to find the WRIA #.

WRIA 62

**9e. Will the in-water construction work comply with the State of Washington water quality standards for turbidity?** [\[help\]](#)

- Go to <https://ecology.wa.gov/Water-Shorelines/Water-quality/Freshwater/Surface-water-quality-standards/Criteria> for the standards.

Yes  No  Not applicable

**9f. If the project is within the jurisdiction of the Shoreline Management Act, what is the local shoreline environment designation?** [\[help\]](#)

- If you don't know, contact the local planning department.
- For more information, go to: <https://ecology.wa.gov/Water-Shorelines/Shoreline-coastal-management/Shoreline-coastal-planning/Shoreline-laws-rules-and-cases>.

Urban  Natural  Aquatic  Conservancy  Other: Rural Higher Density

**9g. What is the Washington Department of Natural Resources Water Type?** [\[help\]](#)

- Go to <http://www.dnr.wa.gov/forest-practices-water-typing> for the Forest Practices Water Typing System.

Shoreline  Fish  Non-Fish Perennial  Non-Fish Seasonal

**9h. Will this project be designed to meet the Washington Department of Ecology's most current stormwater manual?** [\[help\]](#)

- If No, provide the name of the manual your project is designed to meet.

Yes  No

Name of manual: \_\_\_\_\_

**9i. Does the project site have known contaminated sediment?** [\[help\]](#)

- If Yes, please describe below.

Yes  No

**9j. If you know what the property was used for in the past, describe below.** [\[help\]](#)

The Pend Oreille River flowed freely prior to the construction of Boundary Dam. There is minimal evidence of extensive historic era activities in the Pend Oreille Valley prior to the second half of the 19<sup>th</sup> century when mining, homesteading, and logging stimulated local development. Archaeological sensitivity mapping for the lower reach of the reservoir indicates that the project area has a relatively low potential to contain cultural resource sites. No traditional cultural properties have been documented or are known to be present within the project vicinity.

**9k. Has a cultural resource (archaeological) survey been performed on the project area?** [\[help\]](#)

- If Yes, attach it to your JARPA package.

Yes  No

SCL has an Historic Properties Management Plan (HPMP) to guide protection of historic properties within the Boundary Hydroelectric Project over the term of the federal operating license. The HPMP was developed in consultation with the Cultural Resources Workgroup (CRWG), which included representatives of the Washington State Department of Archaeology and Historic Preservation, the Kalispel Tribe, the Bureau of Land Management, and United States Forest Service. Prior to the development of the HPMP, SCL conducted cultural resources investigations within the Project's Area of Potential Effect (APE). Upon completion of the study, the CRWG identified specific protection, mitigation, and enhancement measures for historic properties within the Project APE. The HPMP (Exhibit 5 of the Settlement Agreement) is designated as Privileged Information.

**9l.** Name each species listed under the federal Endangered Species Act that occurs in the vicinity of the project area or might be affected by the proposed work. [\[help\]](#)

Yellow-billed cuckoo (*Coccyzus americanus*) – threatened  
 Bull trout (*Salvelinus confluentus*) – threatened  
 Grizzly bear (*Ursus arctos horribilis*) – threatened  
 Canada lynx (*Lynx canadensis*) – threatened  
 Woodland caribou (*Rangifer tarandus caribou*) -- endangered

**9m.** Name each species or habitat on the Washington Department of Fish and Wildlife's Priority Habitats and Species List that might be affected by the proposed work. [\[help\]](#)

Bull trout (*Salvelinus confluentus*)  
 Westslope cutthroat (*Oncorhynchus clarki lewisi*)  
 Rainbow trout (*O. mykiss*)  
 Great blue heron (*Ardea herodias*)  
 Waterfowl concentrations  
 Moose (*Alces alces*)  
 Biodiversity Areas and Corridors  
 Riparian habitat  
 Instream habitat

## Part 10–SEPA Compliance and Permits

Use the resources and checklist below to identify the permits you are applying for.

- Online Project Questionnaire at <http://apps.oria.wa.gov/opas/>.
- Governor's Office for Regulatory Innovation and Assistance at (800) 917-0043 or [help@oria.wa.gov](mailto:help@oria.wa.gov).
- For a list of addresses to send your JARPA to, click on [agency addresses for completed JARPA](#).

**10a.** Compliance with the State Environmental Policy Act (SEPA). (Check all that apply.) [\[help\]](#)

- For more information about SEPA, go to <https://ecology.wa.gov/regulations-permits/SEPA-environmental-review>.

- A copy of the SEPA determination or letter of exemption is included with this application.
- A SEPA determination is pending with \_\_\_\_\_ (lead agency). The expected decision date is \_\_\_\_\_.
- I am applying for a Fish Habitat Enhancement Exemption. (Check the box below in 10b.) [\[help\]](#)



- This project is exempt (choose type of exemption below).
- Categorical Exemption. Under what section of the SEPA administrative code (WAC) is it exempt?  
WAC 197-11-800 (17) Information collection and research
- Other: \_\_\_\_\_

SEPA is pre-empted by federal law.

**10b.** Indicate the permits you are applying for. (Check all that apply.) [\[help\]](#)

**LOCAL GOVERNMENT**

**Local Government Shoreline permits:**

- Substantial Development     Conditional Use     Variance
- Shoreline Exemption Type (explain): Shoreline Authorization – Conservation, Restoration, and/or Habitat Improvement

**Other City/County permits:**

- Floodplain Development Permit     Critical Areas Ordinance

**STATE GOVERNMENT**

**Washington Department of Fish and Wildlife:**

- Hydraulic Project Approval (HPA)     Fish Habitat Enhancement Exemption – [Attach Exemption Form](#)

**Washington Department of Natural Resources:**

- Aquatic Use Authorization  
Complete [JARPA Attachment E](#) and submit a check for \$25 payable to the Washington Department of Natural Resources.  
**Do not send cash.**

**Washington Department of Ecology:**

- Section 401 Water Quality Certification
- Authorization to impact waters of the state, including wetlands (Check this box if the proposed impacts are to waters not subject to the federal Clean Water Act)

**FEDERAL AND TRIBAL GOVERNMENT**

**United States Department of the Army (U.S. Army Corps of Engineers):**

- Section 404 (discharges into waters of the U.S.)     Section 10 (work in navigable waters)

**United States Coast Guard:**

For projects or bridges over waters of the United States, contact the U.S. Coast Guard at:

- Bridge Permit: [D13-SMB-D13-BRIDGES@uscg.mil](mailto:D13-SMB-D13-BRIDGES@uscg.mil)
- Private Aids to Navigation (or other non-bridge permits): [D13-SMB-D13-PATON@uscg.mil](mailto:D13-SMB-D13-PATON@uscg.mil)

**United States Environmental Protection Agency:**

- Section 401 Water Quality Certification (discharges into waters of the U.S.) on tribal lands where tribes do not have treatment as a state (TAS)

**Tribal Permits:** (Check with the tribe to see if there are other tribal permits, e.g., Tribal Environmental Protection Act, Shoreline Permits, Hydraulic Project Permits, or other in addition to CWA Section 401 WQC)

- Section 401 Water Quality Certification (discharges into waters of the U.S.) where the tribe has treatment as a state (TAS).



## Part 11—Authorizing Signatures

Signatures are required before submitting the JARPA package. The JARPA package includes the JARPA form, project plans, photos, etc. [\[help\]](#)

### 11a. Applicant Signature (required) [\[help\]](#)

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities, and I agree to start work only after I have received all necessary permits.

I hereby authorize the agent named in Part 3 of this application to act on my behalf in matters related to this application. \_\_\_\_\_ (initial)

By initialing here, I state that I have the authority to grant access to the property. I also give my consent to the permitting agencies entering the property where the project is located to inspect the project site or any work related to the project. KL (initial)

Kris Lepine

Applicant Printed Name



Applicant Signature

11/22/2023

Date

### 11b. Authorized Agent Signature [\[help\]](#)

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities and I agree to start work only after all necessary permits have been issued.

Authorized Agent Printed Name

Authorized Agent Signature

Date

### 11c. Property Owner Signature (if not applicant) [\[help\]](#)

Not required if project is on existing rights-of-way or easements (provide copy of easement with JARPA).

I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.

Carin Vadala

Property Owner Printed Name



Carin Vadala (Nov 27, 2023 09:10 PST)

Property Owner Signature

11/27/2023

Date

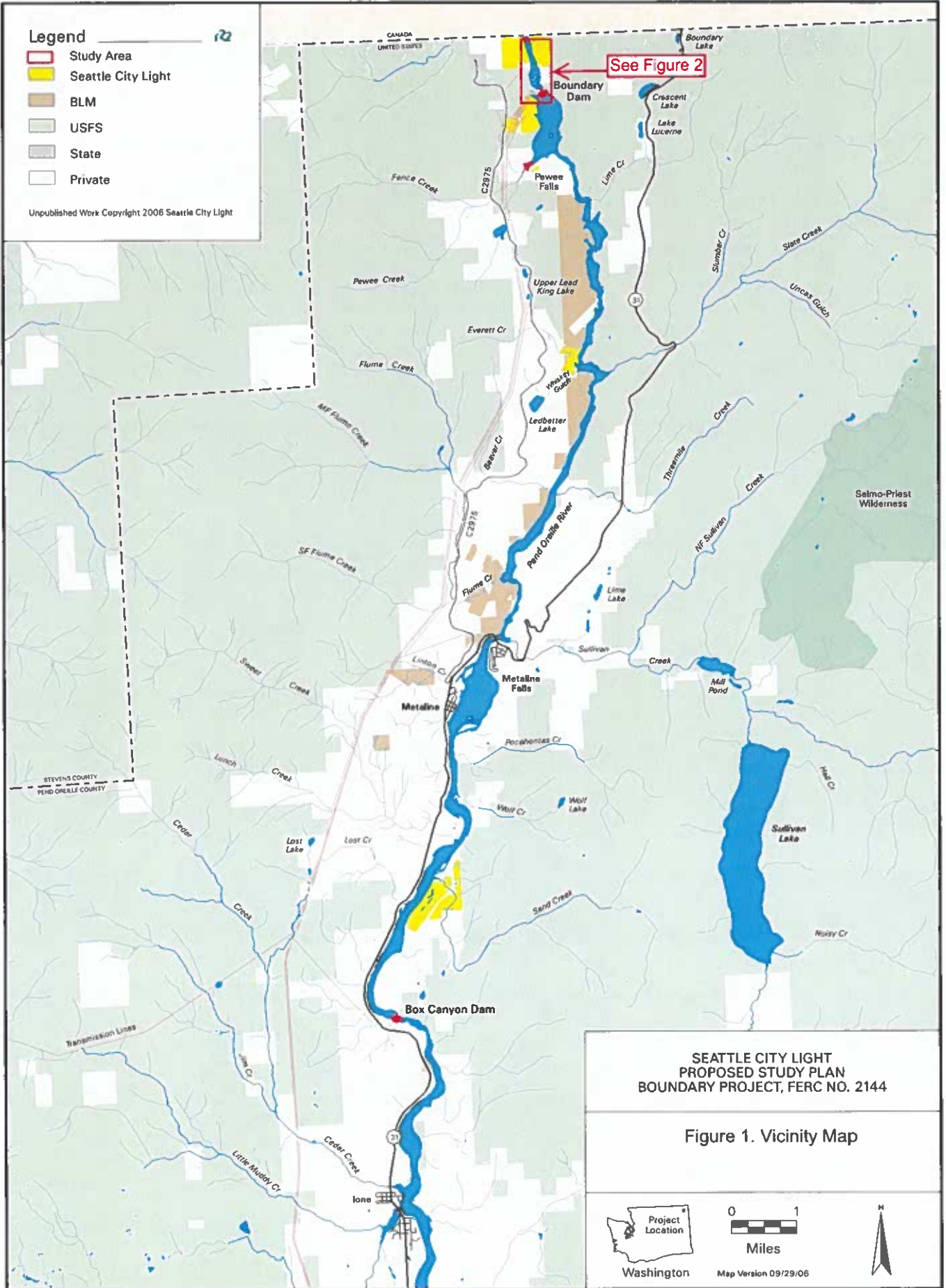
18 U.S.C §1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than 5 years or both.

If you require this document in another format, contact the Governor's Office for Regulatory Innovation and Assistance (ORIA) at (800) 917-0043. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341. ORIA publication number: ORIA-16-011 rev. 09/2018

Legend

- Study Area
- Seattle City Light
- BLM
- USFS
- State
- Private

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SEATTLE CITY LIGHT  
PROPOSED STUDY PLAN  
BOUNDARY PROJECT, FERC NO. 2144

Figure 1. Vicinity Map



Washington

Map Version 09/29/06





Figure 2. Locations of the seven acoustic tag detection hydrophone mounts places in the tailrace and forebay of Boundary Dam.



Figure 3. Photo of the heavy mounts (with hydrophone and cable attached) used for tailrace hydrophone placement for the Boundary Project telemetry monitoring.





Figure 4. Photo of the mount (with hydrophone and cable attached) used for monitoring sites in the Boundary Dam forebay and tailrace reaches for the Boundary Project telemetry monitoring project.





Figure 5. Intake Forebay #7 hydrophone mount deployed for the Boundary Project telemetry project.

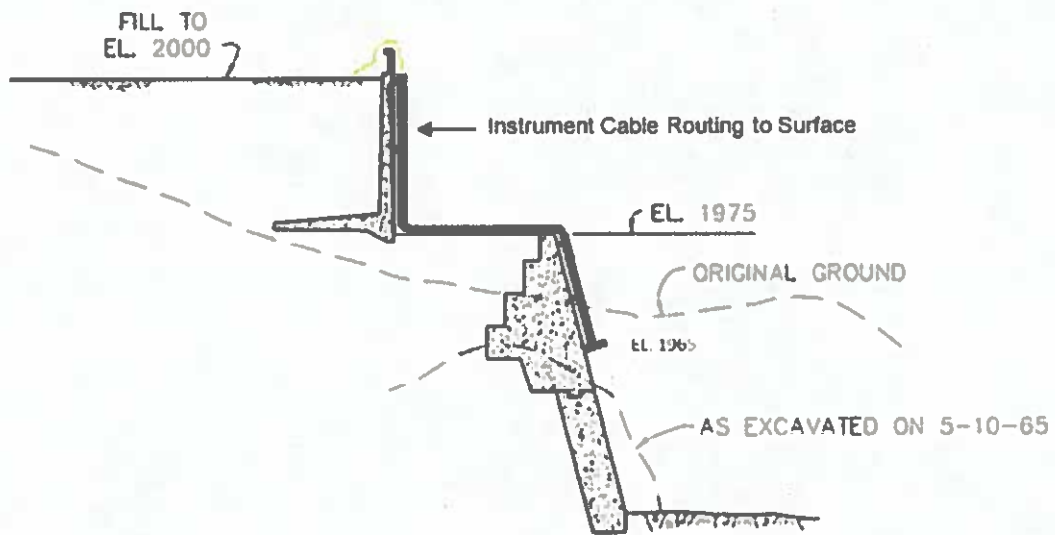


Figure 6. Side view of the Spillway West #5 hydrophone mount installation located upstream of Spill Gate 1, as deployed for the Boundary Project telemetry monitoring project.



Figure 7. Overhead view of the above water section of the Spillway West #5 hydrophone cable conduit attached to the parapet wall upstream of Spill Gate 1.