

Boundary Hydroelectric Project (FERC No. 2144)

Recreation Needs Analysis

Draft

Seattle City Light

April 2009

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ACRONYMS/GLOSSARY

ADA	Americans with Disabilities Act
ADAAG	Americans with Disabilities Act Accessibility Guidelines
BLM	Bureau of Land Management
BWP	Boundary Wildlife Preserve
CFR	Code of Federal Regulations
FERC	Federal Energy Regulatory Commission
GIS	Geographic Information System
I&E	interpretation and education
LA	License Application
NFS	National Forest System
NPS	National Park Service
O&M	operations and maintenance
PAD	Pre-Application Document
PLP	Preliminary License Proposal
PM&E	protection, mitigation, and enhancement (measure)
Project	Boundary Hydroelectric Project (FERC Project No. 2144)
PUD	Public Utility District
RCO	Recreation and Conservation Office (Washington State)
RD	recreation day
RNA	Recreation Needs Analysis
RRMP	Recreation Resource Management Plan
RRS	Recreation Resource Study, Final Report
RV	recreational vehicle
SCL	Seattle City Light
SR	State Route
USFS	US Forest Service
USR	Updated Study Report

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Boundary Hydroelectric Project (FERC No. 2144)

1 INTRODUCTION

Federal Energy Regulatory Commission (FERC) guidelines, as identified in Title 18 (Conservation of Power and Water Resources) of the Code of Federal Regulations (CFR), require that hydroelectric project licensees prepare a Recreation Needs Analysis (RNA) as part of their FERC license application (Subchapter B, Part 4, Subpart F, Section 4.51 of 18 CFR). To address this requirement, EDAW, Inc. prepared this Draft RNA as a follow-on analysis to the Recreation Resource Study Final Report (RRS) (SCL 2009) prepared for Seattle City Light's (SCL) Boundary Hydroelectric Project (Project) (FERC Project No. 2144). It provides a synthesis of recreation- and public use-related information collected during relicensing studies and identifies existing and future Project-related recreation needs. This Draft RNA will be finalized and included in the Project License Application following discussions with relicensing participants in 2009.

This Draft RNA reviews and compiles information and results from a number of relicensing documents including the Pre-Application Document (PAD) (SCL 2006) and the RRS (SCL 2009). It identifies both existing and future recreation needs related to the Project over the term of the new license (anticipated to be between 30 and 50 years). The results of the Draft RNA will be used to support the evaluation of proposed recreation resource protection, mitigation and enhancement (PM&E) measures for the Project. Proposed recreation PM&Es will ultimately be compiled into implementation programs and included in a Draft Recreation Resource Management Plan (RRMP), which will be filed with the License Application. The Draft RRMP will provide a framework as well as estimated costs, schedule, conceptual site plans, and other guidelines and directions to help manage recreation and public use at the Project during the new license term. Following license issuance by FERC, the Draft RRMP will be finalized by SCL.

While the Draft RNA identifies existing and future Project-related recreation needs that may be considered for implementation during a new license term, the results should not be interpreted as proposed PM&E measures by SCL. The results of the Draft RNA will be considered by SCL along with the results of other relicensing studies to assess cross-resource interactions prior to proposing actual Project PM&E measures for recreation resources.

2 STUDY AREA

Consistent with the PAD and RRS, the study area for the Draft RNA includes all lands and waters within the existing FERC Project boundary (Project area), as well adjacent areas (Project vicinity) including the following (Figure 2.0-1):

- The Pend Oreille River from the FERC boundary for the Box Canyon Project downstream to the US-Canada border (about 0.9 mile downstream of Boundary Dam),
- The land within 0.25 mile on either side of the river downstream of Boundary Dam to the US-Canada border,
- From Boundary Dam to Metaline Falls, the area between State Route (SR) 31 (on the east side of the reservoir) and County Road 2975 (on the west side of the reservoir),
- From Metaline Falls to the FERC boundary for the Box Canyon Project, the area between SR 31 (on the west side of the reservoir) and 0.25 miles east of the reservoir shoreline, and
- The SCL-owned Boundary Wildlife Preserve (BWP) and adjoining property.

The Project area includes the 17.5-mile-long, approximately 1,636-acre Boundary Reservoir, as well as three developed recreation sites that are managed by SCL:

- Tailrace Recreation Area/Machine Hall Visitors' Gallery,
- Forebay Recreation Area/Boat Ramp, and
- Vista House.

In addition to the three SCL-managed sites, there are five developed recreation sites in the study area that are not owned/operated by SCL. They include:

- US Forest Service (USFS) Crescent Lake Recreation Area,
- Bureau of Land Management (BLM) Boundary Recreation Area,
- Town of Metaline Waterfront Park/Boat Ramp,
- Sweet Creek Falls Rest Area/Trail, and
- Pend Oreille County Public Utility District (PUD) Campbell Park/Boat Ramp.

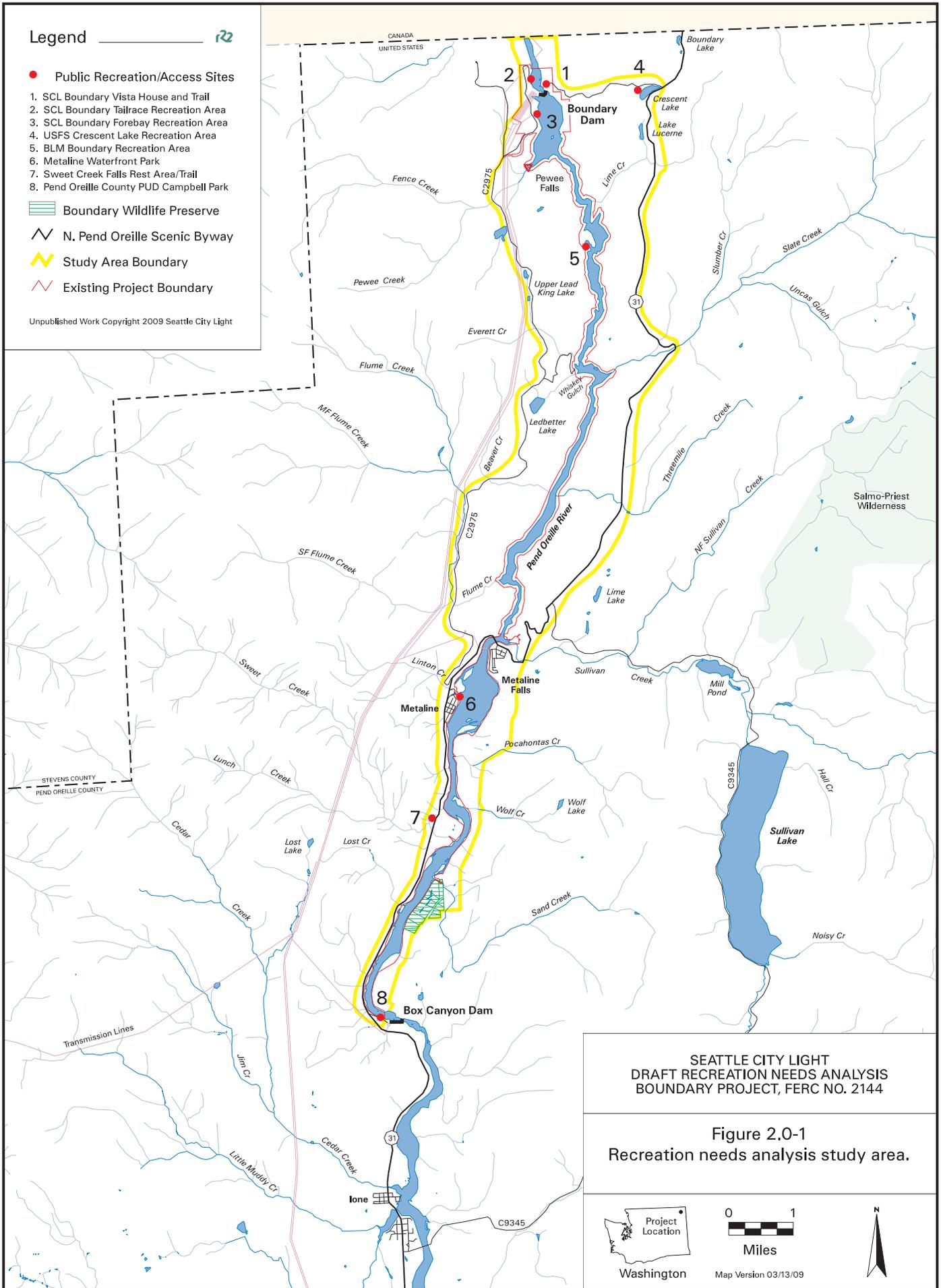
Three of these recreation sites (BLM Boundary Recreation Area, Metaline Waterfront Park/Boat Ramp, and Pend Oreille County PUD Campbell Park/Boat Ramp) provide access to Boundary Reservoir. The remaining two sites (Sweet Creek Falls Rest Area/Trail and USFS Crescent Lake Recreation Area) were included in the RRS study area and are located near the Project, but not within the FERC Project boundary and not adjoining the reservoir. While the RNA study area includes both the Project area and adjacent vicinity, the analysis (i.e., determination of recreation-related needs) and any subsequent PM&E measures that may evolve from the results of the analysis focus on Project-related recreation resources with a Project nexus (Section 3 of this RNA). SCL cannot make management commitments for other entities (e.g., USFS, BLM, town of Metaline or Metaline Falls, Pend Oreille County PUD, etc.), nor does FERC have jurisdiction to enforce PM&Es outside of the FERC Project boundary.

Legend



- Public Recreation/Access Sites
- 1. SCL Boundary Vista House and Trail
- 2. SCL Boundary Tailrace Recreation Area
- 3. SCL Boundary Forebay Recreation Area
- 4. USFS Crescent Lake Recreation Area
- 5. BLM Boundary Recreation Area
- 6. Metaline Waterfront Park
- 7. Sweet Creek Falls Rest Area/Trail
- 8. Pend Oreille County PUD Campbell Park
- Boundary Wildlife Preserve
- N. Pend Oreille Scenic Byway
- Study Area Boundary
- Existing Project Boundary

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DRAFT RECREATION NEEDS ANALYSIS
BOUNDARY PROJECT, FERC NO. 2144

Figure 2.0-1
Recreation needs analysis study area.



Washington



Miles



Map Version 03/13/09

3 METHODOLOGY

The methodology used for the Draft RNA consisted of two primary tasks:

- Review and synthesize existing information
- Identify current and future Project-related recreation needs

3.1. Review and Synthesize Existing Information

The primary sources of information for the Draft RNA include the PAD (SCL 2006), the RRS Final Report, and the Land and Roads Study Final Report; the latter two are part of the Updated Study Report (USR) (SCL 2009). In addition, an Assessment of Road Use for Recreation was conducted (Appendix 1) and was used in the analysis. Information from each of these documents, and from other recreation-related literature and onsite observations, was reviewed to help identify existing and potential future recreation needs for the Project area. In general, detailed information from the PAD and RRS are not repeated here, except as necessary. Additional sources of data that were used to help inform the Draft RNA are cited as appropriate and listed in Section 7 and in Appendices 1-6.

3.2. Identify Current and Future Project-related Recreation Needs

Current and future recreation needs in the study area were identified by focusing the review and subsequent synthesis on key determinates of recreation need, including recreation site and use area conditions, visitor and area survey results, recreation site and use area capacity estimates, regional recreation trends and demand, and stakeholder input. In general, a recreation need is defined as an action or measure that is necessary to continue providing quality recreation opportunities or to provide for anticipated future opportunities. Traditionally, recreation needs have been determined by subtracting the supply of recreation opportunities from the demand for these opportunities (the resulting gap between supply and demand is considered a need). While this basic formula provides a foundation for determining recreation needs, it does not fully capture the complexity of recreation opportunities.

Given the complex nature of recreation needs and subsequent management, other factors (including, but not limited to management objectives, regional setting, capacity, environmental context, socio-economic climate, visitor safety, and professional judgment) are also typically considered when determining both existing and potential future recreation needs. The recreation needs identified in Section 5 are based on supply, demand, capacity, and other recreation-related aspects presented in the PAD and RRS, as well as regional trends and context, previous experience conducting RNAs and RRMPs for other FERC-licensed hydroelectric projects in the Pacific Northwest, multiple onsite observations, the Assessment of Road Use for Recreation (Appendix 1), and professional judgment, among other salient factors.

At FERC licensed hydroelectric projects, identified recreation needs must have a strong connection to a project, that is, there must be a project nexus. For purposes of the Draft RNA, project nexus is defined as a connection between the Project and/or Project operations and recreation resources (e.g., a Project effect on recreation resources, a Project operations effect on recreation, or an effect from recreation activity on Project area resources). A need was

considered to have a Project nexus if it met at least one of the following Project effects-related criteria:

- Action is needed to provide safe, adequate and/or enhanced public access to Project lands and water during the anticipated term of the new FERC license;
- Action is needed to address existing and/or anticipated future impacts of Project operations on recreation resources; and
- Action is needed to address existing and/or anticipated future recreation-related impacts on other Project area resources.

In addition to meeting one of the criteria above, a Project-related need (i.e., with a Project nexus) should also help support and/or improve water-based and/or water-enhanced recreation opportunities in the Project area and be compatible with other potential resource actions (e.g., terrestrial, fish and aquatics, cultural, etc.) that may have a Project nexus.

Within the Project nexus context, broad activity-based and programmatic recreation needs are identified in Section 5. Then, based on these broader needs, a potential scenario for meeting these needs is presented in Section 6. The potential actions and measures proposed in Section 6 are organized into two general categories (to help facilitate future development of the Draft RRMP):

- Recreation capital facility development actions/measures
- Programmatic and operations and maintenance (O&M) actions/measures

As noted previously, recreation needs and related actions identified in Sections 5 and 6 respectively should not be construed as proposed PM&E measures by SCL at this time. The results of the Draft RNA will be considered along with the results of other relicensing studies to develop proposed PM&E measures that take into account all resource and Project facility and operational needs, not only recreation and public access needs.

4 PROJECT VISION

Except for certain basic features such as providing for public health and safety, recreation resource management programs are not the same from location to location. Even at FERC-licensed hydroelectric projects, which typically provide public water-based recreation opportunities, there is often a range of alternatives on how best to provide for these opportunities. Recreation program alternatives may vary based on differing visitor and area resident needs that can change over time, unique characteristics and opportunities available at each location, differing physical conditions and site and management constraints, and the desired recreation experience to be provided. Primary recreation activities provided should be consistent and compatible with each location's unique natural setting and resources, and the recreation facilities and programs provided should be consistent with the desired recreation experience and setting.

Therefore, a vision is needed to help guide development and implementation of recreation resource programs. This section provides a vision for the Project area and helps guide the

identification of existing and future recreation needs at the Project, as well as potential measures to help satisfy those needs. The vision will also help guide development of the Draft RRMP for the Project and potential updates to the RRMP during the new license term.

First, it is important to acknowledge the unique qualities of the Project area, qualities that should be preserved and/or enhanced over time and not degraded. The recreation program that is proposed should be compatible with these unique qualities, the reason why visitors choose to come to the Project area and why many area residents choose to reside in the vicinity. These unique qualities of the Project include the following:

- The canyon area of the reservoir between the falls and the forebay, known as the Canyon Reach, is unique in the region. It offers an outstanding water-based experience to view the unique features in the canyon including geology and steep rock faces, wildlife, historic structures and old mining adits, waterfalls and seeps, dense forest vegetation, and a sense of enclosure. One can achieve solitude here or have a group experience. This is a destination experience.
- Peewee Falls is another outstanding natural feature in the Project area. Located in a cove in the forebay, water from Peewee Creek drops to the reservoir along a rock face. The falls is large, loud, and can be seen well from a distance across the forebay. This is a destination experience.
- The falls or rapids north of the SR 31 bridge and Metaline Falls are unique. Located below Washington Rock and in a natural canyon pinch point, this unique natural feature can be observed from the bridge, via watercraft, and from viewpoints on the shoreline. Boating through the falls can be a constraint or barrier but also a desired experience for some.
- The Project facilities constitute a unique engineering wonder. The thin-arch dam crosses a narrow gap in the steep river canyon, and the Machine Hall, carved out of solid rock, is huge and houses several large generators. Even the Project transmission lines include unique “pickle forks” that are very different to look at. The Project is a destination and may be experienced via group tours or individually from the Vista House, Forebay Recreation Area, and Tailrace Recreation Area/Machine Hall Visitors’ Gallery.
- The northern portion of the Project area (north of the SR 31 Bridge) is represented by a densely forested river corridor rimmed with steep slopes, rock faces, and mountains.

To protect these unique Project features and the natural setting, and to preserve and/or enhance the unique recreation experience enjoyed by visitors and area residents alike, the following is a vision for the recreation resource program for the Project:

- Protect and enhance the unique natural features of the Project and the natural, uncrowded visitor experience during the new license term. Monitor conditions over time and take appropriate management actions as needed.

- Focus new facilities and amenities at existing recreation sites and use areas where feasible, thereby preserving the Project's other natural areas for low impact, dispersed recreation use and conservation.
- Enhance reservoir access opportunities at boat launches while maintaining lower, uncrowded boating use levels on the water.
- Provide visitors with new day use trail (land and water) opportunities to experience Peewee Falls and the Canyon Reach.
- Enhance the interpretation and education (I&E) experience and visitor awareness at Project recreation sites and facilities, including Project engineering and renewable energy production, natural and cultural resources, and safe boating on the reservoir.
- Provide and maintain adequate recreation facilities that are not crowded, are well maintained, and are designed to provide a natural, non-urban experience.
- Provide recreation facilities that are accessible to all visitors and area residents, where feasible, including the physically disabled.

5 ANALYSIS OF PROJECT NEEDS

Project recreation needs were assessed by reviewing several sources of information, recognizing that it is prudent to base decisions on more than one indicator. Overall, based on several indicators of recreation need (e.g., activities, use levels, satisfaction, visitor/area resident identification of needs), the existing supply of recreation opportunities in the study area appears to meet most current recreation needs with some exceptions. Further, the Project's primary recreation activities are consistent with the study area's setting, resources, and developed recreation facilities (Project vision).

Recreation use level is one indicator of need. Recreation days (RD) are FERC's preferred unit of recreation measurement. One RD is defined as a visit by a person to a recreation area for any length of time during a 24-hour period. Current use in the study area accounted for approximately 25,000 RDs in 2007 (SCL 2009), which is generally within the established capacity limits of existing developed recreation sites. This estimate includes some use that is not Project-related (e.g., visitors to the Sweet Creek Falls Rest Area). Table 5.0-1 indicates the estimated annual use, in RD, for each of the study area's recreation sites where use is most likely to be Project-related. Estimated current Project-related recreation use is 15,000 RD. Annual recreation use at SCL's three developed recreation sites accounts for approximately 11,100 visits. Of the SCL-managed sites in the Project area, the Forebay Recreation Area (campground and day use area combined) has the highest estimated annual use (6,500 RD).

Table 5.0-1. Estimated Project-related recreation use in the study area.

Recreation Site/Use Area	Estimated Annual Use (Recreation Days)
Vista House (SCL)	2,200
Tailrace Recreation Area/Machine Hall Visitors' Gallery (SCL)	2,400
Forebay Recreation Area – Campground (SCL)	1,900
Forebay Recreation Area – Day Use Area (SCL)	4,600
Boundary Recreation Area (BLM)	100
Metaline Waterfront Park (town of Metaline) – Reservoir-based Use/Boat Launch Only	1,800
Box Canyon Campbell Park Boat Launch (Pend Oreille County PUD)	600
Reservoir Dispersed Campsites	400
Private Shoreline Use Areas	1,000
TOTAL	15,000

Source: SCL 2009

Recreation visitor experience is another important indicator of need. Both visitors and area residents rated highly the current recreation experience in the study area (SCL 2009). Approximately 76 percent of area residents and 87 percent of visitors gave the current experience a rating of 7 (mid-point between average and excellent) or higher on a 9-point scale. Furthermore, a majority of visitors (53 percent) and a plurality of area residents (39 percent) indicated that they were satisfied with recreational activities and facilities currently available in the study area.

While visitor satisfaction is an important consideration, it is only one indicator of need. Other existing sources of information indicate that there are some targeted needs that would help improve and/or enhance recreation opportunities in the study area and more specifically the Project area. Existing and potential future Project-related (as defined in Section 3.2) recreation needs are discussed below. For purposes of this analysis, Project-related needs are presented in three categories including:

- Needs Related to Project Operations
- Needs Related to Recreation Sites and Use Areas
- Needs Related to Public Access

Within each of these categories, Project-related needs are identified (presented as a statement of need), potential actions or measures to help meet the need are listed, and the basis for the need is explained. As stated previously, the focus of the Draft RNA and specifically this section is on Project-related recreation needs (i.e., those with a Project nexus) and not on comprehensive regional recreation needs (though meeting some Project-related needs may help address some regional needs as well).

5.1. Needs Related to Project Operations

Project effects-related needs are identified in this section. Project effects include impacts from Project operations on recreation opportunities, as well as recreation-related impacts on other resources.

5.1.1 Project Operational Effects on Recreation Opportunities

Identified Need: There is a need to address the effects of Project reservoir water surface elevation fluctuations during the primary recreation season (generally Memorial Day weekend through Labor Day weekend) on recreation resources and public access to the reservoir.

Potential Actions/Measures to Address Need: To address this need, SCL is proposing to adopt the currently voluntary higher water surface elevations during the primary recreation season (see below). Further, SCL may consider extending boat ramp lanes to better facilitate boating access to the reservoir, and enhancing communications to the public regarding seasonal reservoir water surface elevation changes.

Basis for Need: Hydroelectric project operations can result in reservoir water surface elevation fluctuations that may potentially impact recreation resources and reservoir use levels. Reservoir water surface elevation fluctuations can affect the overall accessibility of the reservoir and specifically the usability of boat launches. Most visitors and area residents are generally satisfied with their boating experience at Boundary Reservoir; however, the RRS also indicates that some visitors and area residents are somewhat dissatisfied with the boat launches at the reservoir (SCL 2009). A portion of this visitor dissatisfaction is because of the physical condition of the boat launches; however, visitors also expressed some concern about the effect of reservoir water surface elevations on their ability to safely and easily launch/retrieve a boat when water surface elevations are lower. As such, reservoir surface elevation fluctuations resulting from Project operations may at times adversely affect public boat launching (and retrieval) at the Project.

From Memorial Day weekend to Labor Day weekend, SCL voluntarily restricts forebay water surface fluctuations to facilitate reservoir access and related-recreational activities. The voluntary summer forebay water surface elevation restriction involves maintaining water surface elevations above 1,984 feet NAVD 88 from 6:00 am through 8:00 pm from Memorial Day weekend (starting Friday evening) through Labor Day weekend (on Monday evening). At night during the voluntary summer restriction period, the forebay water surface elevation is maintained above elevation 1,982 feet NAVD 88 from 8:00 pm through 6:00 am. SCL is proposing to make this voluntary restriction a condition of the new FERC license.

Identified Need: There is a need to provide safe, non-motorized boating access through or around the falls (located north of the SR 31 bridge and the town of Metaline Falls).

Potential Actions/Measures to Address Need: To address this need, SCL may consider developing a portage trail around the falls and enhancing communications with the public regarding flow conditions at the falls and potential hazards to boaters.

Basis for Need: Project operations, sometimes in combination with high natural river flows such as spring runoff, can result in difficult boating conditions at the falls that sometimes make the falls impassable or unsafe, especially for non-motorized watercraft. As documented in the RRS, a small portion of Project visitors and area residents identified difficulty with navigating the falls as an issue at the Project (SCL 2009). This indicates that for some Project visitors and area residents, the water conditions associated with the falls may adversely affect their boating experience at certain times (for the majority of visitors and area residents, however, neither the falls nor any other aspect of existing Project operations was reported as adversely affecting their overall boating use of the reservoir). The falls in effect creates two zones of the reservoir that sometimes cannot be safely traversed by watercraft from one zone to the other.

5.1.2 Project-Related Recreation Effects on Resources

Identified Need: There is a need to minimize potential impacts from recreation activities on other Project resources (e.g., wildlife, RTE plants, etc.).

Potential Actions/Measures to Address Need: To address this need, SCL may consider periodically monitoring recreation-related impacts, temporarily/permanently closing dispersed use sites to protect sensitive resources, coordinating recreation actions/measures with other resource areas, directing/managing use at dispersed recreation sites, and/or educating/informing visitors of impacts that may potentially result from recreational pursuits at the Project.

Basis for Need: Developed recreation sites and use areas (i.e., sites/use areas featuring designed and constructed facilities) are designed to minimize potential recreation impacts on other resources by concentrating use at developed/hardened sites. Dispersed recreation sites or use areas tend to have a greater potential for impacts on other resources, including erosion (soil), vegetation trampling and damage (plants), spread of noxious weeds (plants), wildlife harassment (wildlife), and vandalism (historic/cultural), among others. In dispersed use areas (those areas without hardened or built features to concentrate visitor use in appropriate areas), the extent to which recreation activity may impact other resources is typically a function of environmental durability, and to a lesser extent the types and levels of recreational use (Hammitt and Cole 1998). Environmental durability is the ability of a site or area to tolerate recreational use without being significantly impacted. It is a function of soil type, amount and types of vegetation, topography, weather, presence and types of wildlife species, and the presence of wetlands/riparian areas, among other factors. There is not one type of environmental setting that is most suitable for recreation. Instead, each individual site or area has a set of environmental characteristics that make it more or less susceptible to recreation impacts.

Overall, dispersed recreational use at the Project does not have a widespread negative effect on other Project resources. Potential effects from dispersed recreational use are minor and localized at a few shoreline locations at this time. The RRS identified approximately 25 dispersed shoreline sites or use areas in the Project area. The study also assessed biophysical impacts (e.g., vegetation trampling, erosion, accumulated trash, poor sanitation) at each of these sites. The assessment found little occurrence of observable biophysical impacts at these sites from recreation use. Nonetheless, several of the other resource studies found a few areas of shoreline erosion and vegetation damage (SCL 2009) that were attributed to Project-related recreational use.

5.2. Needs Related to Recreation Sites and Use Areas

Existing and future recreation site- and use area-related needs are identified in this section. In general, the current supply of Project-related recreation sites and use areas appears to meet current demand. Overall, recreation capacity is not considered a significant issue, except for one site (Appendix 2 provides an overview of recreation capacity considerations at the Project). However, as identified below, there are some existing and future needs that would enhance recreational opportunities, if implemented.

5.2.1 Existing Recreation Sites/Use Areas

Identified Need: There is a need to enhance two boat launches at the Project.

Potential Actions/Measures to Address Need: To address this need, SCL may consider extending two boat ramp lanes, one above and one below Metaline Falls, to provide access at lower reservoir water surface elevations. Additionally, SCL may consider providing improved boater support facilities at the two boat ramps (including boarding floats, parking and circulation, and signage, among others).

Basis for Need: There are two public boat launches that provide boating access to Boundary Reservoir, one for each reservoir zone (north and south of Metaline Falls), excluding the boat launch operated by Pend Oreille County PUD at Campbell Park below the Box Canyon Dam tailrace. These two boat launches are located at the SCL Forebay Recreation Area and at the town of Metaline Waterfront Park. The RRS identified issues at each of these two boat launches. Specifically, the Forebay Recreation Area boat launch can become unusable at lower reservoir water surface elevations. In addition, the boarding float would benefit from repair or replacement. The town of Metaline Waterfront Park boat launch's general condition is described as poor because of cracks, exposed rebar, and holes in the concrete boat ramp; shoreline erosion at the boat ramp; sand bars in the boating approach; a difficult vehicular approach angle (for launching/retrieving watercraft); and difficulty launching a boat at lower reservoir water surface elevations (related to the boarding dock, as well as boat ramp usability at lower elevations) (SCL 2009).

In addition to condition-related concerns at both the Forebay Recreation Area and Metaline Waterfront Park boat launches, visitor and area resident surveys also indicated a desire for improved boat launches. In general, 43 percent of visitors and 47 percent of area residents reported using a watercraft on Boundary Reservoir (SCL 2009). These visitors and area residents primarily used the Forebay Recreation Area (visitors – 78 percent, area residents – 69 percent) and Metaline Waterfront Park (visitors – 21 percent, area residents – 70 percent) boat launches. Overall, these two boat launches met the general boating needs of approximately 91 percent of visitors, but only 68 percent of area residents. Water conditions (related to reservoir boating) were not a problem for approximately 70 percent of visitors and 54 percent of area residents.

For those visitors (9 percent) and area residents (32 percent) who indicated that the two existing boat launches did not meet their needs, boat ramp conditions and reservoir water levels were the most frequently reported issues. In particular, area residents ranked boat ramps and boat docks

as important attributes of their recreational experience, but ranked their satisfaction lower for each of these facility types (see description of Importance/Satisfaction survey component in Appendix 3). In addition, a small portion of both visitors and area residents expressed a desire for better boat launches and docks in response to open-ended RRS survey questions.

Identified Need: There is a need to increase camping capacity at the Project.

Potential Actions/Measures to Address Need: To address this need, SCL may consider adding new RV and tent campsites at the Forebay Recreation Area as feasible, improving boat-in shoreline campsites for dispersed campers (where feasible and in support of a potential water trail on the Pend Oreille River), consider a camping reservation system during peak times in future years if needed, and/or informing visitors of peak/non-peak periods of camping use (to help distribute use throughout the season).

Basis for Need: Currently, campsites are provided at the Forebay Recreation Area. There are 11 campsites at this SCL-managed site as of 2008, though two designated day use sites also appear to be used as de facto campsites at times. As identified in the RRS, camping at the Forebay Recreation Area is considered to be approaching capacity at times during the recreation season weekends (approximately mid-May through the end of October) and exceeding capacity during a few peak summer weekends (Memorial Day through Labor Day) (SCL 2009). The RRS estimates that on average, about 6 campsites (4.6 during weekdays; 8.5 during weekend days) are occupied during the peak summer season. If camping use increases as anticipated, weekend use is expected to reach 80 percent capacity by 2010 and 100 percent capacity by 2033 (Appendix 4). Weekday camping is estimated to reach 60 percent capacity by 2043 (Appendix 4).

Day use picnic elements of the Forebay Recreation Area are considered to be approaching capacity on peak summer weekends, in large part because of camping capacity concerns (including occasional camping use of designated day use sites). This capacity issue also appears to be a function of the overall design of the facility, including the lack of separation between site elements (e.g., campsites, day use areas, boat launch, etc.), signage, and visitor management/enforcement of rules and site designations.

In addition to camping capacity and use concerns, the RRS also identified site condition issues and concerns at the Forebay Recreation Area campground, including some vegetation loss, uneven ground, ground disturbance, and weed infestation. Furthermore, the RRS surveys and in particular the visitor survey, indicated that about 30 percent of visitors identified specific recreation needs at the Project, including potential recreational vehicle (RV) hookups/campsites (21 responses), more/better campsites (13 responses), and more privacy at campsites (9 responses). The area resident survey also identified a need for dispersed boat-in campsites (4 responses).

Identified Need: There is a need to enhance day use opportunities at the Project.

Potential Actions/Measures to Address Need: To address this day use need, SCL may consider improved picnic sites, enhanced access to day use sites (see Section 5.3), a delineated swimming area separated from boaters and personal watercraft (PWC) users, and/or new or updated interpretation and education (I&E) facilities and related scenery/sightseeing opportunities.

Basis for Need: The top 15 recreation activities in the study area (per RRS results) are listed in Table 5.2-1 (SCL 2009). For both visitors and area residents, viewing scenery/sightseeing is the most popular activity in the study area. The majority of popular activities in the study area are day use activities. Because a majority of visitors (approximately 58 percent – includes visitors from North Pend Oreille, South Pend Oreille, and Spokane counties), as well as area residents live in the vicinity of the study area, it makes sense that the most popular activities would be day use-oriented.

Table 5.2-1. Top 15 activities in the study area.

Activity	Study Area Visitors		Study Area Residents	
	Activity Rank ¹	Primary Activity Rank ²	Activity Rank	Primary Activity Rank ²
Viewing scenery/sightseeing	1	1	1	1
Swimming	2	4	4	4
Picnicking	3	9	2	6
Socializing	4	7	–	–
Photography	5	–	8	–
View/visiting dams	6	–	6	9
Fishing	7	2	3	3
Developed camping	8	3	–	7
Day hiking/nature trails	9	8	9	–
Scenic byway	10	–	–	–
Canoeing/kayaking	–	5	–	8
Motor boating	–	6	7	2
Scenic byway/SR 31 travel	–	10	–	–
Resting/relaxing	–	–	5	5
Nature study	–	–	10	–
Other	–	–	–	10

Notes:

- 1 Activity Rank – survey respondents selected all activities they participated in while in the study area. Activities in this column are ranked based on participation (e.g., viewing scenery/sightseeing was the most participated in activity).
- 2 Primary Activity Rank – survey respondents selected one primary activity. Activities in this column are also ranked based on participation.

Source: SCL 2009

Many of the popular activities in the study area are also popular in the region, as well as the state. Table 5.2-2 lists the top 10 activities for the Northeast Region and the state (RCO 2006). There are some ranking differences between popular study area activities and regional/state activities, but this is likely due to the more focused nature of the study area rankings (i.e., they are specific to the study area's current supply of recreation opportunities). The most popular activities in the region/state are day use as opposed to camping activities. Recent trends indicate that growth in day use activities (as measured by the number of people and frequency of participation), especially nature-based activities, has outpaced growth in camping both in the region and the U.S. (Cordell 2004).

Table 5.2-2. Top 10 activities (based on frequency) in the Northeast Region and State.¹

Activity	Northeast Region (rank) ²	State (rank)
Walking without a pet	1	1
Nature Activities – Observation/Photography	2	2
Walking with a pet	3	3
Picnicking	4	4
Hiking	5	6
Sightseeing	6	5
Hunting (all types)	7	9
Swimming	8	7
Motor boating	9	10
Fishing (all types)	10	8

Notes:

1 Table ranks popular activities in the Northeast Region and State by estimated annual frequency. Only activities that occur in the study area are included.

2 The Northeast Region includes the study area.

Source: RCO 2006

Given the prevalence of day use activities in the study area, it is not surprising that both visitors and area residents identified facility needs and other opportunities associated with day use activities. The results of the Importance/Satisfaction component of the RRS surveys indicate that both visitors (drinking water, navigational hazard marking, fishing opportunities, trails) and area residents (navigational hazard marking, river/shoreline fishing access) ranked several day use attributes of their recreation experience as important, but provided lower satisfaction ratings for each of these facility types/experiences (see description of Importance/Satisfaction survey component in Appendix 3). A list of other needs identified in the visitor and area resident survey results is presented in Table 5.2-3. Approximately 30 and 31 percent of surveyed visitors and area residents, respectively, indicated that they were not satisfied with the current recreation activities and/or facilities in the study area. The potential needs identified in Table 5.2-3 are based on the summarized responses from those visitors and area residents who responded to open-ended needs questions; these items are not presented in any particular order of priority.

Table 5.2-3. Study area needs as identified by visitors and area residents.

Visitors	Area Residents
Improved restroom facilities (including showers)	Access for the physically disabled
More/improved signage and maps	Better maintenance
Playgrounds	More restrooms
Improved swimming areas	More trash receptacles
Hiking trails	Trails
	Better beach/swimming areas
	Increase security/enforcement of rules

Source: SCL 2009

Identified Need: There is a need to provide improved Americans with Disabilities Act (ADA)-accessible site features and amenities at the Project.

Potential Actions/Measures to Address Need: To address this need, SCL may consider retrofitting existing developed recreation sites if feasible to incorporate ADA-accessible site elements (e.g., campsites, picnic sites, parking area, restroom, etc.). ADA-accessible features would also be included in new developed recreation facilities that might be constructed during the term of the new license. To the extent feasible, these ADA-related improvements would be considered in conjunction with other site enhancements.

Basis for Need: Additional ADA-accessible public access routes and recreation facilities are needed to meet the needs of the physically disabled. Thus actions should be considered to meet these needs. The ADA prohibits discrimination and ensures equal opportunity for persons with disabilities in employment, state and local government services, public accommodations, commercial facilities, and transportation. At SCL-managed recreation sites in the Project area, the extent of current ADA-compliant features includes two parking spaces at the Tailrace Recreation Area. For other recreation sites in the larger study area administered by other entities, other ADA-compliant recreation facilities include a restroom and picnic tables at the USFS Crescent Lake Recreation Area (SCL 2006).

During the RRS, focus group participants and several survey respondents indicated a need for increased ADA-accessibility in the study area (SCL 2009). In particular, focus group participants highlighted the lack of ADA-accessible boat launches (with accessible boarding floats and gangways). None of the current boat launches at Boundary Reservoir are ADA accessible.

The U.S. Architectural and Transportation Barriers Compliance Board (Access Board) provides guidelines for ADA-related improvements at developed recreation sites (note: these guidelines are not considered enforceable until they become a rule). The Access Board periodically updates and develops new guidelines for different types of developed facilities, referred to as ADA Accessibility Guidelines (ADAAG). The Access Board has developed a set of Accessibility Guidelines for Recreation Facilities (Access Board 2002) and Outdoor Developed Areas (Access

Board 2007), but they remain draft sets of guidelines at this time. ADA-accessibility is generally applied during the design, construction, and/or alteration of buildings and facilities, including developed recreation sites if feasible. Existing developed recreation facilities and sites are typically not mandated for ADA-related upgrades until they are significantly modified or replaced; however, many FERC licensees often develop a program to improve recreation facility accessibility over time. As such, the latest ADAAG for Recreation Facilities and/or Outdoor Developed Areas should be reviewed during the design phase for any improved and/or new recreation sites that may be developed during the new license term. Other future ADA-related improvements would only need to be done during major facility renovations or during new facility construction.

Identified Need: There is a need to continue to provide adequate annual operations and maintenance (O&M) at Project-related recreation sites and use areas over the new license term.

Potential Actions/Measures to Address Need: To address this need, SCL will continue to provide annual O&M at Project recreation sites and may also continually reassess the public access/security policy at the Tailrace Recreation Area/Machine Hall Visitors' Gallery.

Basis for Need: Good facility maintenance is essential for providing a safe and satisfactory recreation experience. Routine maintenance at recreation sites and use areas is necessary to deal with normal wear and tear, as well as changing facility conditions resulting from changing environmental circumstances. In general, the existing site features and amenities at the three SCL-managed recreation sites at the Project are well maintained and in generally good condition, although area residents did indicate a need for better maintenance and more trash receptacles (Table 5.2-3) during the RRS survey (SCL 2009). SCL's routine maintenance of its developed recreation sites should continue during the new license term. Best management practices and a schedule for maintenance should also be included in an Annual O&M Program.

Currently, SCL security policies require that all visitors to the Tailrace Recreation Area/Machine Hall Visitors' Gallery must pass through a staffed-security gate and participate via a staffed guided tour only. While this security policy is in place to provide for the continued safety and security of Project hydroelectric facilities, it likely results in lower use levels at the Tailrace Recreation Area/Machine Hall Visitors' Gallery. It is common for FERC licensees to have similar security policies that restrict public access and recreational uses, especially around hydroelectric facilities such as dams or powerhouses. However, licensees typically re-assess and evaluate potential changes to their security policies on a periodic basis as conditions can change over time.

5.2.2 Potential Future Recreation Sites/Use Areas and Facilities

Identified Need: There will be a need to replace or significantly repair recreation site features and amenities, as needed, at the end of their life cycle during the new license term (30 to 50 years).

Potential Actions/Measures to Address Need: To address this need, SCL would continue to provide O&M over the new license term at SCL-managed recreation sites, periodically monitor

the condition of those facilities, repair them as needed, and/or replace site facilities at the end of their normal life cycle.

Basis for Need: As noted previously, good facility maintenance is important in the provision of safe and satisfactory recreation experiences. Even with routine maintenance, recreation facilities and amenities have an expected life cycle and need to be replaced over time. Recreation managers typically account for replacing specific site features and amenities during their long range plans (including FERC RRMPs). The timing of facility replacements is then re-assessed based on periodic facility condition assessments.

Identified Need: There is a need to address potential changing recreation site and use area needs based on the results of a periodic monitoring program.

Potential Actions/Measures to Address Need: To address this need, SCL will consider periodically monitoring recreation use levels at Project-related recreation sites and use areas and social and biophysical conditions in the Project area. SCL will also develop a recreation monitoring program that would be included as a component of the RRMP. This program would reflect the lower visitor use levels at the Project and would define monitoring program indicators and standards, as appropriate.

Basis for Need: Of particular importance to the long-term provision of appropriate recreation opportunities is the development of a rigorous but efficient periodic recreation monitoring program. A periodic monitoring program is an important management tool that can help identify and address recreation changes during the term of the new license that may not be anticipated at this time (potential changing recreation demand influences are described in Appendix 5). At a minimum, FERC requires licensees to file a Licensed Hydropower Development Recreation Report (Form 80) every six years. Form 80 is used to provide a periodic estimate of recreation use levels and capacity.

In addition to Form 80-related monitoring, a modestly expanded monitoring program can assist in the long-term recreation decision-making process. In particular, a periodic monitoring program may be used to monitor key elements of a sustainable recreation experience (specifically biophysical and social capacity) and help update visitor/area resident needs over time. Biophysical (e.g., impacts to natural resources) and social (e.g., crowding, conflict, satisfaction, etc.) conditions are fundamental elements of a recreation experience and are typically addressed in recreation monitoring efforts.

Recreation managers commonly use an indicators-and-standards approach to monitoring, an approach that is likely appropriate for the Project. Monitoring indicators identify the key issues or variables to monitor over time and are generally used to define the desired recreational experience. Monitoring standards define criteria for acceptability and help define the minimum acceptable condition for each indicator. Monitoring standards are sometimes referred to as “triggers” in that once they are reached and a sustained trend is identified, further management actions are warranted (or triggered).

Identified Need: There is a need to manage future recreation use levels and potential future recreation development to ensure that the visitor experience and natural scenic qualities in the Project area are preserved and/or enhanced (see Section 4, Vision).

Potential Actions/Measures to Address Need: To address this need, SCL will be developing a Draft RRMP for the Project. An Annotated Outline for the Draft RRMP is included as an attachment to the PLP. The RRMP would guide recreation management decisions to ensure that the unique qualities of the Project area are preserved and/or enhanced. SCL may also consider minimizing or avoiding new large-scale recreation development and/or educating and informing visitors and area residents about low-impact, sustainable recreation opportunities.

Basis for Need: Appendix 5 provides additional information regarding potential future recreation use in the Project area. Project-related use levels are anticipated to increase to approximately 19,500 RD annually by 2041. This accounts for about a 30 percent increase over current use levels, or about a 1 percent increase per year (SCL 2009). Except for the Forebay Recreation Area where camping use levels are approaching capacity, overall Project-related use levels are below capacity. Properly designed and maintained recreation facilities should be able to operate at or near capacity during peak use periods without significant degradation of facilities; however, additional management of high use levels may be needed during these peak use periods to help enforce rules, supervise use, protect resources, and provide for visitor safety and security.

Day use activities should be emphasized in the RRMP. There is a regional and national trend toward greater participation in day use activities compared to overnight/camping activities (Cordell 2004). Assuming this trend continues, potential enhancements during the new license term might focus on providing additional high quality, sustainable day use opportunities in the Project area, including day hiking, boat and bank fishing, nature appreciation, and ADA-accessibility to facilities, among others.

Much of the reservoir shoreline is in a natural forested condition that enhances the unique visitor experience found in the Project area and vicinity. This condition would continue into the future as development potential along the Boundary Reservoir shoreline is limited. Steep slopes, land ownership patterns, wetlands and riparian areas, lack of road access and infrastructure, and other factors pose substantial constraints to any new development. The RRS presents a Geographic Information System (GIS)-based public access assessment and the Land and Roads Study assessed overall access and the potential for future private land development along or near the Project shoreline. A summary of the road analysis component of this study is provided in Appendix 1.

In general, the northern portion of the study area (north of the SR 31 bridge) has several relatively sizeable areas that are categorized as having a high opportunity for access, although most of these areas are located away from the reservoir shoreline. The southern portion of the study area (south of the SR 31 bridge at Metaline Falls) has several small areas along the reservoir shoreline categorized as highly suitable for future access, but only one large area. This large area is the SCL-managed Boundary Wildlife Preserve (BWP) that is located along the eastern reservoir shoreline. The BWP is already committed for wildlife conservation purposes;

however, seasonal, low impact, day use recreation and/or I&E-related visitor opportunities may be compatible in this area.

In both the northern and southern portions of the study area and specifically along the reservoir shoreline, environmentally sensitive areas (e.g., wetlands, fish/wildlife habitat, etc.) constrain potential future development in many locations.

If additional developed recreation site capacity was found to be needed in the future during the new license term (pending future monitoring results and a clear indicator of need), a more in-depth analysis of the shoreline zone would be warranted. Any potential new shoreline recreation development should also be considered with the Project vision (Section 4) in mind. Resource managers should continue to preserve and enhance the unique characteristics and opportunities of the Project area.

5.3. Needs Related to Public Access

Overall access to the Project is generally constrained (e.g., land ownership, steep topography, dense vegetation, etc.). However, there appears to be adequate public road access to Boundary Reservoir and its shoreline to support the low volume of visitors to the Project. Public road access is considered reasonable because, despite the constraints mentioned above, visitors can access the Project's recreation sites via well-maintained highways and/or travel routes, access the reservoir at several locations (including public developed recreation sites, as well as private shoreline properties), and access both the northern and southern zones of Boundary Reservoir (above and below the falls at Metaline Falls) for boating via existing public boat launches. In contrast, trail access to and within the Project area is limited. Also, facilities are lacking to support water trail use of the reservoir.

5.3.1 Road Access

Identified Need: There is a need to maintain existing road/vehicular access to the Project's recreation sites and use areas.

Potential Actions/Measures to Address Need: To address this need, SCL will maintain Project-related roads (specifically those used to access recreation sites and use areas) and/or may consider partnering with other road management entities to provide for continued access and road maintenance, where needed, to provide for adequate public access to the Project.

Basis for Need: Appendix 1 provides a detailed assessment of road use for recreation in the study area and identifies those roads that provide access to developed Project recreation sites. Based on the Lands and Roads Study (SCL 2009) and assessment of road use for recreation purposes in Appendix 1, no additional public road access to reach existing Project-related recreation sites appears to be needed at this time. However, the existing roads that provide access to Project-related recreation sites and use areas should be appropriately maintained during the new license term.

As identified in the Lands and Road Study (SCL 2009), there are three roads that provide vehicular access to SCL-managed recreation sites and use areas in the study area. These roads

are listed in Table 5.3-1, as well as in Appendix 1 (Table A.1-1 and Figure A.1-1 of the appendix). With the exception of the road providing access to the Vista House, most public use along these three roads is likely Project-related (i.e., used by visitors to access Project developed recreation sites). The public may access private and National Forest System (NFS) lands via the road to the Vista House from SR 31; as such, not all use along this road is considered Project-related.

Table 5.3-1. SCL-managed recreation site access roads.

SCL Recreation Site	Road Description	Length (miles)	Land Owner(s)
Tailrace Recreation Area/ Machine Hall Visitors' Gallery	SCL maintenance facility road network	1.6+	SCL
Forebay Recreation Area/ Boat Launch	SCL recreation site road network	0.3	SCL
Vista House	Pend Oreille Co. Road 3990/FR 3165-000	2.0	SCL, USFS, private

Source: Lands and Roads Study (SCL 2009)

In addition to the roads listed in Table 5.3-1, there are several other roads that provide access to developed recreation sites in the study area. These roads are listed in Table 5.3-2, as well as in Appendix 1 (Table A.1-1 and Figure A.1-1 of the appendix). Unlike the roads listed in Table 5.3-1, only some of the vehicle use along the roads listed in Table 5.3-2 is considered Project-related (i.e., these roads also serve multiple purposes and properties other than SCL).

Table 5.3-2. Other study area recreation site access roads.

Recreation Site(s)	Road Description	Length (miles)	Land Owner(s)
USFS Crescent Lake Recreation Area	Pend Oreille Co. Road 3990/FR 3165-000	2.0	SCL, USFS, private
BLM Recreation Site	FR 6200-305	2.7+	USFS, BLM, private
Metaline Waterfront Park/ Boat Launch, SR 31 Sweet Creek Falls Rest Stop, and Pend Oreille County PUD Campbell Park/Boat Launch	SR 31	20 +	State, USFS, SCL, private

Source: Lands and Roads Study (SCL 2009)

There are other roads that may provide access to dispersed recreation opportunities in the study area. These roads are listed in Appendix 1. In general, while some use along these roads is for dispersed recreation use, they are considered multi-purpose roads and are not required for access to Project-related recreation opportunities (most of the access to Project-related dispersed recreation sites and use areas is by watercraft on the reservoir, not by vehicle along a road).

5.3.2 Trail Access

Identified Need: There is a need to develop additional non-motorized trail opportunities at the Project.

Potential Actions/Measures to Address Need: To address this need, SCL may consider developing new non-motorized trails in the Project area (or immediate vicinity depending on localized trail linkages, destinations/unique features, and site opportunities and constraints).

Basis for Need: Currently, there are no designated trails in the Project area, except for a short trail to an overlook at the Vista House and the Pacific Northwest Trail route that crosses the Project atop Boundary Dam (trail users are escorted by SCL staff). While there are many trail opportunities in the Project region (SCL 2006), there are no other existing developed trail opportunities at the Project, including no trail access to view Peewee Falls, one of the most significant natural features at or near the Project (Section 4, Vision). Residents and visitors currently use short, informal user-created trails to access the shoreline in several places. During the RRS, both visitors and area residents indicated a general need for trails (Table 5.2-3). Additionally, there is demonstrated regional and statewide demand for new and enhanced trail opportunities (IAC 2003).

The RRS (Table 5.3-8) presents several potential future trail development options based on historic trail locations, informal, user-created trail alignments, onsite observations, and input from agencies and other stakeholders. Existing informal trails and former or abandoned trails represent potential opportunities for establishing formal trail access. Development of an existing or former trail route tends to be cost effective, creates fewer disturbances compared to developing a new trail, and has a demonstrated demand for a particular trail alignment. None of the identified potential future trails were categorized as having “high” potential as it relates to access (based on a cursory GIS-based access assessment described below), although many fell in the “medium” potential classification due to steeper slopes. As noted in the RRS, while steep slopes were a constraint in the GIS-based access assessment, slopes would be less of an impediment for potential trail development compared to road or facility development. Trail construction involves much less ground disturbance per linear unit and trail gradients can be higher by design.

A more detailed trail siting analysis and follow-up ground-truthing would be required to determine the actual feasibility of potential trail options. Future management direction for any new trails that may be developed during the new license term would be dependent on the desired experience and setting attributes of each trail, and the management goals of the relevant land and resource management agency and SCL.

When considering new developed trail alignments, it is important to demonstrate that each trail would in fact be used and that the cost of new trail development and ongoing trail maintenance is justified. Trails that would likely receive greater use and be more justified would have the following characteristics:

- The trail is linked with a destination or viewpoint that would make it popular for trail users.

- The trail has a readily accessible user base nearby that would likely use the trail during a longer stay at the Project.
- The trail would enhance the visitor experience and provide access to a unique scenic or cultural resource available in the Project area or vicinity.
- The trail would provide direct access to the Project reservoir.

In addition to potential new land-based, non-motorized trails, SCL may also consider cooperating in the development of a designated water trail on the Pend Oreille River. Since much of the reservoir shoreline is difficult to access because of steep topography and dense vegetation, one of the best ways to experience the Project is by boat. A designated water trail with land-based enhancements (e.g., improved dispersed opportunities, portal trail, signage, etc.) may be a viable option to supplement potential land-based, non-motorized trail opportunities at the Project (see Section 5.3.3 for additional information on a potential water trail).

5.3.3 Water Access

Identified Need: There is a need to enhance water-based access and related opportunities at the Project.

Potential Actions/Measures to Address Need: To address this need, SCL may consider improvements at two boat ramps (as previously discussed in Section 5.2), develop a portage trail around the falls (Section 5.1), improve a few boat-in shoreline recreation sites (to help support a potential water trail), communicate potential reservoir use hazards, educate and inform visitors about safe watercraft use, monitor boating use levels on the reservoir, and/or participate in the potential development of a regional water trail with others along the Pend Oreille River (SCL would focus on Boundary Reservoir only).

Basis for Need: Public boating access to the reservoir is provided at the three developed public boat launches in the study area as noted previously; there are also dispersed boat-in opportunities along the reservoir shoreline. The three public boat launches are located at SCL's Forebay Recreation Area, town of Metaline's Waterfront Park, and Pend Oreille County PUD's Campbell Park. The Forebay Recreation Area boat launch is the newest and best designed and tends to receive the highest level of use. However, it is not always usable by boaters at lower reservoir surface elevations. There are also several locations on Boundary Reservoir where private residents have constructed informal boat ramps for personal use, or where roads have been extended to the reservoir shoreline. While access to the reservoir is generally considered reasonable, the condition and usability of two of the public boat launches (Forebay Recreation Area and Metaline Waterfront Park) are problematic (previously discussed in Sections 5.1 and 5.2).

Reservoir surface area capacity for watercraft use is also an important aspect of water-based access and opportunities at the Project. Surface water capacity is generally considered in terms of surface water acres per watercraft, although overall surface water capacity is also dependent on the types of watercraft used, the natural topography and setting, safety conditions, and on-water crowding perceptions, among other factors (Haas et al. 2004). Current boating use on Boundary Reservoir is considered to be below commonly accepted watercraft capacity standards

(Appendix 2 provides a more detailed discussion of boating-related capacity at Boundary Reservoir). Even with anticipated increases in boating use at Boundary Reservoir, it is unlikely that future boating use would exceed capacity standards during the new license term.

Over a portion of the normal operating range for the reservoir, the Metaline Falls area of the reservoir (just north of the SR 31 bridge at the town of Metaline Falls) takes on the appearance and physical characteristics of a river rapid. The fast current, eddies, turbulence, and gradient between the upstream and downstream ends of the falls makes travel through this area difficult for watercraft, particularly small motorized and non-motorized watercraft. Some non-motorized boaters likely enjoy the challenge of navigating the rapid. However, the falls act as a navigational constraint (in particular for non-motorized boaters) and effectively creates two reservoir zones for boating (one north and one south of the falls) that many boaters do not travel between.

Boundary Reservoir is currently being used as a de facto water trail by some visitors to the Project. A water trail, as defined by the National Park Service (NPS), is “a stretch of river, a shoreline or an ocean that has been mapped out with the intent to create an educational, scenic and challenging experience for recreational canoeists and kayakers. The trails are organized by local volunteers with the help of public officials and private landowners, all of whom promote its proper use and maintenance” (NPS 2008). To provide sufficient attraction for users, a potential regional water trail (with official NPS recognition) would need to include a longer route along the Pend Oreille River and possibly other river corridors. A larger coalition of federal, state, and local government agencies, tribes, and nongovernmental organizations, including SCL, would be desirable to make the water trail a long-term success; it is not SCL’s responsibility to spearhead this regional attraction. SCL should consider participating in the water trail development process that is already being pursued by the Pend Oreille River Water Trail Planning Group.

6 POTENTIAL SITE-SPECIFIC AND PROGRAMMATIC RECREATION MEASURES

This section provides an overview of recreation needs and potential actions identified in Section 5, as well as a scenario for addressing these identified needs during the new license term. None of the potential actions/measures identified in this section should be considered proposed PM&E measures by SCL at this time. Instead, these potential scenario actions/measures should be used to help guide the development of recreation PM&Es to be included in the Draft RRMP (other relevant relicensing study results, agency and other stakeholder input, and other resource specific actions will be considered during the development of the Draft RRMP).

6.1. Summary of Project-Related Recreation Needs

Table 6.1-1 provides a summary of identified recreation needs and potential measures that may be considered to meet those needs as identified in Section 5. As noted in Section 3, the focus of the Draft RNA and the items listed in Table 6-1.1 are on Project-related needs and actions only.

Table 6.1-1. Project-related needs and range of potential actions/measures.

Identified Recreation Need	Measures That SCL May Consider to Help Meet the Recreation Need
Address reservoir water surface elevation fluctuations during the primary recreation season (generally Memorial Day through Labor Day)	<ul style="list-style-type: none"> • Formally adopt voluntary Project operational restrictions that maintain higher reservoir water surface elevations during the primary recreation season • Extend boat ramp lanes at two sites, one for each reservoir zone (north and south of the falls) • Enhance communications to the public regarding seasonal reservoir water surface elevations
Provide safe, non-motorized boating access through or around the falls (located just north of the SR 31 bridge at the town of Metaline Falls)	<ul style="list-style-type: none"> • Develop a portage trail around the falls • Enhance communications with the public regarding water conditions at the falls
Minimize potential impacts resulting from recreation activities on other Project resources (e.g., terrestrial, cultural/historic, fish and aquatics, etc.)	<ul style="list-style-type: none"> • Periodically monitor recreation-related impacts • Temporarily (or permanently) close dispersed sites to protect sensitive resources if needed • Coordinate recreation actions/measures with other resource areas • Direct/manage recreation sites and use areas to minimize site impacts (where needed) • Educate/inform visitors of impacts that may potentially result from recreation pursuits at the Project
Enhance two Project-related boat launches on Boundary Reservoir	<ul style="list-style-type: none"> • Extend boat ramp lanes at two sites, one for each reservoir zone (to provide adequate boating access at lower reservoir water surface elevations) (also listed above) • Provide improved support facilities at two boat launches (including improved accessibility where feasible, boarding floats, improved parking and circulation, and signage)
Increase camping capacity at the Project	<ul style="list-style-type: none"> • Add new RV and tent campsites to the Forebay Recreation Area, if feasible • Consider a reservation system for the Forebay Recreation Area during the peak season • Improve a few boat-in shoreline campsites (to help support potential water trail use on the reservoir) • Inform visitors of peak/non-peak periods of camping use (to help distribute use throughout the season)
Enhance day use opportunities at the Project	<ul style="list-style-type: none"> • Improve day use picnic sites • Enhance accessibility to day use sites • Delineate a swimming area with a floating buoy line at the Forebay Recreation Area • Provide new and/or updated interpretation and

Identified Recreation Need	Measures That SCL May Consider to Help Meet the Recreation Need
	education (I&E) opportunities
Provide ADA-accessible site features and amenities at the Project	<ul style="list-style-type: none"> • Retrofit existing developed recreation sites where feasible to incorporate ADA-accessible site elements (e.g., campsites, picnic sites, parking, restrooms, boat launches, trails, etc.) • Include ADA-accessible features in any newly developed recreation sites that may be constructed during the term of the new license
Continue to provide adequate annual operations and maintenance (O&M) at Project-related recreation sites and use areas	<ul style="list-style-type: none"> • Continue to provide adequate O&M at Project recreation sites and use areas • Periodically reassess the public access/security policies in place at the Tailrace Recreation Area/Machine Hall Visitors' Gallery • Include a formalized O&M Program as a component of the RRMP
Replace or significantly repair recreation site features and amenities, as needed, at the end of their life cycle during the new license term (future)	<ul style="list-style-type: none"> • Continue to provide O&M at SCL-managed recreation sites at the Project during the license term (see operations and maintenance-related need) • Periodically monitor the condition of recreation site facilities • Repair recreation site facilities as needed and/or replace them at the end of their life cycle
Address potential future recreation site and use area needs via a periodic monitoring program (future)	<ul style="list-style-type: none"> • Periodically monitor recreation use levels at Project-related recreation sites and use areas • Periodically monitor social and biophysical conditions in the Project area • Develop a recreation monitoring program that is appropriate for the use levels and indicators and standards at the Project, to be included as a component in the RRMP
Manage future recreation use and potential development to retain the unique qualities (Project vision) of the Project area (future)	<ul style="list-style-type: none"> • Develop a RRMP to guide the recreation management decision-making process based on the vision for the Project area • Minimize or avoid large-scale recreation development • Educate and inform visitors and area residents about sustainable recreation access, activities, and behavior
Maintain road/vehicular access to the Project's recreation sites, use areas, and opportunities	<ul style="list-style-type: none"> • Maintain Project-related roads (specifically those used to access recreation sites and use areas) • Partner with other road management entities to provide for continued access and maintenance where appropriate
Develop non-motorized trail opportunities in the Project area	<ul style="list-style-type: none"> • Develop new non-motorized trails in the Project area or immediate vicinity depending on

Identified Recreation Need	Measures That SCL May Consider to Help Meet the Recreation Need
	destinations and site opportunities and constraints; target trails with views of Peewee Falls
Enhance water-based access and opportunities at the Project	<ul style="list-style-type: none"> • Improve two boat ramps (noted previously) • Develop a small watercraft portage trail around the falls • Formalize/harden a few boat-in shoreline recreation sites (to help support potential water trail use on the reservoir) • Communicate to and educate boaters about potential reservoir boating hazards and safe watercraft use • Monitor boating use levels on the reservoir • Participate in the development of a regional water trail on the Pend Oreille River (Boundary Reservoir only)

6.2. Scenario for Addressing Project-Related Needs

Based on the identified existing and future recreation needs and the range of potential actions/ measures that were identified in the previous section (as well as Section 5), Table 6.2-1 presents a scenario for meeting Project-related recreation needs during the new license term (potential capital facility development actions/measures are also displayed on Figure 6.2-1). This scenario contains two categories of potential actions/measures: 1) capital facility development, and 2) programmatic and O&M. . It is anticipated that these existing recreation needs will be addressed in the first 10 years after license issuance. Future recreation needs would be addressed, as needed, following the first 10 years of the new license. Some future actions would be based on monitoring results and would be triggered if specific monitoring standards or thresholds are reached.

Table 6.2-1. Potential actions/measures to meet identified Project-related needs.

CAPITAL FACILITY DEVELOPMENT MEASURES
Note: ADA accessibility will be addressed during the planning and design phase of all new and enhanced developed recreation facilities
<u>Existing Needs</u>
<u>Forebay Recreation Area</u> <ul style="list-style-type: none"> • Enhance campground facilities at this site: increase the number of designated RV and tent campsites (phased - up to approximately 24 total), better delineate campsites, provide appropriate signage, use vegetation and/or other site features (e.g., rocks) to create separation between campsites and day use picnic sites, and limit vehicle access to roads and parking areas. • Enhance day use picnic sites with signage, improved access, and separation from campsites. • Provide a safe swimming area with a floating buoy line to keep boats and swimmers separated. • Provide additional I&E signage and/or other visitor I&E opportunities (see I&E Program). • Extend an existing boat ramp lane so that boats may be launched/retrieved during the primary recreation season (Memorial Day weekend to Labor Day weekend) without problems due to fluctuating reservoir water surface elevations. Provide adequate parking, signage, and circulation at the boat launch. • Develop a trail that leads to an overlook of Peewee Falls.
<u>Vista House Recreation Area</u> <ul style="list-style-type: none"> • Add I&E signage and/or other opportunities at the overlook platform (see I&E Program). • Develop a trail that leads to an overlook of Peewee Falls.
<u>Tailrace Recreation Area/Machine Hall Visitors' Gallery</u> <ul style="list-style-type: none"> • Update I&E signage, displays and visitor opportunities at the Machine Hall Visitors' Gallery (see I&E Program) (the extent of upgrades at this site needs to be consistent with the level of anticipated use; security restrictions contribute to low use levels).
<u>West Peewee Falls Trail</u> <ul style="list-style-type: none"> • Pending a trail feasibility analysis, develop a new trail from the Forebay Recreation Area along the reservoir shoreline to a viewpoint of Peewee Falls.
<u>East Peewee Falls Trail</u> <ul style="list-style-type: none"> • Pending a trail feasibility analysis, develop a new trail in the vicinity of the Vista House to a viewpoint of Peewee Falls. The trail alignment may take advantage of the existing NFS road network in this area (i.e., road to trail conversion for a portion of the trail).
<u>BLM Boundary Recreation Area</u> <ul style="list-style-type: none"> • Enhance the site to accommodate boat-in dispersed camping to accommodate water trail use – enhancements include providing I&E signage, developed tent campsites, 2 day use picnic tables, watercraft landing/tie-up area, and sanitation facilities. • Assumes boat-in access and closing vehicular access to this site.
<u>Falls Portage Trail</u> <ul style="list-style-type: none"> • Pending a feasibility analysis, develop a new portage trail in the vicinity of the falls to provide non-motorized boaters an alternative to avoiding or running the rapids at the falls under certain natural flow and Project operational conditions.
<u>Metaline Waterfront Park</u> <ul style="list-style-type: none"> • Replace the existing boat launch and extend a boat ramp lane so that boats may be launched/ retrieved during the primary recreation season (Memorial Day weekend to Labor Day weekend) without problems due to fluctuating reservoir water surface elevations. • Provide adequate roadway access to the boat ramp, improved circulation and parking for single vehicles and vehicles with trailers, and other boat launch support facilities (e.g., signage, boarding float).

<p><u>Future Needs</u></p>
<p><u>All Project-Related Recreation Sites</u></p> <ul style="list-style-type: none"> • Replace and/or repair recreation site facilities, infrastructure, and amenities, as needed, based on monitoring facility conditions and normal facility life cycles, during the new license term (30 to 50 years). • If needed, consider additional recreation capital facility development based on periodic monitoring during the new license term (see RRMP Monitoring Program).
<p>PROGRAMMATIC AND O&M MEASURES</p>
<p><u>Operations and Maintenance (O&M) Program</u></p> <ul style="list-style-type: none"> • Develop an O&M Program for SCL-managed recreation sites and use areas. • Provide annual maintenance at the boat launch at the town of Metaline Waterfront Park and at the BLM Recreation Site (assume that the road is closed). • Provide appropriate O&M of Project-related recreation sites and use areas. • Periodically re-assess public access/security policies at the Tailrace Recreation Area and Machine Hall Visitors' Gallery.
<p><u>Resource Integration and Coordination Program</u></p> <ul style="list-style-type: none"> • Develop and implement a Resource Integration and Coordination Program to help make coordinated, timely, and informed decisions related to the implementation of the RRMP and other Project-related resource management plans (e.g., TRMP, HPMP, etc.). • Participate in the development of a regional water trail program with the existing Pend Oreille River Water Trail Planning Group. SCL's role would be limited to specific actions on Boundary Reservoir only (e.g., shoreline campsites/rest stops, put-in/take-out, portage trail at the falls, signage, etc).
<p><u>Recreation Monitoring Program</u></p> <ul style="list-style-type: none"> • Develop and implement a periodic recreation monitoring program with facility and visitor management actions and triggers identified.
<p><u>Interpretation and Education Program</u></p> <ul style="list-style-type: none"> • Develop a comprehensive Interpretation and Education (I&E) Program that establishes themes, messages, and media that would be considered at recreation sites throughout the Project. Consider addressing all Project resources in one integrated I&E Program: recreation, aesthetics, geology, engineering, scenic byway, fisheries/aquatics, cultural/historic, and terrestrial resources. • Communicate to the public the seasonal changes in flows, spring runoff conditions, and Project operations that may affect conditions at the falls north of the SR 31 bridge, as well as reservoir fluctuation related issues.

Legend



● Existing Public Recreation/Access Sites

1. SCL Boundary Vista House and Trail
2. SCL Boundary Tailrace Recreation Area
3. SCL Boundary Forebay Recreation Area
4. USFS Crescent Lake Recreation Area
5. BLM Boundary Recreation Area
6. Metaline Waterfront Park
7. Sweet Creek Falls Rest Area/Trail
8. Pend Oreille County PUD Campbell Park

▭ Potential Capital Facility Development Locations

- A. Forebay Recreation Area
- B. Vista House and Trail
- C. Tailrace Recreation Area
- D. West Pewee Falls Trail
- E. East Pewee Falls Trail
- F. BLM Boundary Recreation Area
- G. Falls Portage Trail
- H. Metaline Waterfront Park

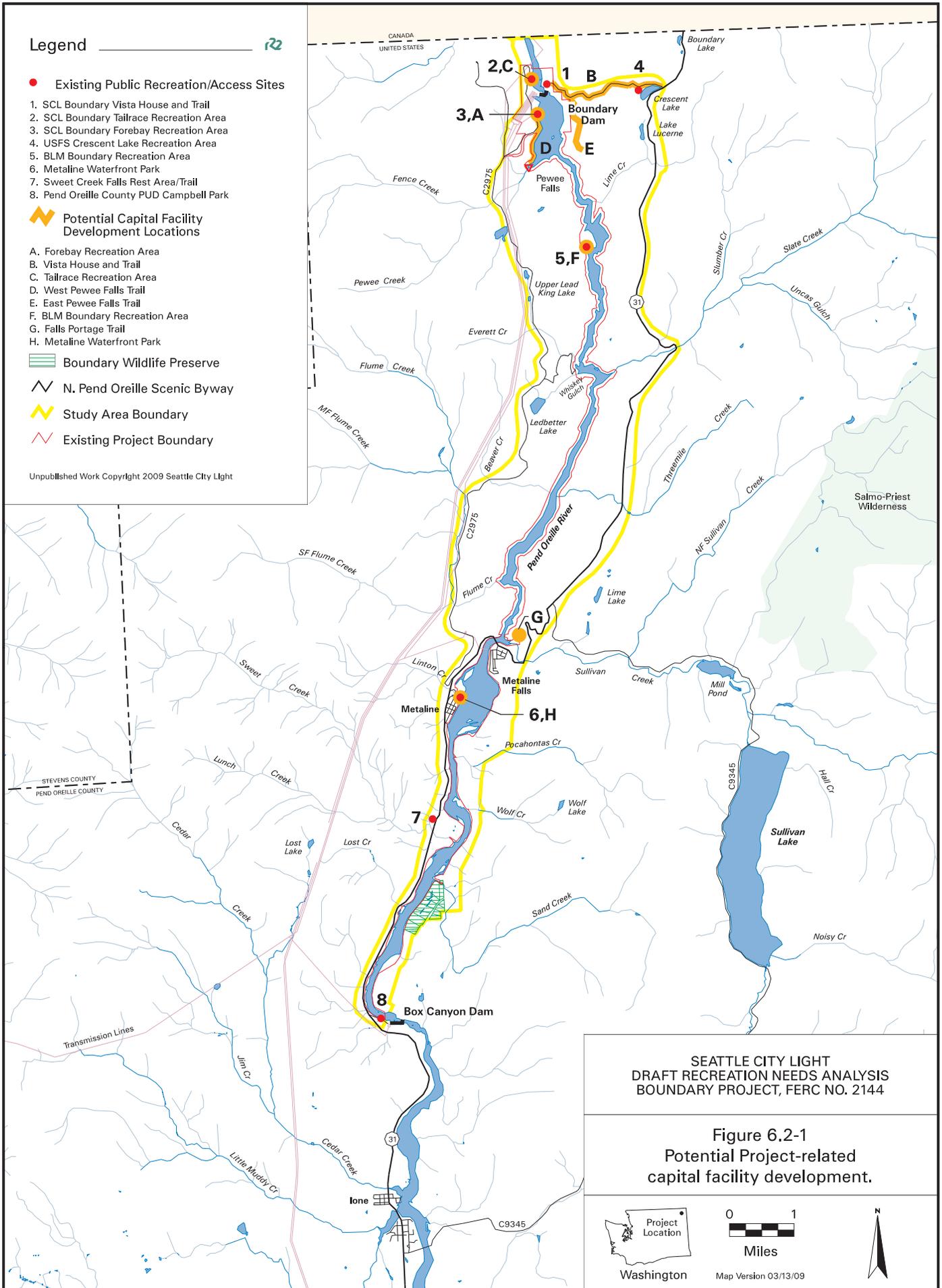
▨ Boundary Wildlife Preserve

∩ N. Pend Oreille Scenic Byway

▭ Study Area Boundary

▭ Existing Project Boundary

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Figure 6.2-1
Potential Project-related
capital facility development.



Washington



Miles

Map Version 03/13/09



7 REFERENCES

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APPENDICES

Appendix 1: Assessment of Road Use for Recreation and other Project Uses

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STUDY AREA ROAD USE AND ACCESS CONDITIONS

SR 31 generally provides good road access along the southern portion of the reservoir. The three existing public boat launches are accessed via SR 31 and County Road 2975. Along the southwestern portion of the study area, SR 31 closely parallels the western shoreline of the reservoir. In most locations along this portion of SR 31, there is very little land between the highway and the reservoir; while views of the reservoir are good along this stretch; existing opportunities for public access and/or dispersed shoreline use are limited.

In the southeastern portion of the study area, there are few public vehicular access opportunities along and to the reservoir shoreline. A primitive road (Forest Road [FR] 3310) provides vehicular access along this portion of the study area, but shoreline access is only available at the areas around Pocahontas and Wolf creeks. Additionally, due to the lack of a bridge at Sand Creek, vehicular access along the southeastern portion of the reservoir shoreline is not continuous. Consequently, vehicular access in the southeastern portion of the study area, and specifically to the reservoir and its shoreline, is generally not available (this is not to imply that opportunities for vehicular access do not exist; rather, it reflects actual road and access conditions in this area).

In the northern portion of the study area, SR 31 and County Road (CR) 2975 parallel the reservoir to the east and west, respectively, though the reservoir is generally not visible from either of these roads. On the east side of the reservoir, CR 3990/FR 3165 connects SR 31 to the Vista House Recreation Area. On the west side of the reservoir, SCL roads off of CR 2975 provide access to both the Forebay and Tailrace recreation areas. In both the northeastern and northwestern portions of the study area, a series of USFS primitive roads also provide vehicular access near the reservoir shoreline. However, most of these primitive roads are only appropriate for high-clearance vehicles and most do not provide direct access to the reservoir shoreline, but to elevated high bank vantage points with views of the reservoir instead. There is one two-track road (FR 6200-305) in the northwestern portion of the study area that provides two-track road access to the reservoir shoreline at the BLM Boundary Recreation Area.

PROJECT-RELATED ROAD USE AND CONDITIONS

The Land and Roads Study (SCL 2009) analyzed roads in the study area, specifically identifying those that are considered Project-related (i.e., with a Project nexus). To be considered Project-related, a road's primary purpose (i.e., exclusively or nearly-exclusively used for Project-related purposes) is for Project operations and maintenance functions, including public recreational access. While many roads in the study area may be used for Project purposes and/or recreational access, these roads are generally considered multi-purpose and are not required for Project operations and maintenance or are not essential for supporting Project-related recreation. Both Project-related and other study area roads are listed in Table A.1-1 and displayed on Figure A.1-1. Those roads identified as providing public access to recreation opportunities are generally in good condition and are not in need of improvements/enhancements.

Eleven roads were identified as being needed for Project-related purposes, including recreation-related uses (Table A.1-1). Some of these roads are used exclusively by SCL, while others are

also used by other parties. The conditions of all 11 roads were observed to be consistent with SCL’s need for and use of these roads and with USFS management objectives, where applicable.

The remaining study area roads listed in Table A.1-1 may be used occasionally for public recreation access; however, they are considered multi-purpose and generally do not have a Project nexus (i.e., they are not required for Project operations and maintenance or Project-related recreation).

While significant road enhancements related to public access are not anticipated based on the results of the Land and Roads Study, SCL has determined that it will decommission a series of roads that have provided access to groundwater monitoring wells that are no longer needed. This road decommissioning work will be coordinated with the USFS; a road decommissioning plan will be included in the License Application.

Table A.1-1. Project road needs analysis summary.

Road	Location	Road Length (Miles)	Land Owner	Road Condition	Recreation Resource Accessed	Access Means for Recreation Site(s)	Relation of Road to Project	Basis for Conclusion
<u>Roads needed for Project-related purposes, per Study 22 final report</u>								
1. West-Side Access Road	T40N, R43E, Sec. 3, 10, 15	1.1	SCL, USFS	Level 3	None (directly)		Used for Project operations	Study 22 report
2. Maintenance facility road network	T40N, R43E, Sec. 3	1.6+	SCL	Level 4	Tailrace Recreation Area	Road	Used for Project operations; used to access SCL recreation facility	Study 22 report
3. Road to SCL Forebay Recreation Area	T40N, R43E, Sec. 10	0.3	SCL	Level 4	Forebay Recreation Area	Road	Used for Project operations; used to access SCL recreation facility	Study 22 report
4. BPA switchyard road	T40N, R43E, Sec. 10	0.2	BPA, USFS	Level 3	None		Used for Project operations	Study 22 report
5. Spur off the BPA switchyard road	T40N, R43E, Sec. 10	0.3	BPA, SCL, USFS	Level 2	None		Used for Project operations	Study 22 report
6. South end of FR 6200-348	T40N, R43E, Sec. 10	0.9	SCL, USFS	Level 2	None		Used for Project operations	Study 22 report
7. POC 3990/FR 3165-000	T40N, R43E, Sec. 2, 11, 12	2	SCL, USFS, Private	Level 3	Vista House, Crescent Lake	Road	Used for Project operations; used to	Study 22 report

Road	Location	Road Length (Miles)	Land Owner	Road Condition	Recreation Resource Accessed	Access Means for Recreation Site(s)	Relation of Road to Project	Basis for Conclusion
							access SCL recreation facility	
8. FR 3165-350 (across dam)	T40N, R43E, Sec. 10, 11	0.6	SCL, USFS	Level 3, 4	Pacific Northwest Trail crossing (guided)		Used for Project operations	Study 22 report
9. Tailrace boat launch road	T40N, R43E, Sec. 3	0.25	SCL, USFS	Level 3	None		Used for Project operations	Study 22 report
10. FR 3165-200 and spur	T40N, R43E, Sec. 2, 3	1.8	SCL, USFS	Level 1, 2	None		Used for Project operations	Study 22 report
11. FR 3165-340	T40N, R43E, Sec. 10, 11	0.4	USFS	Level 2	None		Used for Project operations	Study 22 report
<u>Other roads in study area, potentially used for recreation but not Project-related</u>								
POC 2975	T40N, R43E; T39N, R43E	13+	Private, USFS, BLM	Level 4	Crawford State Park, Flume Creek Mountain Goat Viewing Site	Road	Not Project-related	Resources are independent of the Project
FR 6200-344	T40N, R43E, Sec. 15	0.3	USFS	Level 1, 2	None			
FR 6200-340	T40N, R43E, Sec. 15	0.8+	Private, USFS	Level 1, 2	None			
FR 6200-342	T40N, R43E, Sec. 15	1.2	USFS	Level 1, 2	None			
FR 6200-309	T40N, R43E, Sec. 22	1.3	Private, USFS, BLM	Level 1, 2	None			
FR 6200-306	T40N, R43E, Sec. 22	1.1	Private, USFS, BLM	Level 1, 2	None			
FR 6200-305	T40N, R43E, Sec. 23, 26, 27	2.7+	USFS, private, BLM	Level 2	BLM Boundary Recreation Area (#9)	Water and Road 6200-305	Not Project-related	Land access to site not necessary; predominately boat-in use
FR 6200-301	T40N, R43E, Sec. 34; T39N, R43E Sec. 3, 9, 10	2.5+	Private, BLM	Level 1, 2	None (directly; gated spur roads approach BLM-3 dispersed	Water primary; also ATV via gated road	Not Project-related	Land access to site not necessary; 301 is not a means of land access

Road	Location	Road Length (Miles)	Land Owner	Road Condition	Recreation Resource Accessed	Access Means for Recreation Site(s)	Relation of Road to Project	Basis for Conclusion
					site [#11])			
SR 31	T40N, R43E; T39N, R43E; T38N, R43E	20+	Private, USFS, SCL, State	Level 5	Box Canyon Dam/Campbell Park, Sweet Creek Falls Rest Area, Metaline Waterfront Park (all via spurs or local roads)	Road	Not Project-related	Resources are independent of the Project
FR 3165-305	T40N, R43E, Sec. 12	0.5	USFS	Level 1	Crescent Lake dispersed sites	Road	Not Project-related	Resources not oriented to the reservoir, are independent of the Project
FR 3165-310	T40N, R43E, Sec. 12	0.2	USFS	Level 3	Crescent Lake developed site	Road	Not Project-related	Resource not oriented to the reservoir, independent of the Project
FR 3165-315	T40N, R43E, Sec. 11	0.6	USFS	Level 1	None			
FR 3165-325	T40N, R43E, Sec. 11, 12	3	USFS	Level 2	Two dispersed sites (#7, 8)	Road	Not Project-related	Resources are not oriented to the reservoir, are independent of the Project
FR 3165-328	T40N, R43E, Sec. 11, 12	1.5	USFS	Level 1, 2	None			
FR 3165-330	T40N, R43E, Sec. 2, 11	0.3+	USFS	Level 1, 2	None			
FR 3100-310	T40N, R43E, Sec. 13, 23, 24	2 - 2.5	USFS, Private	Level 2	One dispersed site (directly; #4)	Road	Not Project-related	Resource is not oriented to the reservoir, is independent of the Project
FR 3100-311	T40N, R43E, Sec. 23	0.7	USFS	Level 1, 2	None (directly); extends to point above Lime Creek dispersed site (#20), approaches creek	Water only or primary; questionable indirect road access near site via FR 3100-310, 316 and 311	Not Project-related	Water is primary access means; land access is not necessary or direct.
FR 3100-315	T40N,	1.3	USFS	Level 1, 2	None			

Road	Location	Road Length (Miles)	Land Owner	Road Condition	Recreation Resource Accessed	Access Means for Recreation Site(s)	Relation of Road to Project	Basis for Conclusion
	R43E, Sec. 13, 14							
FR 3100-316	T40N, R43E, Sec. 23	0.4	USFS	Level 1, 2 (authorized road only)	Monument Bar dispersed site (#21)	Water primary; questionable off-road ATV access via FR 3100-310 & 316	Not Project-related	Reasonable access is available to the site from the reservoir by boat; no applicable survey or observation data for recreation use of site was recorded, but seasonal use via land by hunters may be expected
FR 3100-190	T40N, R43E, Sec. 23, 24, 26, 35, 36	4+	USFS, Private	Level 2	One dispersed site (#3)	Road	Not Project-related	Resource is not oriented to the reservoir, is independent of the Project
FR 3100-191	T40N, R43E, Sec. 25	1+	USFS	Level 1, 2	None			
FR 3100-193	T40N, R43E, Sec. 25, 26	1+	USFS	Level 1, 2	None			
FR 3100-195	T40N, R43E, Sec. 35, 36	0.7+	USFS	Level 1, 2	None			
FR 3100-197	T40N, R43E, Sec. 35	0.3	USFS	Level 1	None			
FR 3100-172	T40N, R43E, Sec. 35, 36; T39N, R43E, Sec. 2, 10, 11	2.5	USFS, Private	Level 1, 2	One dispersed site (directly #1); also spur after gate on 172 leads to site by reservoir (#2)	Road (#1), water (#2)	Not Project-related	One resource (site #1) is not oriented to the reservoir, is independent of the Project; one resource (site #2) near the reservoir is not accessed via a gated road
FR 3100-175	T39N, R43E, Sec. 2, 11	1.3	USFS, Private	Level 1	None			
FR 3100-178	T40N,	0.3	USFS	Level 1, 2	None			

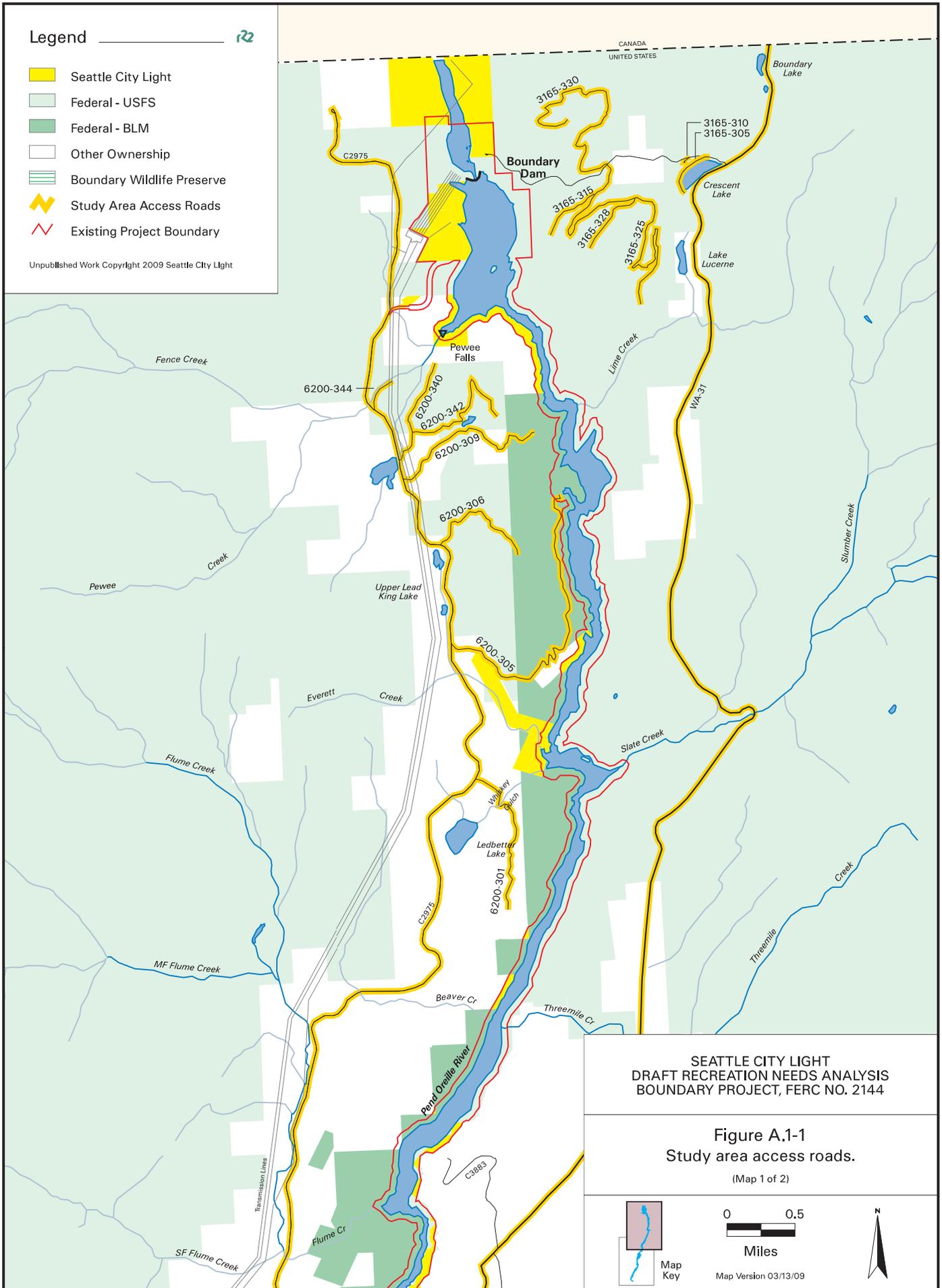
Road	Location	Road Length (Miles)	Land Owner	Road Condition	Recreation Resource Accessed	Access Means for Recreation Site(s)	Relation of Road to Project	Basis for Conclusion
	R43E, Sec. 35							
FR 3100-160	T39N, R43E, Sec. 2, 10, 11	0.9	USFS, Private	Level 1	None			
FR 3310	T39N, R43E, Sec. 33; T38N, R43E, Sec. 4, 8	2.5-3	USFS, Private	Level 1, 2	Wolf Creek dispersed site (#23)	Water primary; questionable off-road access via FR 3310	Not Project-related	Water is the primary access means, land access is not necessary nor direct; FR 3310 also serves other uses
FR 3310	T38N, R43E, Sec. 8, 17, 20	1.5	Private, USFS	Level 1, 2	None			

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- Seattle City Light
- Federal - USFS
- Federal - BLM
- Other Ownership
- Boundary Wildlife Preserve
- Study Area Access Roads
- Existing Project Boundary

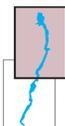
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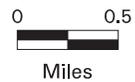
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Figure A.1-1
Study area access roads.

(Map 1 of 2)



Map Key



Miles



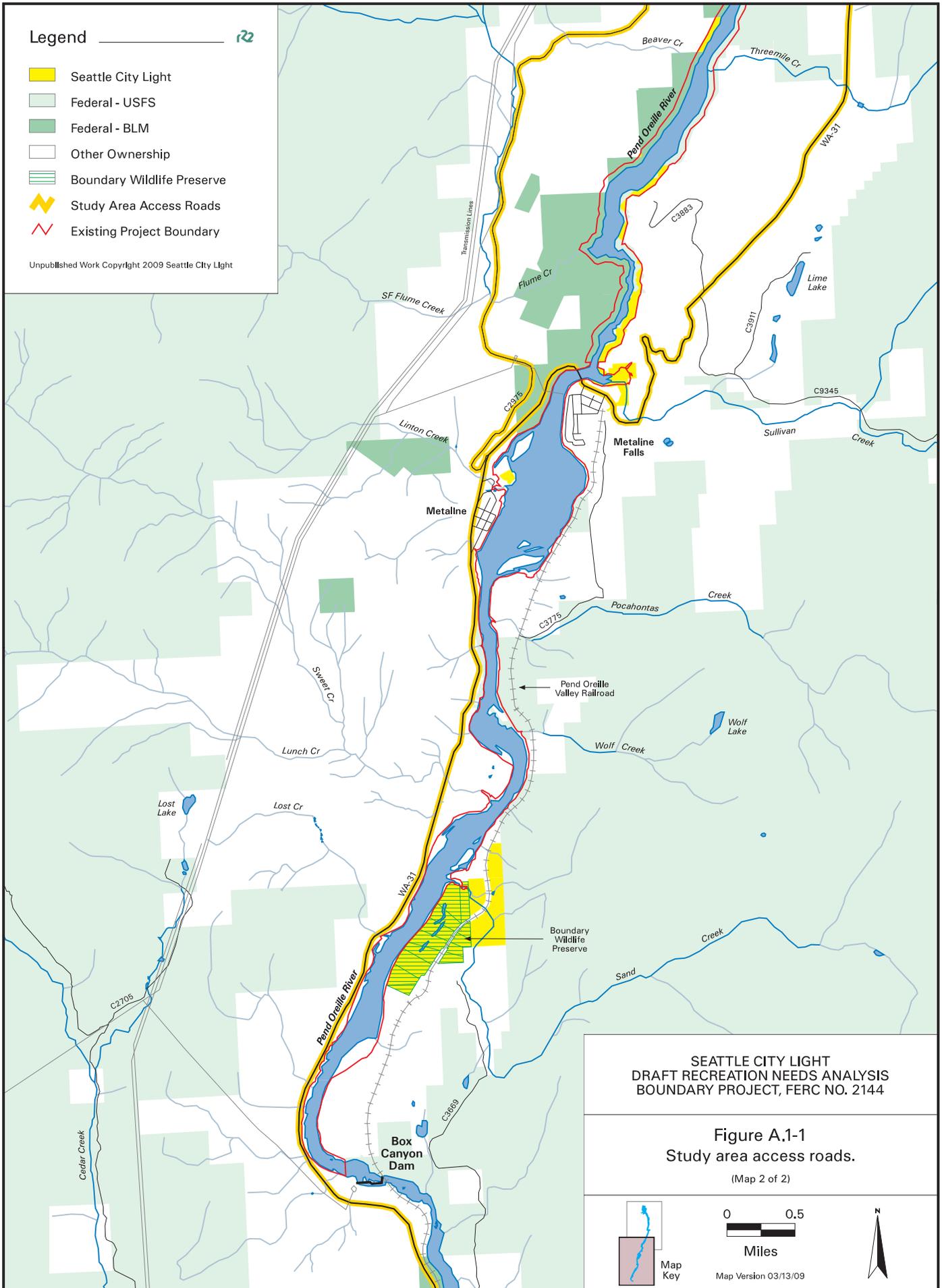
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-  Federal - USFS
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-  Other Ownership
-  Boundary Wildlife Preserve
-  Study Area Access Roads
-  Existing Project Boundary

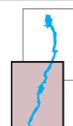
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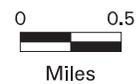
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Figure A.1-1
Study area access roads.

(Map 2 of 2)



Map Key



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Appendix 2: Project-Related Recreation Capacity

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PROJECT-RELATED RECREATION CAPACITY

From a facility capacity perspective, current use levels are below the study area's ability to accommodate recreation use, with one exception: the Forebay Recreation Area is the only developed recreation site that has identified facility capacity concerns. As noted in the RRS, the Forebay Recreation Area campground experiences use levels that are approaching and at/or exceeding facility capacity (number of campsites) on summer and peak summer weekends, respectively (SCL 2009). Additionally, day use areas of this site appear to be approaching capacity on peak summer weekends, although this may be partially due to the campground exceeding its capacity and overflowing into the day use area. This capacity issue also appears to be a function of the overall design of the facility, as well as its no-fee cost, not just the use level.

Similar to facility-based capacity estimates, social capacity does not appear to be a concern in the study area. Visitors and residents in the study area reported low levels of crowding with mean perceived crowding scores of 2.43 and 3.77 (on a 9-point crowding scale), respectively. Additionally, only about 11 percent of visitors and 16 percent of residents indicated that they had experienced conflict with other recreational visitors in the study area (SCL 2009).

As with facility and social capacity, biophysical capacity also does not appear to be a significant concern in the study area. No biophysical concerns were identified at study area recreation sites (developed recreation sites are typically designed to limit potential ecological impacts) and only localized impacts (e.g., shoreline erosion, vegetation trampling, etc.) were identified at a few dispersed shoreline recreation sites (SCL 2009). Vegetation trampling was identified as a concern at the BLM Boundary Recreation Area, where a population of kidney-leaved violet and a subpopulation of yellow mountain-avens, two rare, threatened or endangered (RTE) plant species, were observed being impacted by recreational use (SCL 2009). SCL is exploring measures to manage recreation use at this site to protect these sensitive resources. In addition to observed vegetation trampling at the BLM Boundary Recreation Area, anecdotal evidence suggests that this site is used for undesirable activities, in particular underage drinking and group parties per focus group comments, though evidence of this type of use was not directly observed during the RRS.

Overall, recreational use levels in the study area appear to be sustainable (i.e., are at a level where impacts do not significantly degrade resources or the desired recreation experience) at this time, except as noted above. While recreation use is anticipated to increase during the term of the new FERC license by approximately 30 percent, it is unlikely that overall use levels will exceed the established capacity of the study area except for the Forebay Recreation Area, especially since most use occurs at developed recreation sites that are currently being under-utilized (SCL 2009). Ultimately, long-term recreational capacity or sustainable level of recreation use and development is dependent on the types of experiences and setting-based goals that are established for the Project area. The RRMP for the Project can be used to establish appropriate experiences and setting-based attributes that can then be monitored and managed during the new license term. Experience and setting-based capacity parameters (indicators and standards) can be used to help ensure continued sustainable recreation use levels in the future at the Project.

In addition to land-based capacity, reservoir surface area capacity is also an important consideration in the overall capacity of the study area. Surface water capacity is generally considered in terms of surface water acres per watercraft, though overall surface water capacity is also dependent on the types of watercraft used, the natural topography and setting, safety conditions, and on-water crowding perceptions, among other factors (Haas et al. 2004). Several density standards for surface water acres per boats-at-one-time (BAOT) have been developed and used by researchers and are presented in Table A.2-1. These density standards vary from as few as 4 surface water acres needed per watercraft, to as many as 40 acres needed. The lower density standards are generally for speed and space-dependent activities, such as waterskiing and personal watercraft (PWC) use, and for areas with physical constraints, such as shallow areas, areas with submerged hazards, and very narrow areas. While not all of the standards listed in Table A.2-1 identify a specific type of watercraft, they represent a range of commonly-accepted surface water/boating capacity standards.

Table A.2-1. Examples of boating surface water capacity standards.

Source	BAOT Standard (acres/boat)
National Recreation and Park Association	4
Bureau of Outdoor Recreation	9
Arizona Outdoor Recreation Coordination Commission	10 – 20
Wisconsin Comprehensive Plan	20 – 40
Louisiana Parks and Recreation Commission	20 – 40

Source: NRPA 1981, BOR 1970, and URDC 1977

Recently, recreation planners have adapted the Recreation Opportunity Spectrum (ROS) recreation planning methodology, which is land-based, to surface water boating capacity and management (Haas et al. 2004). Based on previously determined boat density standards, such as those in Table A.2-1, and using this adapted ROS-type of methodology called the Water Recreation Opportunity Spectrum (WROS), boating density standards are dependent on the setting classification(s) of a lake or reservoir. Surface water acres per BAOT density standards in the WROS system range from as few as 1 to 10 surface water acres needed per watercraft in an urban setting, to as many as several hundred surface water acres needed per watercraft in a primitive setting. Table A.2-2 provides a brief description of the WROS setting classifications, as well as the associated surface water acres per BAOT densities.

Table A.2-2. WROS setting descriptions and surface water capacity standards.

Setting	Description	BAOT Standard (acres/boat)
Urban	<ul style="list-style-type: none"> • Limited opportunities to see, hear, or smell the natural resources due to the extensive level of development, human activity, and natural resource modification. • Watching and meeting other visitors is expected and socializing with family and friends is important. • Diverse range of visitors and activities, including large groups and special events. • Convenience is central and dominant. 	1 – 10
Suburban	<ul style="list-style-type: none"> • Limited or few opportunities to see, hear, or smell the natural 	10 – 20

Setting	Description	BAOT Standard (acres/boat)
	<p>resources due to the widespread and prevalent level of development, human activity, and natural resource modification.</p> <ul style="list-style-type: none"> • Watching and meeting other visitors is expected and socializing with family and friends is important. • Diverse range of visitors and activities. • Convenience is central and dominant. 	
Rural Developed	<ul style="list-style-type: none"> • Occasional or periodic opportunities to see, hear, or smell the natural resources due to the common and frequent level of development, human activity, and natural resource modification. • Brief periods of solitude are important though the presence of other visitors is expected. • Diverse range of visitors and activities. • A moderate level of comfort and convenience is important. 	20 – 50
Rural Natural	<ul style="list-style-type: none"> • Frequent opportunities to see, hear, or smell the natural resources due to the occasional or periodic level of development, human activity, and natural resource modification. • A sense of independence and freedom with a moderate level of management presence is important. • Diverse range of visitors and activities though experiences tend to be more resource-dependent. • Comfort and convenience is not important or expected. 	50 – 110
Semi-Primitive	<ul style="list-style-type: none"> • Widespread and very prevalent opportunities to see, hear, or smell the natural resources due to the seldom or minor level of development, human activity, and natural resource modification. • Solitude and lack of contact with other visitors, managers, and management is important. • Opportunities for more adventure-based enthusiasts and overnight visitors. • A sense of challenge, adventure, risk, and self-reliance is important. 	110 – 480
Primitive	<ul style="list-style-type: none"> • Extensive opportunities to see, hear, or smell the natural resources due to the rare and very minor level of development, human activity, and natural resource modification. • Solitude and the lack of sight, sound, and smell of others is very important. • Opportunities for human powered activities (e.g., canoeing, fly fishing, backpacking, etc). • A sense of solitude, peacefulness, tranquility, challenge, adventure, risk, testing skills, orienteering, and self-reliance is important. 	480 – 3,200

Source: Haas et al. 2004

Boundary Reservoir is approximately 17.5 miles long, with a surface area of approximately 1,636 acres (SCL 2006). Conceivably, different areas of the reservoir could be managed under different WROS classification guidelines (Table A.2-2). However, for purposes of this analysis,

a uniform classification was assumed pending further consultation during the preparation of the Draft RRMP. Using the WROS classifications as a guideline (Table A.2-2), the reservoir would likely be classified as either “rural developed” or “rural natural” due to the natural setting, level of human development (e.g., the dam, towns of Metaline and Metaline Falls, mining operations, developed shoreline recreation facilities), the diverse range of activities available, and the level of comfort and convenience provided to visitors (e.g., developed recreation sites). As a “rural developed” or a “rural natural” reservoir, the Boundary Reservoir should be able to accommodate boating use levels between 20 – 50 or 50 – 110 acres per watercraft, respectively. This equates to approximately 33-82 BAOT or 15-33 BAOT under the “rural developed” or “rural natural” classifications, respectively. In a more detailed analysis, the unique and narrow canyon area of the reservoir would be the most sensitive area for boaters and would likely need its own management zone.

While the RRS reports total boating use on Boundary Reservoir, it did not provide BAOT estimates. For purposes of this analysis, an estimate of BAOT was developed by dividing the total number of observed boats by the number of survey periods when boats were observed. This analysis included only survey periods when boats were observed because BAOT estimates (and corresponding management guidance including watercraft density levels) are specific to those times when the reservoir is being used by watercraft, not all times when the reservoir is available for watercraft use. In the northern portion of the reservoir, researchers observed a total of 279 boats during 28 survey periods (researchers conducted 45 survey periods but no boats were observed during 17 of these periods). This results in a BAOT estimate of 10 boats for the northern portion of the reservoir downstream of Metaline Falls. In the southern portion of the reservoir, upstream of Metaline Falls, researchers observed a total of 102 boats during 26 survey periods (researchers conducted 52 survey periods but no boats were observed during 26 of these periods). This results in a BAOT of 4 boats for the southern portion of the reservoir. In total, current boating use on Boundary Reservoir is estimated to account for about 14 BAOT. In addition to this BAOT estimate, based on a seasonal assessment and RRS observations (specifically the number of observation periods when watercraft were observed), the northern and southern portions of the reservoir appear to only be used 62 and 50 percent of season days, respectively.

Again, assuming either a “rural developed” or “rural natural” WROS setting classification for Boundary Reservoir, current boating use (14 BAOT) appears to be below WROS BAOT capacity standards (33-82 BAOT/15-33 BAOT). With anticipated increases in boating use at Boundary Reservoir, it is unlikely that future boating use levels will exceed these capacity standards during the new license term. Even under an extreme future scenario where all land-based parking capacity is used at full capacity (15-20 parking spaces at the SCL Forebay Recreation Area boat launch, 10-15 parking spaces at Metaline Waterfront Park boat launch, and 10-15 parking spaces at the Box Canyon Dam Campbell Park boat ramp) for boating purposes, only 50 boats would theoretically be on the reservoir at-one-time (assuming one boat per parked vehicle). While this number of BAOT would exceed the “rural natural” capacity standard, it would be within the acceptable BAOT standard for a “rural developed” setting. One exception may be during the “Bassin’ Assassin” fishing tournament that has growing appeal in the Project area.

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Appendix 3: Assessment of Importance/Satisfaction Survey Component

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IMPORTANCE/SATISFACTION

One series of important questions from the RRS surveys asked visitors and area residents to rank several facilities and services currently available in the study area according to their importance (placed on the facility or service) and satisfaction (derived from the facility or service). Originally used in marketing research, Importance-Satisfaction (also referred to as Importance-Performance) analyses combine the importance a visitor places on a site/facility and the satisfaction a visitor derives from the site/facility to rank and compare sites, facilities, or other attributes of a recreation opportunity. Importance-Satisfaction analyses are typically used to help managers prioritize recreation needs and budgets. The results of an Importance-Satisfaction analysis fall into one of the following four categories (Martilla and James 1977):

- 1) “Keep up the Good Work” – contains those attributes with high importance AND high satisfaction ratings;
- 2) “Concentrate Here” – contains those attributes with high importance, but low satisfaction ratings;
- 3) “Possible Overkill” – contains those attributes with low importance, but high satisfaction ratings; and
- 4) “Low Priority” – contains those attributes with low importance AND low satisfaction.

The comparison of attributes helps managers understand which attributes are being provided at satisfactory levels and which may warrant improvements/enhancements (per visitor ratings). Those attributes which fall above the importance threshold AND below the satisfaction threshold are considered likely priorities (or needs). Three accepted methodologies for placing the axes (or determining the importance and satisfaction thresholds) in Importance-Satisfaction analyses include:

- (1) At the means of the importance and satisfaction scales (e.g., for a 5-point [1-5] scale, axes would be placed at 2.5 for both importance and satisfaction);
- (2) At the grand mean of means for both importance and satisfaction (e.g., if the grand mean of all importance means was 3.2 and the grand mean of all satisfaction means was 3.6, then the axes would be placed at 3.2 for importance and 3.6 for satisfaction); and
- (3) At specific importance and satisfaction levels to capture stated management goals and objectives (e.g., if a management entity decided to focus on attributes with importance values above 3.5 and satisfaction values under 3.0, then the axes would be placed at these values).

In Importance-Satisfaction research and application, the most commonly accepted methodology for placing the axes/establishing the thresholds is by management goals and objectives. If management goals and objectives do not exist, then the next most commonly accepted and used methodology is the grand mean of means (Capozzi 2000).

The RRS surveys included an Importance-Satisfaction question with a series of site and facility attributes. In general, visitors and area residents rated most of the facilities and services important and were also very highly satisfied with them. Using the importance/satisfaction ratings to guide management priorities (the common use of importance/satisfaction-based survey efforts), SCL may consider prioritizing those facilities with higher importance ratings but lower satisfaction ratings for improvements and/or enhancements. The grand mean of means (the mean or average of all facility/service importance and satisfaction means) was used as the cutoff point or threshold for both importance and satisfaction. This is consistent with common practice for conducting importance/satisfaction-related research and management and for prioritizing management efforts (Capozzi et al. 2003, Hammitt et al. 1996, Hollenhorst et al. 1992).

A facility or service is considered a recreation need for visitors if it had a mean importance rating equal to or greater than 3.7 (the grand mean of all importance ratings in Table 5.1-35 of the RRS); AND a mean satisfaction rating of equal to or less than 4.0 (the grand mean of all satisfaction ratings in Table 5.1-35 of the RRS). For area resident recreation needs, a facility or service had to have a mean importance rating equal to or more than 3.6 (the grand mean of all importance ratings in Table 5.1-64 of the RRS Final Report) and a mean satisfaction rating equal to or less than 3.6 (the grand mean of all satisfaction ratings Table 5.1-64 of the RRS Final Report). Those facilities/services that met these importance and satisfaction conditions are listed in Table A.3-1 and are considered potential existing needs (visitors and area residents are listed separately in Table 5.1-64 of the RRS Final Report, which categorized results independently for each of these groups).

Table A.3-1. Needs as identified by visitors and area residents via importance / satisfaction ratings.¹

Visitors (Importance Mean/Satisfaction Mean)	Area Residents (Importance Mean/Satisfaction Mean)
Drinking Water (4.22/3.98)	Navigation Hazard Marking (4.03/3.50)
Navigation Hazard Marking (3.91/3.90)	Boat Ramps (3.94/3.58)
Fishing Opportunities (3.87/3.95)	Boat Docks (3.86/3.56)
Hiking Trails (3.84/3.89)	River/Shoreline Access for Fishing (3.71/3.49)

Notes:

1 Both visitors and area residents were asked to rate a series of sites and facility attributes using 5-point (1-5) importance and satisfaction scales. The full results for the importance/satisfaction questions are listed and graphically displayed in the RRS Final Report. This table only includes those attributes that met specific importance AND satisfaction conditions.

Source: SCL 2009

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Appendix 4: Forebay Recreation Area Campground Capacity Use Assessment

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FOREBAY RECREATION AREA CAMPGROUND CAPACITY USE ASSESSMENT

Existing campground use at the Forebay Recreation Area was extrapolated through 2061 (or about 50 years – the maximum potential term of a new FERC license) to assess current and potential future camping-related needs at the Project. This assessment is based on the following assumptions about camping use at the Forebay Recreation Area (peak summer season only):

- There are 11 campsites as of 2008
- Current average weekday capacity utilization is 4.6 campsites
- Current average weekend capacity utilization is 8.5 campsites
- Average camping group size is 2.6 people per site
- Camping use is anticipated to increase about 1 percent per year through the term of the new license

Table A.4-1 displays current and anticipated future camping use at the Forebay Recreation Area by decade. In recreation planning and management, 40, 60, 80, and 100 percent occupancy are used as typical thresholds or indicators of capacity. At 40% occupancy, monitoring typically becomes more important. As occupancy percentages increase over time, recreation managers may begin to make decisions to address observed impacts and increasing demand. A well-designed and managed recreation site may be able to operate at 100 percent capacity on occasion, but long-term full capacity use will often result in substantially increased maintenance and management needs and a shorter life cycle for site facilities and amenities over time. When occupancy levels reach 60 percent and/or 80 percent (depending on overall management objectives), recreation managers are encouraged to consider various options to help ease demand for camping sites and other opportunities, such as building additional campsites and/or instituting a reservation system.

Table A.4-1. Existing and estimated future camping use at the Forebay Recreation Area (2007 – 2061).

	2007 ¹	2011	2021	2031	2041	2051	2061
<u>Weekends</u>							
People ²	22.1	23.0	25.4	28.1	31.0	34.2	37.8
Occupied Campsites	8.5	8.8	9.8	10.8	11.9	13.2	14.5
Percent Capacity	77.3%	80.4%	88.8%	98.1%	108.4%	119.7%	132.2%
<u>Weekdays</u>							
People	12.0	12.4	13.7	15.2	16.8	18.5	20.5
Occupied Campsites	4.6	4.8	5.3	5.8	6.5	7.1	7.9
Percent Capacity	41.8%	43.5%	48.1%	53.1%	58.7%	64.8%	71.6%

Notes:

¹RRS data was collected in 2007. The peak recreation season is generally Memorial Day weekend to Labor Day weekend.

²“People” calculation is based on average group size of 2.6 people per campsite.

Source: SCL 2009 (Appendix 2d of the RRS Final Report)

If camping use increases as anticipated, camping use will reach 80 percent capacity by 2010 and 100 percent by 2033 during peak summer season weekends. Camping use will reach 60 percent capacity by 2043 during peak summer season weekdays.

Appendix 5: Recreation Demand Considerations

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RECREATION DEMAND CONSIDERATIONS IN THE FUTURE

The potential always exists for future changes in recreation demand and resulting needs, especially over a new license term spanning 30 to 50 years. Recreation demand during this long timeframe cannot be accurately predicted without periodic reassessment. At this time, potential changes in recreation demand (including emerging activities, technologies, and changes in use patterns) have not been identified. As noted by the RCO, completely new recreational activities often emerge over time and their emergence and subsequent activity levels are nearly impossible to predict (IAC 2003). Standard projections of recreation demand, as are often found in State Comprehensive Outdoor Recreation Plan (SCORP) documents, are typically based on data reflecting the recent past and are unlikely to capture new emerging uses. Other demand projections, as often compiled by national researchers (e.g., Cordell, Outdoor Industry Foundation, etc.), are typically based on complex population models that do not account for new or emerging activities/uses. As such, anticipating changes in existing use patterns/activities and/or identifying emerging activities/technologies is difficult with any degree of certainty. This again points to the need for an on-going monitoring program during the new license term to help identify potential new trends and to provide for future Project-related needs that may not be known at this time.

In assessing potential future changes in recreation demand and the emergence of new recreation technologies and preferences, it should be noted that current participation in outdoor recreation activities in the U.S. is approximately 10 times greater than it was in 1950. More recently, the rate of growth in outdoor activity participation has slowed due to higher gasoline prices, less discretionary time, demographic changes, real household income levels, and a lack of large expansions to the amount of land available for recreation (e.g., new national parks, forests, etc.), among other reasons (Loomis and Walsh 1997). Other shorter range factors are also known to affect recreation use levels, including security requirements at dams and border crossings, weather, national economy, wildfires, highway maintenance, maintenance of hydro facilities, hours or days of operation, and the quality of recreational opportunities.

In the future, several additional factors will likely affect demand for outdoor recreation activities, including population, age, demographics, income, education, leisure time, past experience, and the supply of recreation facilities (Cordell et al. 1999).

In addition to these types of factors that can influence demand, demand for recreational opportunities can often be manipulated or induced. Advertising, special promotions, news stories/articles, and other forms of publicity can generate increased awareness and demand (beyond anticipated “normal” increases) for recreation activities, settings, and/or opportunities. For example, if significant resources are focused on promoting the North Pend Oreille Scenic Byway and International Selkirk Loop (recent use levels appear to be fairly steady to slightly increasing), use levels associated with these scenic drives could potentially rise, thereby increasing the number of visitors to the study area (compared to levels in the absence of the byway designation or to standard recreation growth rate projections). Other actions that could potentially manipulate demand, bringing more visitors to the study area include an increase in organized group trips from the greater Spokane area (currently estimated at 50 visitors per each of four annual trips) or additional local guided canoe/kayak-based day trips on the reservoir

(currently estimated to account for about 100 visitors during a good year). There is a trend for multi-faceted group day-use outings that could include bundled group activities with meals provided in the field. An increase in these types of activities could potentially increase demand for day use activities including short day hikes, wildlife viewing, fishing, interpretation and education (I&E) and non-motorized boating, among others. It is difficult to predict when or how recreation demand may be manipulated in the future, but artificial manipulation for study area recreation opportunities has the potential to change recreation use levels and patterns and related needs.

In terms of future technologies, recreation activities are increasingly influenced by technological advances in outdoor recreation equipment. Some recent technological advances include affordable Global Positioning System (GPS) devices, weather-proof fabrics, cleaner 4-stroke engines (for use in newer snowmobiles, PWC, etc.), electronic fish finders, advances in non-motorized watercraft, and lightweight camping gear, among others. These technological advances can affect recreation in various ways, but in general, they have made some outdoor activities more accessible to a larger portion of the recreating population. For example, recent innovations in watercraft have increased the popularity of and participation in boating-related activities by making boating less expensive, cleaner, and safer. In the study area, technological advances in recreation equipment and activities may potentially increase use; however, the long-term effect of technology on recreation in the study area (as well as in general) is uncertain.

Finally, in just the span of a few years during relicensing, two additional new recreation opportunities may be on the horizon that would likely affect recreation use and demand in the Project area. If a new regional water trail on the Pend Oreille River is determined to be feasible and is designated, and Boundary Reservoir is included, additional visitation may be expected by water trail users. These boaters would likely use the Project boat launches, falls portage trail, boat-in dispersed sites, I&E facilities, and day use picnic sites and campsites. A second action that has been proposed is the federal designation of the Pacific Northwest Trail as a National Scenic Trail. Federal legislation has been proposed and may be considered in 2009. This existing trail route currently crosses Boundary Dam and SCL staff escort trail users across the top of the dam for security and safety reasons. If and when this trail route is improved and/or is publicized, increased trail use may be anticipated over time. These trail users would likely use Project facilities, particularly the adjacent Forebay Recreation Area, Tailrace Recreation Area/ Machine Hall Visitors' Gallery, Vista House, and proposed West and East Peewee Falls Trails. It is too early to calculate the potential effect of these two recreation actions on the Project. However, this points to the need for an adequate recreation monitoring program over the term of the new license.

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Appendix 6: Project Area and Vicinity Agency Plans and Regulations

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AGENCY PLANS AND REGULATIONS

Under the new license, Project-related recreation actions and/or policies should be coordinated with other entities with recreation management authority in the study area. These entities include the USFS, BLM, Pend Oreille County, Pend Oreille County PUD, and the towns of Metaline and Metaline Falls. As identified in the PAD, these are the primary entities with recreation-related management responsibilities in the study area.

As noted in the PAD, both USFS and BLM have existing management plans that guide management decisions on their lands within the study area. The Colville National Forest (CNF) Forest Plan, as amended (USFS 1988), guides natural and cultural resource management activities on NFS lands and establishes management standards and guidelines. It also describes resource management policies and prescriptions, levels of resource production and management, and the availability and suitability of lands for resource management. In general, current Project-related recreation management is consistent with the goals and objectives of the Forest Plan. The USFS is in the process of updating the CNF Forest Plan; as such, future Project-related management actions should be reviewed for consistency with the updated plan as needed.

The BLM Spokane District Resource Management Plan, as amended (BLM 1985), does not discuss recreation-specific management for the BLM-managed parcels of land within the study area; however, these parcels are generally managed for dispersed recreational use. Because the BLM's plan lacks recreation-related goals and objectives, Project-related actions, including those for dispersed use areas, can likely be considered consistent with BLM dispersed recreation management goals.

As noted in the Land and Roads Study and per Washington State Shoreline Management Act (SMA) regulations, all shoreline lands in unincorporated Pend Oreille County, including those on both the east and west sides of Boundary Reservoir, are designated as a conservancy environment (Pend Oreille County 2007). As stated in the regulations, the "objective in designating a conservancy environment is to protect, conserve and manage existing natural resources and valuable historic and cultural areas in order to insure a continuous flow of recreational benefits to the public and to achieve sustained resource utilization" (Pend Oreille County 2007). This designation is for areas intended to maintain their existing character; preferred uses are those that are non-consumptive of the physical and biological resources of the area, and nonpermanent uses that do not substantially degrade the existing character of an area. Because recreational benefits are a key component of the conservancy environment, most potential recreation-related actions in the study area would likely be consistent with SMA regulations (as described in Pend Oreille County Code).

Comprehensive plans for the towns of Metaline and Metaline Falls were approved in 1996 (Town of Metaline 1996; Town of Metaline Falls 1996). Both Towns' comprehensive plans identify Pend Oreille River-specific goals that include: 1) providing increased public access to the Pend Oreille River with the support of local, state, and federal agencies; and 2) managing the level and flow of the Pend Oreille River to

enhance recreational opportunities, wildlife, the fishery, and water quality, while recognizing power generation requirements. Potential Project-related recreation actions would increase and enhance recreation opportunities in the study area and thus would likely be consistent with the comprehensive plans for both Metaline and Metaline Falls. Since comprehensive plans must be periodically updated to meet Washington State Growth Management Act (GMA) requirements, future Project-related management actions should be reviewed for consistency with the updated plans.

Finally, Pend Oreille County PUD owns and operates the Box Canyon Hydroelectric Project. This upstream hydroelectric Project includes a boat launch that provides boating access to Boundary Reservoir below the tailrace at Box Canyon Dam at Campbell Park. The boat launch was recently improved by Pend Oreille County PUD in 2008. Future improvements and ongoing management actions at Campbell Park and its boat launch may affect recreation use at the Boundary Project. Both utilities should coordinate with each other on actions that may affect recreation resources.

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