

***Boundary Hydroelectric Project (FERC No. 2144)***

***Study No. 23***  
***Aesthetic/Visual Resources Study***  
***Final Report***

**Prepared for  
Seattle City Light**

**Prepared by  
Tetra Tech**

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# **Study No. 23: Aesthetic/Visual Resources Study**

## **Final Report**

### **Boundary Hydroelectric Project (FERC No. 2144)**

#### **1 INTRODUCTION**

Study No. 23, the Aesthetic/Visual Resources Study (AVRS), was conducted in support of the relicensing of the Boundary Hydroelectric Project (Project), Federal Energy Regulatory Commission (FERC) No. 2144, as identified in the Revised Study Plan (RSP; SCL 2007) submitted by Seattle City Light (SCL) on February 14, 2007, and approved by the FERC in its Study Plan Determination letter dated March 15, 2007. This is the final report describing the field efforts, analyses, and determination of Project effects and represents the completion of the study.

#### **2 STUDY OBJECTIVES**

The goals of the AVRS were to assess the aesthetic/visual resources in the Project vicinity and to identify potential effects on those resources from Project operations and proposed changes to the Project. Specific objectives of the study were as follows:

- Describe the visual characteristics of the Project and its surrounding landscape.
- Identify visually sensitive areas within Project lands and waters and adjoining lands.
- Identify and map key viewpoints and other locations that have the potential to provide enhanced viewing opportunities of the Project area by the public.
- Assess ongoing Project operations and potential Project modifications for consistency with the scenic landscape goals and policies in the new Colville National Forest (CNF) Plan when finalized.
- Identify potential adverse effects of Project operations and proposed changes to the Project on visually sensitive areas.
- Describe the general feasibility of potential options and enhancement opportunities to mitigate potential adverse Project operational effects or proposed changes to the Project, where appropriate.

#### **3 STUDY AREA**

The study area for the AVRS primarily included the lands and waters within and adjacent to the Project boundary. Figure 3.0-1 displays the area within the general vicinity of the Project and the study area defined for the AVRS.

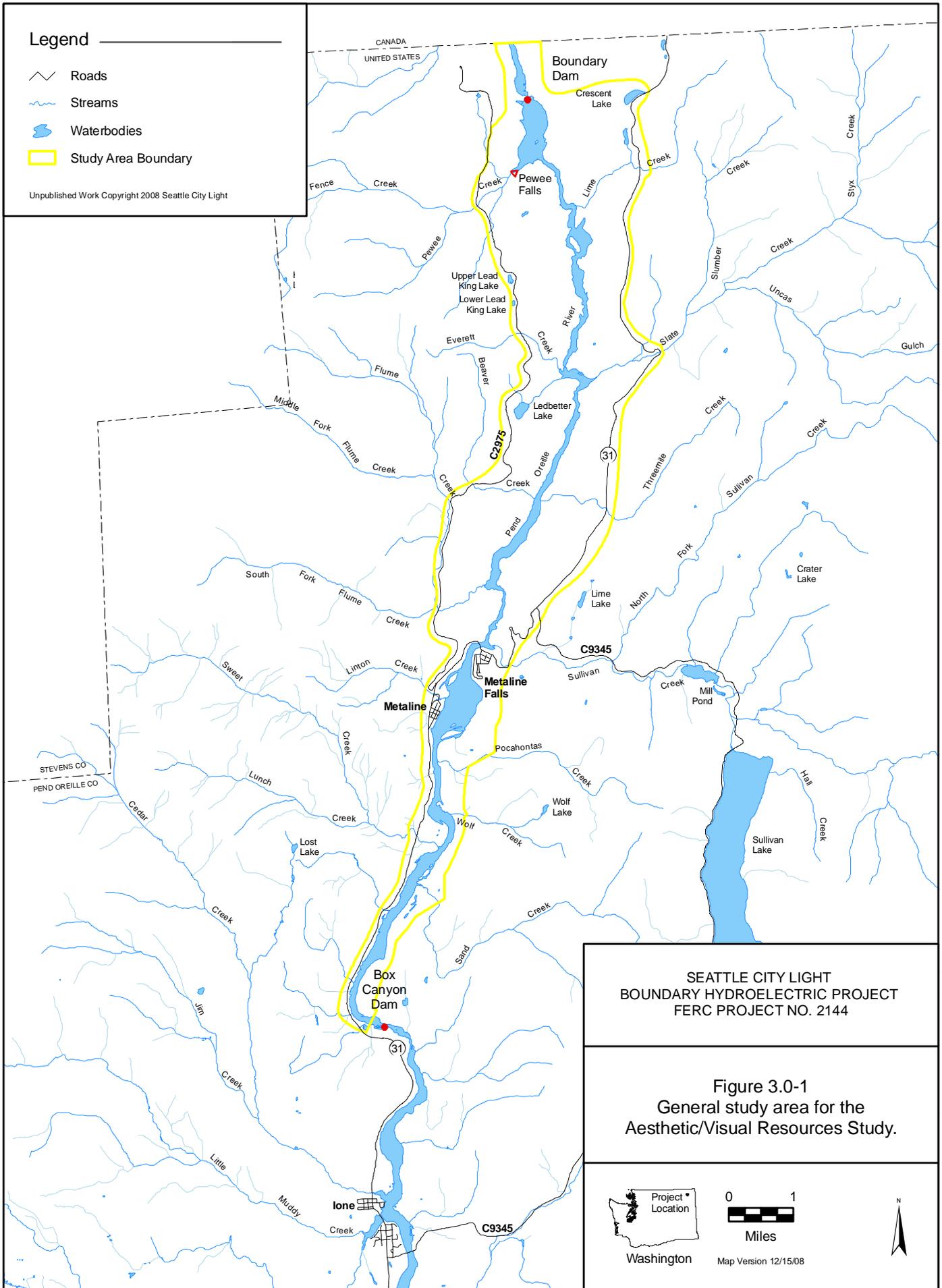
As described in the RSP (SCL 2007), the study area for the AVRS was to be defined based on the visibility of Project features. Specifically, the area between the reservoir shoreline and adjoining parallel county roads and/or the state highway where public viewing opportunities of the Project area are afforded was included in the definition of the study area. Using a

Geographic Information System (GIS), all points or areas (within the geographic area described in the foregoing sentence) from which viewers could potentially see a Project feature were identified; in most cases, this equated to areas from which the reservoir would be visible. Because the results of this visibility analysis are applied in the assessment of Project effects, maps indicating the areas from which the Project would be visible (i.e., the viewshed of the Project) are presented in Section 5.3.

**Legend**

-  Roads
-  Streams
-  Waterbodies
-  Study Area Boundary

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FERC PROJECT NO. 2144

Figure 3.0-1  
General study area for the  
Aesthetic/Visual Resources Study.



## 4 METHODS

The RSP identified six tasks for the AVRS. The methodologies for these tasks are discussed below.

### 4.1. Collect Existing Aesthetic/Visual Resources Information

Existing aesthetic/visual resources information about the CNF, including material from the current approved CNF Plan and the Final Environmental Impact Statement (FEIS) on the current CNF Plan (USFS 1988a, 1988b) and draft products prepared as input for the pending CNF Plan update, was collected from the U.S. Forest Service (USFS) and reviewed. The most relevant landscape planning factors addressed in these CNF source materials included the following:

- Chapters 3 (Response to Issues, Concerns, and Opportunities) and 4 (Forest Management Direction) in the CNF Plan (1988a);
- Chapters 2 (Alternatives), 3 (Affected Environment), and 4 (Environmental Consequences) in the CNF Plan FEIS (1988b);
- Valued Landscape Character descriptions (USFS 2008a);
- International Byway and Remote Access niche maps and descriptions from the 2006 CNF Recreation Niche Planning effort; and
- GIS viewshed data and maps (provided by the CNF) based on the centerlines of State Route (SR) 31, County Road 2975, Forest Road (FR) 3165, and the Pend Oreille River/Boundary Reservoir surface (these are the travel routes and use areas in the Project area identified by the CNF as Concern Level 1 and 2, based on the level of use and the presumed viewer interest level in the scenery).

The USFS began preparing for a revision of the current CNF Plan in 2002. At the time the RSP was developed in 2007, it was anticipated that the update would be available in 2008 for review and application within the AVRS. Completion of the CNF Plan update has been delayed by the USFS; the current schedule is for a draft of the revised CNF Plan to be released in early 2010, and for adoption of a final CNF Plan approximately 1 year later (USFS 2008b). As a result of this delay, certain reference materials identified in the RSP and expected to be available for use in the AVRS had not been prepared at the time the AVRS was conducted. The following materials were not available for use in the AVRS:

- Desired Landscape Character Goals
- Scenic Integrity Objectives for CNF lands

Additional aesthetic/visual resources attribute information about the Project area was collected from other sources and reviewed for potential use in this report. Such sources included the Pre-Application Document (PAD) (SCL 2006), SCL Visitor Center and Vista House guest comments; responses from the visitor and area resident surveys conducted by SCL in 2007 for Study 21, Recreation Resource Study Final Report (SCL 2009a); and information about the region developed and distributed by tourism organizations.

## 4.2. Define Key Observation Points

Preliminary key observation points (KOPs) in or adjacent to the Project area were identified, mapped, and photographed during development of the PAD (SCL 2006). These preliminary KOPs were selected based on locations with clear viewing opportunities of the Project area by the general public. Preliminary KOPs discussed in the PAD included the following:

- Sites within and along the SR 31 Scenic Byway corridor, including the Eagle Nest Viewpoint
- Project area recreation sites, such as the Forebay Recreation Area and Metaline Waterfront Park
- Views from the towns of Metaline and Metaline Falls
- The Boundary Reservoir surface area

Aesthetic/visual resources character and viewing opportunities were described in the PAD for each preliminary KOP. In consideration of information obtained through the previous task and after consultation with relicensing participants at a meeting in March 2008, a final KOP list was developed. The final list included eight land-based and five water-based KOPs, as indicated below and illustrated on Figure 4.2-1:

### Land-based KOPs

- Forebay Recreation Area (at a location in the day-use area at this site)
- Tailrace Recreation Area (from the viewing area)
- Vista House (viewing platform)
- Bureau of Land Management (BLM) Boundary Recreation Area (campsite at Project river mile [PRM] 19.6)
- Metaline Waterfront Park (covered fire pit)
- North Pend Oreille Scenic Byway Metaline Falls Viewpoint (near east end of SR 31 bridge in the town of Metaline Falls, at interpretive sign)
- North Pend Oreille Scenic Byway Eagle Nest Viewpoint (pullout on SR 31 between Metaline and Ione, at interpretive sign)
- Campbell Park at Box Canyon Dam (Pend Oreille County Public Utility District visitor center)

### Water-based KOPs

- Boundary Reservoir Forebay (middle location, 0.25 mile south of dam)
- Pewee Falls (looking towards the falls)
- Boundary Reservoir Canyon Reach, Slate Creek Area (off BLM dispersed site, between Everett and Slate creeks)
- Upper Boundary Reservoir, Metaline Pool (midpoint)
- Upper Boundary Reservoir, Wolf Creek Area (midchannel)

In August 2008, field reconnaissance was conducted to record conditions at the KOPs, and with this information, more detailed descriptions of the existing character and viewing opportunities from the KOPs were developed.

### Legend

● Key Observation Point (KOP)

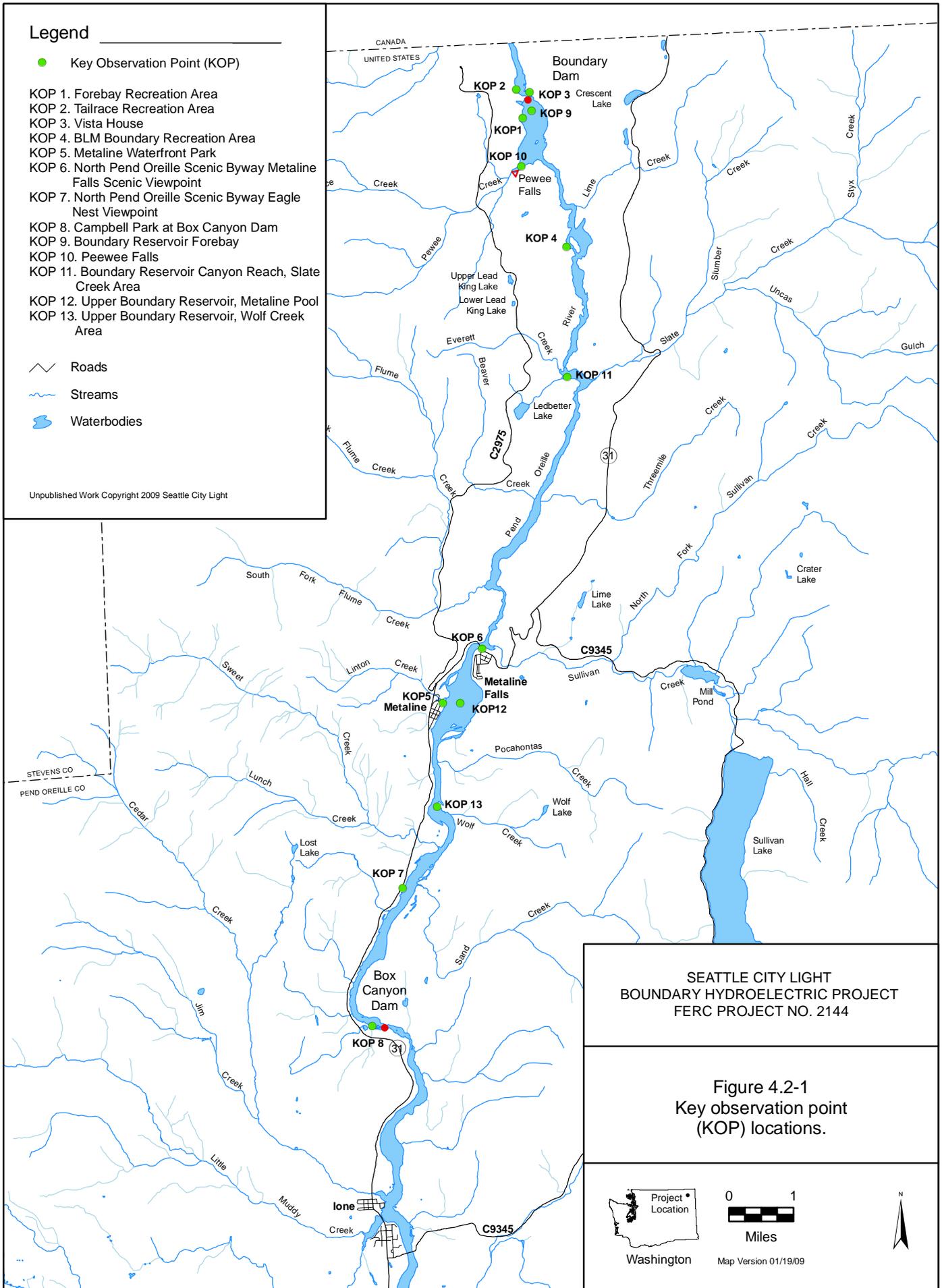
- KOP 1. Forebay Recreation Area
- KOP 2. Tailrace Recreation Area
- KOP 3. Vista House
- KOP 4. BLM Boundary Recreation Area
- KOP 5. Metaline Waterfront Park
- KOP 6. North Pend Oreille Scenic Byway Metaline Falls Scenic Viewpoint
- KOP 7. North Pend Oreille Scenic Byway Eagle Nest Viewpoint
- KOP 8. Campbell Park at Box Canyon Dam
- KOP 9. Boundary Reservoir Forebay
- KOP 10. Peewee Falls
- KOP 11. Boundary Reservoir Canyon Reach, Slate Creek Area
- KOP 12. Upper Boundary Reservoir, Metaline Pool
- KOP 13. Upper Boundary Reservoir, Wolf Creek Area

— Roads

~ Streams

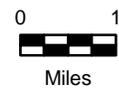
Waterbodies

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FERC PROJECT NO. 2144

Figure 4.2-1  
Key observation point  
(KOP) locations.



Washington

Map Version 01/19/09

### 4.3. Rate Aesthetic/Visual Resources and their Condition from KOPs

In consultation with the relicensing participants, SCL developed a Visual Conditions Form that was used to record observed conditions and potential adverse Project effects, if any, at the KOPs. The structure and content of the form were based on review of aesthetic/visual resources evaluation forms used on several other hydroelectric relicensing studies and comparable forms developed as part of aesthetic resource assessment systems developed and applied by federal agencies. Specifically, these systems include the USFS (1995) Scenery Management System (SMS), the BLM (1986) Visual Resource Management (VRM) system, and the U.S. Army Corps of Engineers (USACE) Visual Resources Assessment Procedure (VRAP) (Smardon et al. 1988).

The form provided space to record general information on each KOP (e.g., KOP number/name, GPS number/reading, photograph number/direction) and its attributes, including water resources, landforms, vegetation, land/water use and structures, user activity, and other aesthetic considerations. The latter portion of the form accounts for other factors such as smells and sounds that can contribute to the overall aesthetic character of a particular site, and consideration of viewer position and the extent to which views from the KOP may be screened or blocked. The final section of the form provided for assignment of an overall scenic integrity rating for the site. Copies of the Visual Conditions Forms completed for the respective KOPs can be found in Appendix 1.

The conditions recorded for water resources, landforms, vegetation, and land/water use and structures included entries for scale contrast, spatial dominance, and a characteristic landscape description. The latter entry was based on the form, line, color, and texture evident for each resource attribute, and whether each characteristic was considered to be strong, moderate, weak, or not present at the KOP. Table 4.3-1 provides the definitions for these landscape characteristics.

**Table 4.3-1.** Definitions for key landscape characteristics used to evaluate visual contrast.

Factor	Definition
Form	The structure, mass, or shape of a landscape or of objects which appear unified. Form is often defined by edges or outlines of landforms, rockforms, vegetation patterns or waterforms, or the enclosed spaces created by these attributes.
Line	An intersection of two planes, a point that has been extended, or the silhouette of form. The path, real or imagined, that the eye follows when perceiving abrupt differences in form, color, or texture or when objects are aligned in a one-dimensional sequence. Usually evident as the edge of shapes or masses in the landscape.
Color	The property of reflecting light of a particular intensity and wavelength (or mixture of wavelengths) that enables the eye to differentiate otherwise indistinguishable objects. It is the major visual property of surfaces.
Texture	The interplay of light and shadow created by variations in the surface of an object. The aggregation of small forms or color mixtures into a continuous surface pattern; the aggregated parts are enough that they do not appear as discrete objects in the composition of the scene.
Scale	The proportionate size relationship between an object and the surroundings in which it is placed. The degree of resolution at which ecological processes, structures, and changes across space and time are observed and measured.
Space	A limited extension in one, two, or three dimensions, or a volume. The spatial qualities of a landscape are determined by the three-dimensional arrangement of objects and voids.

Sources: USFS 1995; BLM 1986

These landscape characteristics are key elements in applying a visual contrast rating system, a systematic process used to analyze the potential visual impact of proposed projects and activities. The basic philosophy underlying the system is: “The degree to which a management activity affects the visual quality of a landscape depends on the visual contrast created between a project and the existing landscape” (BLM 1986). The contrast can be measured by comparing the project features with the major features in the existing landscape. The basic design elements of form, line, color, and texture are used to make this comparison and to describe the visual contrast created by the project.

The observed conditions documented on the forms were used as input in assigning an overall scenic integrity rating to each KOP. This process generally followed guidance from the SMS Handbook (USFS 1995), in which integrity is a measure of scenic importance based on the degree of visual unity and wholeness of the natural landscape character. Human alteration can sometimes raise integrity, such as an impounded water body that unifies the landscape while adding variety, mystery, harmony, and balance. Most often, however, scenic integrity is lowered by human alteration and the addition of visually disruptive elements. The presence and degree of discordant alteration are used to classify the scenic integrity of a landscape.

Scenic integrity ratings used in the SMS range from Very High to Unacceptably Low, based on 1) whether the inherent landscape character or deviations from the landscape character dominate the scene; 2) the degree of deviation from the landscape character; and 3) the intactness of the landscape character. For example, a scenic integrity rating of Very High is suitable where the landscape character dominates, there is no deviation from the landscape character, and the landscape character is fully expressed, or intact. By contrast, a Very Low integrity rating would

apply when the deviation(s) dominate the landscape character, the degree of deviation is “Very Dominant,” and the natural landscape character is considered “Heavily Altered,” with a very poor expression of character. The definitions for the scenic integrity rating are as follows (USFS 1995):

- **Very High:** Areas where the valued landscape character is intact with only minute deviations. The existing landscape character and sense of place are expressed at the highest possible level.
- **High:** Areas where the valued landscape character appears to be intact and unaltered, with very minor deviation. Any deviation present must repeat the form, line, color, texture, and pattern of the landscape so closely and at such a scale that it is not evident.
- **Moderate:** Areas where the valued landscape character appears to be slightly altered. Noticeable deviations must be visually subordinate to the landscape being viewed, and borrow much of the natural form, line, color, texture, and pattern.
- **Low:** Areas where the valued landscape character appears to be modestly altered. Deviations begin to dominate the landscape being viewed, but the alterations should share natural color, shape, edge pattern, and vegetation characteristics in order to remain compatible or complementary.
- **Very Low:** Areas where the valued landscape character appears to be heavily altered. Deviations strongly dominate the landscape and may not share any of the visual attributes. The alterations may be visually disruptive and provide significant negative contrast to the natural landscape characteristics.
- **Unacceptably low.** Areas where the valued landscape character appears to be extremely altered. Deviations are extremely dominant and borrow little if any form, line, color, texture, pattern, or scale from the landscape character. Landscapes at this level of integrity need rehabilitation. This level should only be used to inventory existing integrity. It should not be used as a management objective.

The field activity undertaken to complete the Visual Conditions Forms was conducted August 27–28, 2008. The fieldwork was scheduled for a time when reservoir levels were within the typical range of daily and weekly variation for the summer period, which is the time of greatest recreational activity and viewer numbers in the Project area. Each site was visited one time and the reservoir level at the specific time of visit was recorded. (See Section 5.3.2 for additional discussion about conditions existing at the time of survey.) The observed KOP conditions are summarized in Section 5.2.

Sections 1 through 7 of the Visual Conditions Forms were completed in the field (to the extent possible; reservoir elevations were added subsequently, based on recorded gage data). Section 8, the overall scenic integrity rating for each KOP, was completed during the analysis process. The overall rating for each KOP was selected based on 1) careful review of the recorded observations for the other portions of the form and the photographs taken at each location and 2) application of the concepts incorporated in the definitions for the scenic integrity ratings provided above. In general, the integrity ratings assigned to the KOPs reflected an assessment of the degree to which deviations from the natural landscape character were dominant in the view, and the degree to which they borrowed characteristics from the natural landscape. Table 4.3-2 is a matrix of

scenic integrity attributes from the SMS Handbook (USFS 1995) that was used to assist in this process.

**Table 4.3-2.** Summary of scenic integrity rating and landscape character attributes.

<b>Criteria for Scenic Integrity of the Landscape Character Image/Sense of Place</b>	<b>(VH) Very High</b>	<b>(H) High</b>	<b>(M) Moderate</b>	<b>(L) Low</b>	<b>(VL) Very Low</b>	<b>(UL) Unacceptably Low</b>
<u>Dominance</u> Landscape Character vs. Deviation	Landscape Character	Landscape Character	Landscape Character	Deviation	Deviation	Deviation
<u>Degree of Deviation</u> From the Landscape Character	None	Not Evident	Evident but not Dominant	Dominant	Very Dominant	Extremely Dominant
<u>Intactness</u> of the Landscape Character	Landscape Character Fully Expressed	Landscape Character Largely Expressed	Slightly Altered and Character Expression Moderate	Altered and Low Expression of Character	Heavily Altered and Very Low Expression of Character	Extremely Altered

Source: USFS 1995

In addition to the resource information collected in the field via the Visual Conditions Form, SCL obtained data applicable to the evaluation of aesthetic/visual conditions through the Recreation Surveys element of Study 21 (SCL 2009a). The questionnaires distributed to area residents and other visitors to the Project area in 2007 included questions designed to obtain feedback on existing aesthetic/visual resource conditions and preference/satisfaction levels. SCL asked similar questions of the participants of the local focus group workshops conducted in May 2008. These efforts from Study 21 provided constituent information about positive and negative aesthetic attributes and a frame of reference useful for the analysis of potential Project-related effects.

#### **4.4. Assess Potential Adverse Project-Related Effects and Policy Consistency**

The impact analysis task of the AVRS included two components. One was an analysis of observable effects of Project features (facilities and operations) on the applicable aesthetic environment. The second component was an assessment of the consistency of the Project, based on those aesthetic dimensions, with applicable policies. The approach used for each analysis component is summarized below.

The evaluation of visible effects of Project facilities and operations was based primarily on the information documented in the field for each KOP. For KOPs from which Project facilities (as opposed to Boundary Reservoir) are visible, the field observations included the degree of contrast in scale, color, and texture between the Project facilities and the adjacent landforms, and the resulting degree of landscape dominance associated with those features. Along with the other attributes evaluated for the KOPs (e.g., water resources, vegetation, land/water use, user activity), the visible effects of the Project facilities were incorporated into the scenic integrity rating developed for each KOP (as discussed above in Section 4.3). The effects on scenic

integrity were then evaluated through consideration of the aesthetic context for each KOP (e.g., whether or not there are other dominant contrasting features in the landscape context). Key context factors included viewing distance, viewer numbers and sensitivity, and the presence of other sources of landscape modifications at the respective KOPs. Constituent information derived from the recreation surveys was applied in this step, particularly as it related to viewer sensitivity and their perception of Project features. The product of this evaluation was the identification and characterization of potential adverse effects created by Project facilities that is presented in Section 5.3. A supplemental product is a map and list of Project-related disturbed sites or use areas that may negatively affect aesthetic/visual quality for which potential mitigation or enhancement measures can be considered.

The same approach was followed for the remaining KOPs (those from which Project facilities are not evident) to identify and assess potential adverse effects on aesthetic/visual resources caused by or associated with Project operations. For these KOPs, the evaluation was based primarily on the degree of visual contrast introduced by reservoir operation (as reflected by the pool elevation) that was evident at each KOP. The evaluation also considered the contribution of potential visual characteristics that could indirectly result from or be promoted by reservoir operations, such as erosion along the reservoir shoreline or the noticeable presence of noxious, invasive plants. To the extent that such characteristics were present and evident at the KOPs, they were to be noted on the KOP forms and included in the assessment of scenic integrity. (Project-related erosion is addressed in detail in the Study 1, Erosion Study Final Report [SCL 2009b], and the presence of noxious, invasive plants is addressed as a component of the Study 17, Rare, Threatened, and Endangered [RTE] Plant Species Inventory Final Report [SCL 2009c].)

An additional element of the RSP was to assess the aesthetic/visual effects likely to result from proposed changes to Project facilities or operations. At this time, no proposed changes to Project facilities or operations have been identified by SCL. Therefore, Section 5.3 does not document analysis of any such proposed changes. If proposed changes are identified subsequent to this report, their aesthetics effects will be evaluated as part of the relicensing process.

To assess the consistency of the aesthetic/visual attributes of the Project with applicable policy, policies adopted by government entities with jurisdiction in the study area were considered. This component of the analysis involved review of aesthetic/visual resource policy for the USFS and BLM, the two federal agencies with land management jurisdiction for federal lands within or adjacent to the Project; Pend Oreille County; and the towns of Metaline and Metaline Falls.

Project consistency with CNF policy was evaluated based on the identified condition at each KOP within the CNF. For the new Project license, the appropriate basis for the evaluation is the policy guidance to be provided in the new CNF Plan. Because the assessment of policy consistency was necessarily performed prior to publication of the new CNF Plan, SCL based the evaluation on the current CNF Plan (USFS 1988a) and preliminary landscape planning factors developed by the USFS as input to the updated plan. As discussed in Section 4.1, these included Valued Landscape Character descriptions and applicable Niche Area descriptions (specifically, the International Byway and Remote Access niches).

## **4.5. Potential Mitigation and Enhancement Options**

If existing or potential adverse Project-related effects to aesthetic/visual resources were identified in the previous task, potential protection, mitigation, and enhancement (PME) options to address those adverse effects were to be identified and evaluated for feasibility and effectiveness. Such PME options would involve actions that would reduce the degree of contrast created by the Project. Potential PME opportunities were to be identified and considered only for lands and waters that are directly affected by the Project or where SCL has management responsibility.

## **4.6. Develop a Summary Report**

The sixth study task defined in the RSP was to prepare a summary report documenting the results of the five prior tasks. The information provided in Sections 5 and 6 of this report represents completion of this task.

# **5 RESULTS**

## **5.1. Existing Aesthetic/Visual Characteristics of the Study Area**

This section describes the applicable baseline aesthetic/visual characteristics of the Project and its surrounding landscape.

### **5.1.1. General Aesthetic/Visual Setting**

The Project is surrounded by the Chewelah Mountains to the west and the Selkirk Mountains to the east. The Project area is generally characterized by forested hills and mountains, rock outcrops, high cliffs, and some rural development along the SR 31 corridor, particularly in and around the towns of Metaline and Metaline Falls. SR 31 is a designated state scenic byway, the North Pend Oreille Scenic Byway, as well as part of a designated international scenic byway, the International Selkirk Loop. The Project area has multiple scenic attractions, including Boundary Dam, Boundary Reservoir, the Canyon Reach, Pewee Falls, and the Selkirk Mountains.

In general, the Project is located within a scenic reach of the Pend Oreille River in which land ownership patterns and steep topography tend to limit opportunities for public access and viewpoints. The primary modifications that have been made to the Project area's scenic character include urban development such as shoreline recreation sites, the towns of Metaline and Metaline Falls, the SR 31 bridge, mining-related buildings and mine tailing disposal areas downstream of Metaline Falls, hydroelectric facilities, and regional transmission lines.

The visual characteristics of the Project area can be described with reference to three major elements in the landscape: landforms, vegetation, and human uses. Each element is described below, along with brief descriptions of how these elements influence the aesthetic/visual setting of the Project area.

### 5.1.1.1. Landforms and Vegetation

#### 5.1.1.1.1. Landforms

The Project is located within the Okanogan Highlands physiographic province, which is characterized by moderate slopes and broad, rounded mountain summits with elevations of up to 8,000 feet above sea level (SCL 2006). The Okanogan Highlands are located east of the Cascade Range and north of the Columbia Basin and extend into southern British Columbia and northern Idaho. The Selkirk, Chewelah, and Huckleberry mountains are the primary mountain ranges within the eastern Okanogan Highlands. The Pend Oreille River in the Project area flows through a valley of varying width and steepness. Much of the portion of the Project from Boundary Dam upstream (south) to Metaline Falls is in a relatively narrow, deep gorge section of the river canyon. By contrast, the portion of the reservoir from Metaline Falls upstream to the Box Canyon Dam tailrace is located in a wider, more open valley.

The USFS (2008a) has characterized the lands in northern Pend Oreille County as the Salmo-Priest Remote Dispersed landscape. This area encompasses several tributary drainages to the Pend Oreille River that are dominated by high-elevation terrain characterized by sharp, rugged peaks with glaciated cirque basins and alpine meadows. The terrain in the northeastern part of this landscape is underlain by durable Paleozoic and Pre-Cambrian metamorphic rocks, while the more subdued topography to the south is associated with older granitic, intrusive rocks. As the river moves into the Salmo-Priest area, the river valley changes from a relatively open valley to a narrow and remote canyon with near-vertical walls. This landscape includes a number of water features other than the river, including several small lakes and Sullivan Lake, a glacially-formed lake that has been dammed since 1910. Numerous streams and large creeks cascade through narrow drainages and often provide outstanding waterfalls where they enter the river.

#### 5.1.1.1.2. Vegetation

The Project lies within a region characterized as Interior Redcedar and Interior Western Hemlock forest, as well as Interior Douglas-fir forest (Cassidy 1997). Prevalent species in these zones include western hemlock (*Tsuga heterophylla*), ponderosa pine (*Pinus ponderosa*), western larch (*Larix occidentalis*), lodgepole pine (*Pinus contorta*), grand fir (*Abies grandis*), and western red cedar (*Thuja plicata*). The unusual combination of geographical location and mixture of vegetation communities results in a high species richness in the Project area, particularly for mammals and birds (Cassidy 1997).

Large fires dating from the 1920s have played an important role in creating the vegetative patterns in the present landscape. The characteristic pattern for the Salmo-Priest Remote Dispersed landscape is that of a mosaic of timber stands with different ages and structure. Broad expanses of timber varying in species and density cover the moist drainages, while there are rocky outcrops capping many of the high ridges.

Timber harvesting, along with mining, has historically been one of the primary extractive industries in the region surrounding the Project. Logging in this region has resulted in large forested areas of mixed regeneration (conifer and deciduous species), directly influencing the aesthetic/visual character of the area. Although logging has shaped the vegetation patterns, the landscape is typical of second-growth landscapes throughout the region. Some of the landscape

seen by the general public in the Project region has visibly distinct harvest units of varying ages. Although timber harvesting has shaped vegetation patterns and influenced the landscape within the region to varying degrees, the landscape is typical overall of a second-growth forest. The effects of past logging are less evident in the area around Boundary Reservoir than in other parts of the region. Some areas of USFS-managed land show little or no evidence of logging, especially the Salmo-Priest Wilderness Area to the east of the Project.

#### 5.1.1.2. *Human Uses*

Human use also affects the visual characteristics of the Project area. Along with past timber harvesting, mining has had a significant impact on aesthetic/visual resources in the Project area (SCL 2006). Large-scale mining began in the area in the 1920s. Currently, Mississippi Valley-type zinc deposits in the Project area are being mined underground. In the past, open-pit mining of the argillaceous Cambrian-Ordovician Metaline Formation around Metaline Falls was related to the manufacture of Portland cement. The tall, gray structure of the abandoned cement plant in Metaline Falls is a visually dominant feature of the viewshed in the central part of the Project area.

The distribution of human uses within and adjacent to the study area is influenced by land ownership patterns and the associated jurisdiction over land uses. Land management within and adjacent to the Project boundary is under the jurisdiction of a number of entities, including USFS, BLM, Pend Oreille County, and the towns of Metaline and Metaline Falls. The USFS and the BLM administer federal lands adjacent to the Project according to land and resource management policies defined in their respective Forest Plan and Resource Management Plan. Pend Oreille County oversees development activity on unincorporated land within the study area, while the towns of Metaline and Metaline Falls have the same responsibility for land within their respective incorporation limits, which extend up to the reservoir shoreline.

Land development for urbanized uses within the study area has a distinct linear pattern, in response to the river-valley terrain and transportation routes. Metaline and Metaline Falls are clusters of relatively dense development near the center of the study area. Rural residential uses are distributed in various locations along SR 31 north and south of the towns, and along secondary roads branching from SR 31 or the towns. A few commercial uses are found in the rural areas, and the Teck Cominco Pend Oreille Mine operation north of Metaline Falls represents a prominent area of industrial use. The mining operation and the SCL facilities at Boundary Dam are the only developed uses adjacent to the lower reaches of the reservoir. Development along the upper reservoir is concentrated in and immediately adjacent to Metaline and Metaline Falls. Some developed uses, primarily rural residential, are distributed at low density near SR 31 and the west side of the reservoir, while the east side of the reservoir between Box Canyon Dam and Metaline Falls is predominantly undeveloped.

SR 31 is the primary travel route passing through the study area. From its junction with SR 20 to the U.S.-Canada border, SR 31 has dual designation status as both the North Pend Oreille Scenic Byway and part of the International Selkirk Loop. The designation of the route as a scenic byway acknowledges the unique and spectacular scenic quality of the Project area and the byway corridor.

### 5.1.1.3. *Cultural and Social Landscape*

The Salmo-Priest Remote Dispersed Area forms an outlying part of the traditional territory of the Kalispel Indians (USFS 2008a). Native American use of the landscape has occurred for over 7,000 years, providing a cultural and social connection to the vegetation and landform through time. Visitors to the area can obtain expansive views from the ridgelines that extend into the Canadian Rockies and northern Idaho. Alternatively, they can find solitude and enclosed views within the steep-walled Canyon Reach of the Pend Oreille River. Evidence of the mining history in the area has become a part of the cultural landscape. Likewise, Boundary Dam and Box Canyon Dam have become a recognized part of the characteristic landscape and history of the area.

Sense of place is an element of the social and cultural landscape and an important consideration in the SMS methodology. The Salmo-Priest Remote Dispersed Area is valued regionally and locally for the mix of recreation opportunities provided within the steep and dramatic mountainous country (USFS 2008a). Some visitors have been coming to the campgrounds at Sullivan Lake for generations. The developed recreation sites along the Scenic Byway, several of which are relatively new, provide interpretation of the historical uses and environmental factors that have helped define the area. The Salmo-Priest Wilderness is an important feature that is valued for providing opportunities for solitude and trails leading to broad vistas. Visitors and residents regard a number of other locations as special places, including Sullivan Creek, Mill Pond, Boundary Dam, Z Canyon, the Salmo and Sullivan Lookouts, and the Pend Oreille River itself.

### 5.1.2. **Viewer/User Groups**

This section provides a general description of the key viewer/user groups in the study area who might experience aesthetic aspects of the Project. Distinctions among user groups and their expected sensitivity to landscape changes, based on their respective activity and viewing characteristics, is a standard component of aesthetic impact assessment. The discussion is based primarily on existing information developed by the USFS for the CNF Plan and/or by SCL for the PAD and RSP. Results from Study 21 (SCL 2009a) are used selectively to illustrate viewer numbers and their preferences or sensitivity levels.

#### 5.1.2.1. *Local Residents*

The local resident viewer group consists of people who live and work within the study area. Many local residents are present on a year-round basis, whereas some have permanent residences elsewhere and are seasonal residents of the study area. Generally, they view the landscape from their yards, homes, local roads, and places of employment while engaged in daily activities. Residents are concentrated in the towns of Metaline, with an estimated 2008 population of 170, and Metaline Falls, with an estimated 2008 population of 285 (WOFM 2008). Both towns are situated adjacent to the Upper Reservoir Reach (Box Canyon Dam downstream to Metaline Falls [PRM 34.5 to 26.8]) of the Project. There also are local residents who own rural property located outside of the towns. Most of these local residents are distributed along or near the major primary and secondary roads within northern Pend Oreille County. These areas include along

SR 31 north of Metaline Falls; the Sullivan Lake Road and Lehigh Hill road east and south of Metaline Falls, respectively; County Road 2975 north of Metaline; and SR 31 south of Metaline.

The street and housing patterns in both towns influence the viewing conditions for local residents. The local streets in Metaline are generally configured in a grid pattern with a northeast-southwest orientation that is parallel to SR 31, with many of the homes located between the highway and the Pend Oreille River. The more densely developed area of the town is approximately five blocks long and three blocks wide. Residences located along the east side of the easternmost street generally have direct views of the reservoir. Most residences on the west side of that street and some residences in the block to the west have partially-obstructed views of the reservoir from their homes and yards.

Existing development within the town of Metaline Falls is concentrated in an area south of SR 31 and east of the Pend Oreille River that is approximately four blocks wide and five blocks long. Local streets are arranged in a less distinct grid pattern than in Metaline. Residences and commercial buildings located along the street running parallel to the river on the west side of the town have relatively unobstructed views over the river, which is situated at the base of a substantial bluff. Residences along SR 31, particularly those along the north side of the highway, have views oriented northward along the direction of the river as it enters the Canyon Reach (which extends from Metaline Falls to the downstream end of Z Canyon [PRM 26.8 to 18.0]). Views from within the interior of Metaline Falls are often blocked by existing structures and trees, although in some places there are framed or partially obstructed views of the river.

Residents who live along or near the shoreline and have direct views to the reservoir are likely to have frequent and/or prolonged views of the Pend Oreille River and surrounding landscape. These residents may view the landscape from ground level or from the upper floors of homes. Similar viewing conditions apply to people who work in buildings from which the river is visible.

Regardless of their residence or work location, local residents are likely to have similar views as they are driving on local roads that offer views of the reservoir. Except when involved in local travel, residents' sensitivity to visual quality is variable, and may be tempered by the aesthetic character/setting of their neighborhoods or workplace. For example, residents with a view of existing commercial or industrial facilities may be less sensitive to landscape changes than those with a view of open farmland or forested areas. It is assumed, however, that all local residents are familiar with the local landscape and may be very sensitive to changes in particular views that are important to them.

#### 5.1.2.2. *Commuters*

Commuters passing through or traveling within the study area view the landscape from motor vehicles on their way to work or other business destinations. This viewer group is likely to be relatively small because of the small population and limited employment opportunities in northern Pend Oreille County. Because few people cross the international border on a regular basis for work, there is little commuter traffic on SR 31 north of Metaline Falls. In addition, there are few large employers in the local area, with the notable employment sources including the Pend Oreille Mines operation just north of Metaline Falls, the USFS ranger station at

Sullivan Lake, the SCL operation at Boundary Dam, and the Selkirk School District facility on SR 31 south of Metaline. This suggests that most commuters on local roads are likely to be local residents on their way to and from work.

Table 5.1-1 provides a summary of recent traffic count data for various points on SR 31 that helps to illustrate the general traffic pattern. The average annual traffic volume at the south end of the Project (as indicated by the data for the junction with Boundary Road in Metaline) is currently estimated at 1,500 vehicles per day. (There may be seasonal variation in the daily volumes throughout the year, although only the annual average is indicated in the source.) The average volume decreases noticeably at each milepost to the north, with the volume at the International Border (230 vehicles per day) representing only 12 percent of the volume at the Sullivan Lake Road junction (south of Ione) and 15 percent of the volume at the Boundary Road junction. The commuter viewer group likely represents an undetermined but substantial proportion of the traffic volume.

**Table 5.1-1.** Annual average daily traffic volumes for SR 31, 2005 and 2007.

Milepost	Location	Average Daily Volume	
		2005	2007
0.0	After Jct. SR 20/Tiger Road	1,200	1,200
3.1	After Jct. Sullivan Lake Road	2,000	2,000
13.13	After Jct. Boundary Road	1,500	1,500
14.82	At Sullivan Creek Bridge	920	930
16.43	After Jct. Pend Oreille Mine Road	440	440
26.79	International Border	230	230

Note:

Data for 2005 are based on an actual count, whereas the data for 2007 are estimates based on the previous counts.  
Source: WSDOT 2008

Commuters do not tend to stop along their travel routes, have a relatively narrow field of view because they are focused on the roadway and traffic conditions, and are destination oriented. These commuters are likely to be concentrated on the major roads that serve the study area, primarily SR 31. Generally, drivers would be focused on the road and traffic conditions, whereas passengers would have greater opportunities for prolonged off-road views toward landscape features and, accordingly, may have greater perception of changes in the visual environment.

### 5.1.2.3. *Tourists/Recreational Users*

This viewer group primarily includes people visiting the local area for recreational and/or tourist activities. Local residents (including weekend and seasonal homeowners) also use the study area for recreation, however, and are considered members of the tourist/recreational user group when they are visiting the study area in that capacity. These users can be involved in a variety of outdoor recreational activities at parks and other developed recreational facilities or in undeveloped natural settings such as forests, fields, and water bodies. They may be in the area

for day-use activity or may be staying overnight in a developed campground or recreational vehicle park or in an undeveloped campsite.

There are a number of scenic roads and developed recreation facilities within and near the Project study area. Important recreation sites in the study area include the SCL-developed recreation facilities at Boundary Dam, specifically the Vista House, the Tailrace Recreation Area, and the Forebay Recreation Area; Metaline Waterfront Park; and Campbell Park at Box Canyon Dam. People in the recreational user group may view the landscape while traveling to these destinations on local roads or from the sites themselves. This group includes people involved in active recreation (e.g., recreational boaters, fishermen, snowmobilers, hunters, hikers) and those involved in more passive recreational activities (e.g., picnicking, sightseeing, nature appreciation). For some of these viewers, scenery would be a very important part of their recreational experience, and recreational users would often have continuous views of landscape features over relatively long periods of time. Most recreational viewers would only view the surrounding landscape from ground-level or water-level vantage points.

As distinguished from recreational visitors, tourists may be just passing through the local area or staying for a period of varying duration to enjoy local attractions. Those who stay overnight typically use lodging accommodations rather than camping facilities, or are guests of local residents. Tourists typically come to the area for activities such as visiting historic or geologic sites, taking sightseeing tours, visiting friends and family, and attending festivals or events, but they may also engage in recreational activities. Consequently, there is a considerable degree of overlap among recreational and tourist visitors in terms of activity patterns and user characteristics.

Tourists' and recreational users' sensitivity to visual quality and landscape character would be variable (depending on their reason for visiting the area), although this group is generally considered to have relatively high sensitivity to aesthetic quality and landscape character. Within the study area, this group would be concentrated on major travel routes, at (on and along) the reservoir, and at the nearby developed recreation facilities. Key travel routes for this viewer group would primarily include SR 31; County Road 2975 (the route from Metaline north to Crawford State Park and Boundary Dam); the Boundary Dam West-Side Access Road; and FR 3165 (from SR 31 to the Vista House).

## **5.2. Key Observation Points**

This section describes key viewpoints and other locations that have been identified as KOPs because (per the RSP [SCL 2007]) they have the potential to provide enhanced viewing opportunities of the Project area by the public.

As discussed in Section 4.2, eight land-based KOPs and five water-based KOPs were included in the aesthetic/visual resources analysis. Table 5.2-1 identifies the individual KOP sites and their locations, and summarizes applicable information such as the viewers/user groups expected at each KOP, features in the view, and the overall scenic integrity rating assigned to the KOP based on the field evaluation.

**Table 5.2-1.** Summary of KOP conditions.

<b>KOP Number</b>	<b>KOP Location</b>	<b>Viewer/User Group Represented</b>	<b>Features in View</b>	<b>Overall Scenic Integrity Rating</b>
<b><i>Land-based KOPs</i></b>				
1	Forebay Recreation Area	Local Residents and Tourists/Recreational Users	Camping and day-use facilities, portions of dam and log boom, transmission lines, reservoir	Moderate
2	Tailrace Recreation Area	Local Residents and Tourists/Recreational Users	Day-use facilities, dam, powerhouse, maintenance facilities, transmission lines, river	Low
3	Vista House	Tourists/Recreational Users	Dam facilities, log boom, transmission lines, reservoir, river, expansive forested area	Low
4	BLM Boundary Recreation Area	Tourists/Recreational Users	Camping facilities, access road, island, reservoir, forest	Moderate
5	Metaline Waterfront Park	Local Residents and Tourists/Recreational Users	Day-use facilities, reservoir, development clusters, tree-lined hills around reservoir	Moderate
6	North Pend Oreille Scenic Byway Metaline Falls Viewpoint	Local Residents, Commuters/Travelers, and Tourists/Recreational Users	Town infrastructure (e.g., power lines, roads, bridge, signs, houses), steep rock cliffs, reservoir	Moderate
7	North Pend Oreille Scenic Byway Eagle Nest Viewpoint	Local Residents, Commuters/Travelers, and Tourists/Recreational Users	Highway, signs, reservoir, and tree-lined hills	Moderate
8	Campbell Park at Box Canyon Dam	Local Residents, Commuters/Travelers, and Tourists/Recreational Users	Dam and powerhouse facilities, day-use area, visitor center, highway	Moderate
<b><i>Water-based KOPs</i></b>				
9	Boundary Reservoir Forebay (PRM 17.0)	Tourists/Recreational Users	Dam facilities, log boom, transmission lines, camping and day-use facilities, reservoir, forest	Low
10	Boundary Reservoir at Pewee Falls (PRM 17.9)	Tourists/Recreational Users	Falls and steep cliffs around the falls, reservoir, forest	High
11	Boundary Reservoir Canyon Reach, Slate Creek Area (PRM 22.0)	Tourists/Recreational Users	Reservoir, steep rock cliffs, tree-lined hills around reservoir, dispersed campsite	High
12	Upper Boundary Reservoir, Metaline Pool (PRM 28.1)	Tourists/Recreational Users	Reservoir, tree-lined hills, residential and industrial areas, park facilities	Moderate
13	Upper Boundary Reservoir, Wolf Creek Area (PRM 30.3)	Tourists/Recreational Users	Reservoir, tree-lined hills, rocky islands, steep slope on west side of reservoir that leads to the highway	Moderate

Information for each KOP presented below includes a descriptive narrative based on the Visual Condition Form for the respective KOP, a map of the area around the KOP, and one or more photographs representative of the existing view from each KOP. The entries on the Visual Condition Form for each KOP were based on the specific views presented as photo figures in Section 5.2. Copies of the completed forms are provided in Appendix 1. Additional photographs from the KOPs that were not used to complete the Visual Condition Forms or derive the overall scenic integrity ratings are included in Appendix 2, as background or context for the respective KOPs.

### 5.2.1. KOP 1—Forebay Recreation Area

The Forebay Recreation Area is located on the western shoreline of Boundary Reservoir immediately upstream (south) of Boundary Dam. The Forebay Recreation Area provides public day-use and camping opportunities. The camping area includes 11 individual campsites and open lawn areas that are sometimes used for “overflow” camping activity. The day-use facilities include a parking lot with approximately 20 parking spaces, 2 picnic sites, and a double-lane concrete boat ramp with a boarding float. A restroom facility with running water serves both campers and day users.

The specific location used as the reference point for KOP 1 is within the designated day-use area, by the picnic table nearest to the water’s edge and approximately 20 feet from the shoreline. At this location, Boundary Dam and associated facilities are about 0.3 mile to the north.

Tourists/recreational users are the predominant viewer group at this location. Local residents, SCL employees, and others working at Boundary Dam are also likely to use the site on occasion.

Figure 5.2-1 shows the location of KOP 1 relative to surrounding features and the orientation of photographs taken at this location. Figure 5.2-2 illustrates the existing view toward Boundary Dam at this location. The full view from KOP 1 is panoramic and includes the rocky hill that forms the left (western) abutment of Boundary Dam, the dam itself, the northern (forebay) section of the reservoir and its tree-covered shoreline, and the forested hills and mountains that surround the Project area. The immediate foreground view includes the tables, grills, and other facilities within the recreation area and a wood and wire fence that runs along the top of the bank adjacent to the reservoir. Features evident in the middleground include the crest of the dam, the light-colored floating log boom located upstream of the dam, the Vista House, and a series of lattice-steel Project transmission towers on the hill west of the dam. Views to the north are generally blocked at relatively short range by the ridges flanking Boundary Dam, whereas more distant views extend to the ridges northeast, east, and south of the site.

The topography visible from KOP 1 is relatively steep and forms a strong part of the landscape character. The fence, the crest of the dam, and the log boom create clear horizontal lines in this view, as does the reservoir. The transmission towers add to the vertical element in the view to the north, although they contrast in character with the vertical lines from the trees and terrain. User activity was characterized as moderate at the time of the field inventory, which was in the middle of the day on a weekday. Study 21 (SCL 2009a) indicated that the Forebay Recreation Area is the most frequently used recreation site at the Project.

No prominent or offensive smells were noted at KOP 1. Several types of sounds were present, including a slight hum from equipment at the dam, lapping of water on the shore and against a boat at the dock, and infrequent noise from vehicles traveling on the Boundary Dam West-Side Access Road, which cannot be seen from the KOP because of the tree cover.

The overall scenic integrity of the scene from this viewpoint is rated as Moderate (see Table 5.2-1). The full field of view at KOP 1 includes both the evidence of development looking north toward the dam and the more natural-appearing scene when looking across the reservoir and to the south. Deviations represented by the Project facilities share some elements of the natural landscape characteristics and are considered more than a slight alteration of the landscape character, but they do not dominate the landscape in this specific view. Although these deviations are noticeable and may draw the viewer's attention, the overall rating for this KOP incorporates conditions evident in the views in other directions, as shown in Appendix 2.

Legend

- Key Observation Point (KOP)
- ➔ Photo Direction
- ∩ Roads
- ~ Streams

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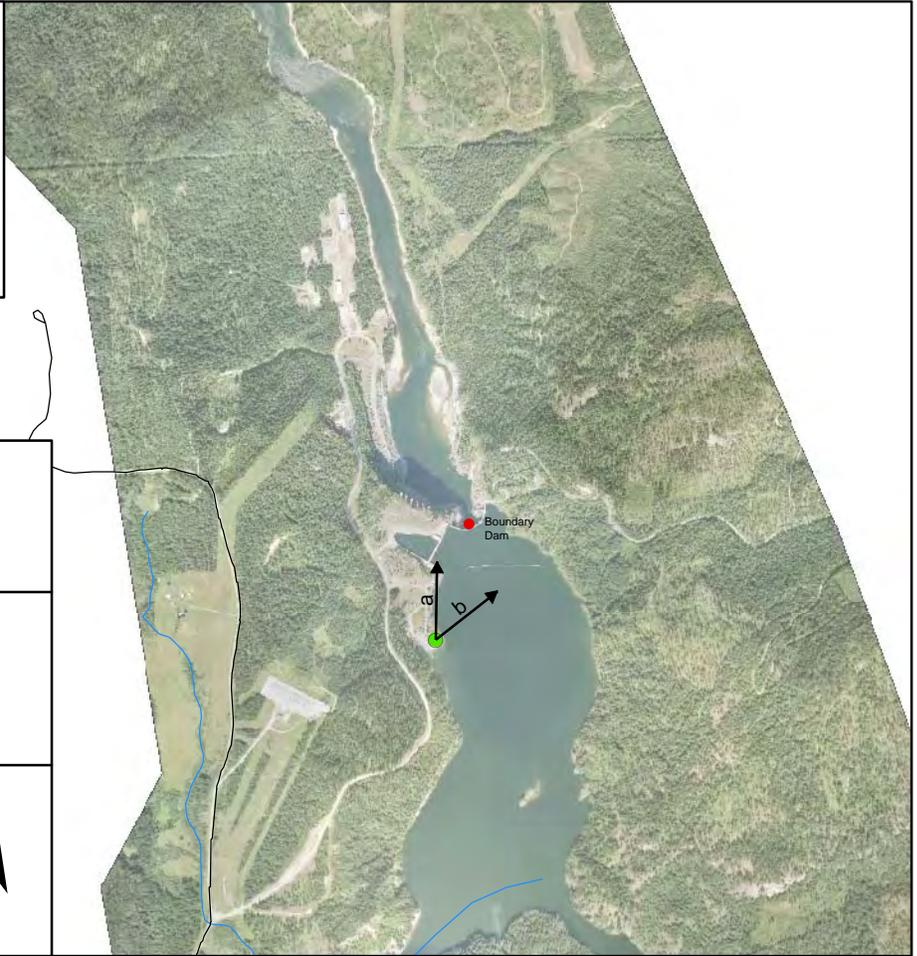
Figure 5.2-1  
KOP 1  
Forebay Recreation Area  
photo key.



Washington



Map Version 01/19/09



a



b



Figure 5.2-2. Forebay Recreation Area views.

### 5.2.2. KOP 2—Tailrace Recreation Area

The Tailrace Recreation Area is located immediately downstream of Boundary Dam on the west bank of the Pend Oreille River. It provides public day-use opportunities including picnicking, sightseeing, and access to the Visitors' Gallery, which provides interpretive displays, a large viewing area with views onto the generator floor, and public restrooms. Visitor access to the Tailrace Recreation Area is controlled by security personnel at the gatehouse on the access road. Under security procedures in place for the 2008 recreation season, visitors were allowed to access this area only as part of a group tour.

The specific location used as the reference point for KOP 2 is just east of the picnic facilities at a low rock wall defining the outer edge of a viewing area at the top of the river bank. At this location Boundary Dam is less than 0.25 mile to the southeast, and the facilities associated with the powerhouse are considerably closer. Tourists/recreational users are a prominent viewer group at this location during the recreation season. SCL employees and others working at Boundary Dam are present on a daily basis all year; other local residents may also use the site on occasion.

Figure 5.2-3 shows the location of KOP 2 relative to surrounding features and the orientation of photographs taken at this location. Figure 5.2-4 illustrates the existing views at this location. The view from this KOP is largely enclosed except to the north, where the Pend Oreille River and the surrounding forested hills and mountains extend into Canada in the distance. The sheer rock walls of the canyon rising from the river dominate the scene in the foreground and almost entirely block the upstream field of view. The dam is plainly visible within the foreground, as are the transformer bays, transmission lines and towers, and entrances to the powerhouse to the right side of the view (south). The Vista House can be seen atop the rock wall directly across the river.

The Tailrace Recreation Area receives a reasonably high amount of user activity, primarily from SCL operations. In conjunction with the activity level, sounds were prevalent at this KOP and dominated the scene. These included a constant hum from equipment in the powerhouse area, noise from various work activities, and occasional moving vehicles.

The overall scenic integrity of the scene from this viewpoint is rated as Low (see Table 5.2-1). This rating reflects the overall landscape character for the full field of view, including the dam and powerhouse facilities in the foreground and the more natural-appearing scene when looking downstream. Deviations represented by the Project facilities share some elements of the natural landscape characteristics, such as the color of the rock walls. Although the scale and texture of the natural landscape are the dominant features, the deviations are considered more than a slight alteration of the landscape character.

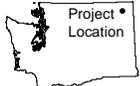
Legend

- Key Observation Point (KOP)
- ➔ Photo Direction
- ∩ Roads
- ~ Streams

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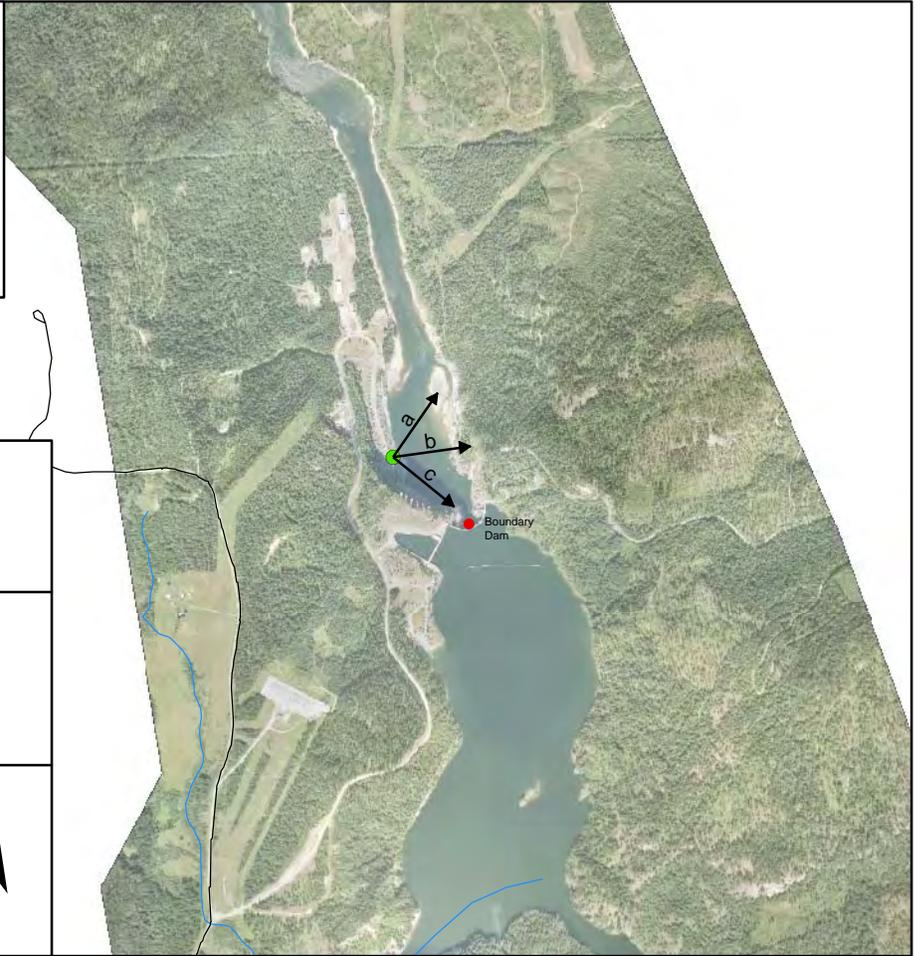
Figure 5.2-3  
KOP 2  
Tailrace Recreation Area  
photo key.



Washington



Map Version 01/19/09



a



b



c



**Figure 5.2-4.** KOP 2 Tailrace Recreation Area views.

### 5.2.3. KOP 3— Vista House

The Vista House is an SCL-operated viewing and visitor information site located immediately downstream of Boundary Dam on a promontory along the eastern bank of the Pend Oreille River. The site is accessed via a secondary road (FR 3165) intersecting SR 31 and is generally open daily during the primary recreation season. The recreation facilities consist of the Vista House structure, which houses interpretive and informational displays, and an outdoor wooden viewing platform, a trail leading to the viewing platform, and a gravel parking area.

The specific location used as the reference point for KOP 3 is the approximate center of the viewing platform. At this location, Boundary Dam is less than 600 feet to the south, and the facilities associated with the powerhouse are at about the same distance. Tourists/recreational users are the primary viewer group at this location, although some visitors to the site are also local residents.

Figure 5.2-5 shows the location of KOP 3 relative to surrounding features and the orientation of the photograph taken at this location. Figure 5.2-6 illustrates the existing view at this location. This KOP provides close foreground views of the dam and powerhouse area from an elevated viewing position. From the viewing platform, visitors are afforded panoramic views that also include the Pend Oreille River below Boundary Dam, the Tailrace Recreation Area, the rock face of the powerhouse and its transformer bays, transmission lines and towers, SCL maintenance buildings and storage yards, the Forebay Recreation Area, Boundary Reservoir, and forested hills and mountains surrounding the Project area. Most of the dam facilities are nestled into the rock and surrounding topography, but the transmission lines and towers create strong (primarily) vertical lines in this view. Distant (background) views are blocked by the steep to rolling topography in the area.

A high amount of user activity was noted from this KOP, primarily because of the operational functions at the dam and powerhouse area that are visible from the site. The Vista House receives an estimated 2,200 recreational visits during the 2007 season, but visit durations are typically short and the number of visitors present at any particular time is generally small. A constant auditory hum from equipment operating at the dam and powerhouse was noticeable.

The overall scenic integrity of the scene from this viewpoint is rated as Low (see Table 5.2-1). This rating reflects the overall landscape character for the full field of view, including the dam and powerhouse facilities in the foreground and the more natural-appearing scene when looking beyond those features. Despite the strong elements of the rock walls flanking the dam, the deviations represented by the Project facilities tend to dominate the natural landscape characteristics. The transmission lines climbing the rock face above the powerhouse and the lattice-steel transmission towers on top of the rock, including the distinctive “pickle fork” towers, introduce a considerable degree of contrast.

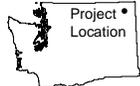
Legend

- Key Observation Point (KOP)
- ➔ Photo Direction
- ∩ Roads
- ~ Streams

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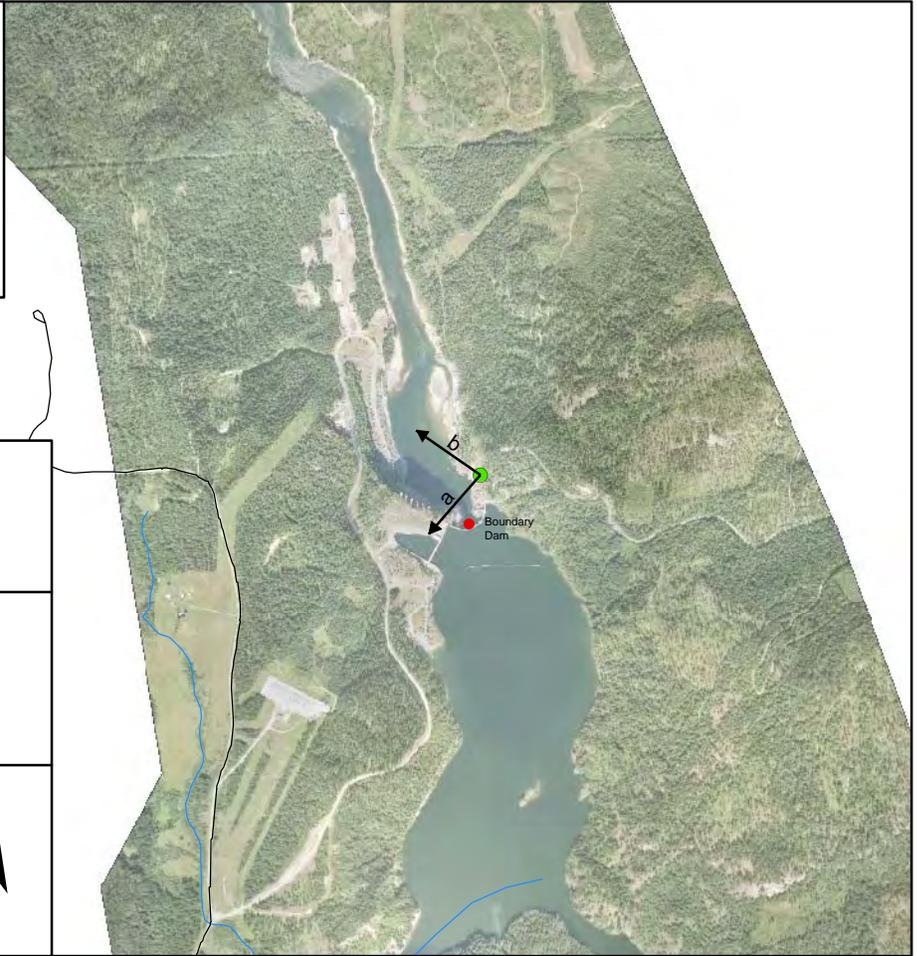
Figure 5.2-5  
KOP 3  
Vista House  
photo key.



Washington



Map Version 01/19/09



a



b



Figure 5.2-6. Vista House views.

#### 5.2.4. KOP 4—BLM Boundary Recreation Area

The BLM manages a small, informal recreation site along the western shoreline of Boundary Reservoir approximately 3 miles south of the dam. The forested site can be accessed from the water or by vehicle from County Road 2975 and then along a 2.65-mile, 2-track dirt road that crosses private, BLM, and USFS land. The facility has two campsites, each with a picnic table and a fire ring. There is also a user-made fire ring adjacent to the southerly campsite.

The specific location used as the reference point for KOP 4 is next to the user-made fire ring, which is close to the shoreline and offers a relatively unobstructed view of Everett Island and the channel separating the island from the western shoreline of the reservoir. Tourists/recreational users are the key viewer group at this location.

Figure 5.2-7 shows the location of KOP 4 relative to surrounding features and the orientation of the photograph taken at this location. Figure 5.2-8 illustrates the existing view at this location. The view of the immediate environs at this KOP includes the campsite facilities, the road leading to the campsite, and the adjacent forest. The outward view (to the east and northeast) includes a relatively narrow channel of the reservoir and Everett Island beyond, both within the foreground. The forest cover on Everett Island blocks more distant views in that direction, although there is a small view window toward the main body of the reservoir past the north end of the island. Views along the shoreline to the north and south are blocked by the steep shoreline topography and forest vegetation.

User activity at this site was recorded as low, based on the absence of people at the time and the small scale and informal nature of the site. Surveys for Study 21 (SCL 2009a) also indicate the site receives low use. Only natural smells and sounds were experienced at this location.

The overall scenic integrity rating of the view from this viewpoint is rated as Moderate. The most notable deviations from the natural landscape character are created by the road to the site and the campsite facilities, which result in a slightly altered character. The overall integrity is considered moderate because the deviations are evident.

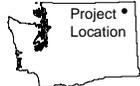
**Legend**

- Key Observation Point (KOP)
- ➔ Photo Direction
- ↘ Roads
- ~~~~ Streams

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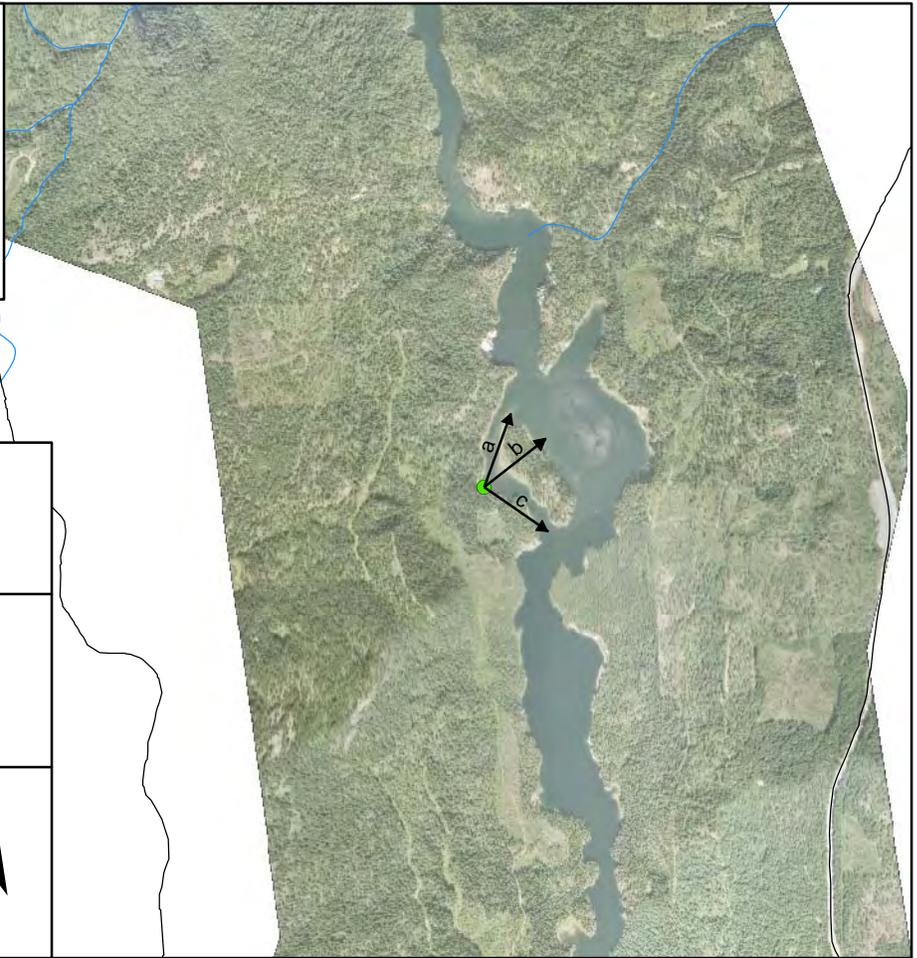
Figure 5.2-7  
KOP 4  
BLM Boundary Recreation Area  
photo key.



Washington



Map Version 01/19/09



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**Figure 5.2-8.** BLM Boundary Recreation Area views

### 5.2.5. KOP 5—Metaline Waterfront Park

Managed by the Town of Metaline, this park is located along the western shoreline of Boundary Reservoir in Metaline. The site provides day-use opportunities including picnicking, boat launching, and shoreline fishing. Recreation facilities at the site consist of a concrete boat launch, picnic sites and shelters, lawn area, playground area, basketball court, restrooms, and gravel parking areas.

The specific location used as the reference point for KOP 5 is the covered firepit adjacent to the access drive and within approximately 200 feet of the reservoir. The viewer groups represented by this location are local residents and tourists/recreational users.

Figure 5.2-9 shows the location of KOP 5 relative to surrounding features and the orientation of the photographs taken at this location. Figure 5.2-10 illustrates the existing views from this location. Looking east toward the reservoir, the foreground view at this KOP includes the access drive, boat ramp, and the reservoir, which in this location is more than 0.5 mile wide. Foreground views in other directions include several residences adjacent to the park on the south and west, and other facilities and lawn area within the park. Middleground views include the forested shoreline on the east side of the reservoir and the forested hills beyond, and development within and near Metaline Falls. The tall, gray abandoned cement plant structure in Metaline Falls is relatively prominent in the view, although it is partially screened by trees.

The level of user activity at this KOP at the time of the inventory was recorded as moderate. Metaline Waterfront Park is used at times for special events and large-group gatherings, indicating activity in the park can be considerably higher. Human activity associated with the adjacent residential uses can also be present. Sounds noted at this KOP were primarily natural, including wind rustling the trees and falling rain drops. Occasional noise from vehicles passing on SR 31 or local streets was also evident.

The overall scenic integrity at this viewpoint is rated as Moderate. Deviations from the landscape character are prominent across the reservoir toward Metaline Falls (northeast) and behind the viewer toward Metaline, but are much less evident in views to the east and south. The primary view orientation at this location includes the full north-south sweep of the reservoir, and for this field of view overall the deviations are considered subordinate rather than dominant.

**Legend**

-  Key Observation Point (KOP)
-  Photo Direction
-  Roads
-  Streams

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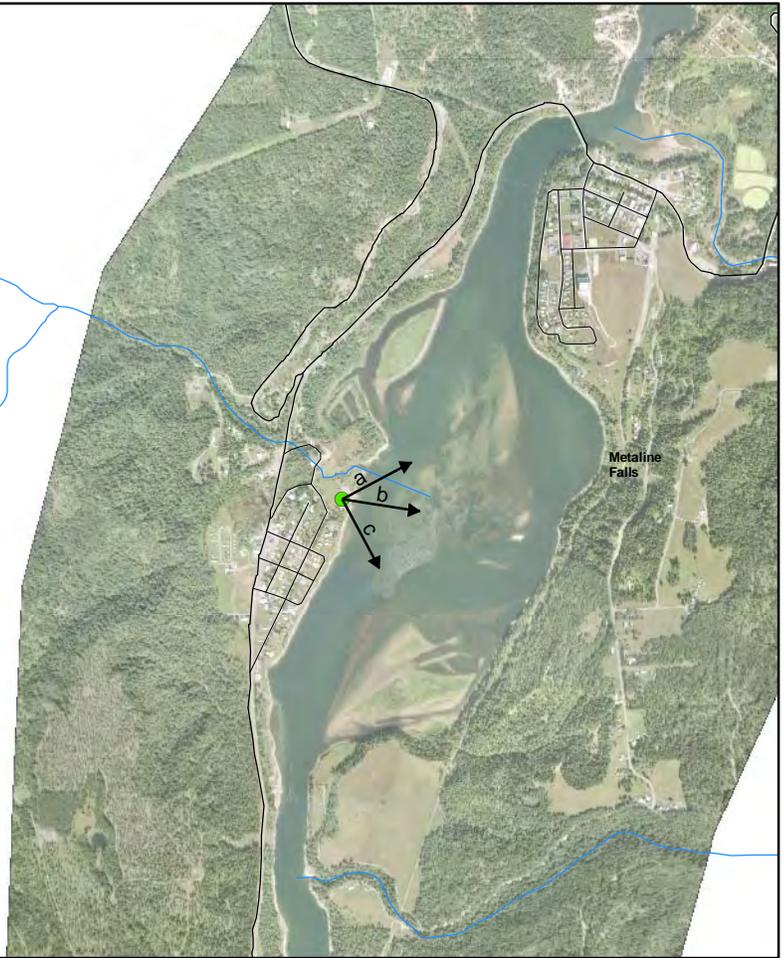
Figure 5.2-9  
KOP 5  
Metaline Waterfront Park  
photo key.



Washington



Map Version 01/19/09





**Figure 5.2-10.** Metaline Waterfront Park views.

### 5.2.6. KOP 6—North Pend Oreille Scenic Byway Metaline Falls Viewpoint

The Metaline Falls Viewpoint is a visitor information and viewing site located along SR 31, or the North Pend Oreille Scenic Byway, just northeast of the bridge across the river. The site is just off of the highway at the edge of a grassy area overlooking the reservoir. The site includes two interpretive and informational displays and a viewing area close to the edge of the embankment leading to the river.

Figure 5.2-11 shows the location of KOP 6 relative to surrounding features and the orientation of the photograph taken at this location. Figure 5.2-12 illustrates the primary existing view at this location, which is to the north in the direction of the reservoir. The Visual Conditions Form entries and the evaluation of overall scenic integrity for KOP 6 are based on this view. As shown by the additional photographs included in Appendix 2 (for context only), trees and structures block views to the east and west at this location. Although part of the downtown area of Metaline Falls is visible to the south, the viewer's interest is naturally drawn toward the water. The photograph in Figure 5.2-12 was taken slightly back from the rock wall at the edge of the viewing area. The view location is within approximately 100 feet of the reservoir in horizontal distance, and is elevated approximately 50 feet above the water. The scene from this location is typical of views available to local residents, commuters/travelers, and tourists/recreational users.

The view from this site extends to a bend in the canyon less than 1 mile downstream. This part of the reservoir contains the “waterfall” or rapids of Metaline Falls (as distinct from the town); at the time the photograph was taken, however, the reservoir level was sufficiently high that the presence of the Falls was barely noticeable. The primary view at this location includes Washington Rock across the river, and a non-Project utility distribution line that follows the steep, rocky cliff on the western side of the reservoir and then crosses to the east side. Views from KOP 6 also include nearby development within the town of Metaline Falls and SR 31. Views to the east, south, and west are effectively blocked by the tree cover in the immediate vicinity and by trees and structures in the town.

There is a high amount of user activity at this KOP, primarily because of the proximity to the highway. Sounds were also prevalent and noticeable, including noise from highway traffic and activities at nearby residences.

The overall scenic integrity at this viewpoint is rated as Moderate, based on conditions for the primary field of view as discussed above. The utility line crossing the reservoir introduces a noticeable color contrast and horizontal line. Although this and other deviations are evident, they appear visually subordinate to the natural landscape.

**Legend**

-  Key Observation Point (KOP)
-  Photo Direction
-  Roads
-  Streams

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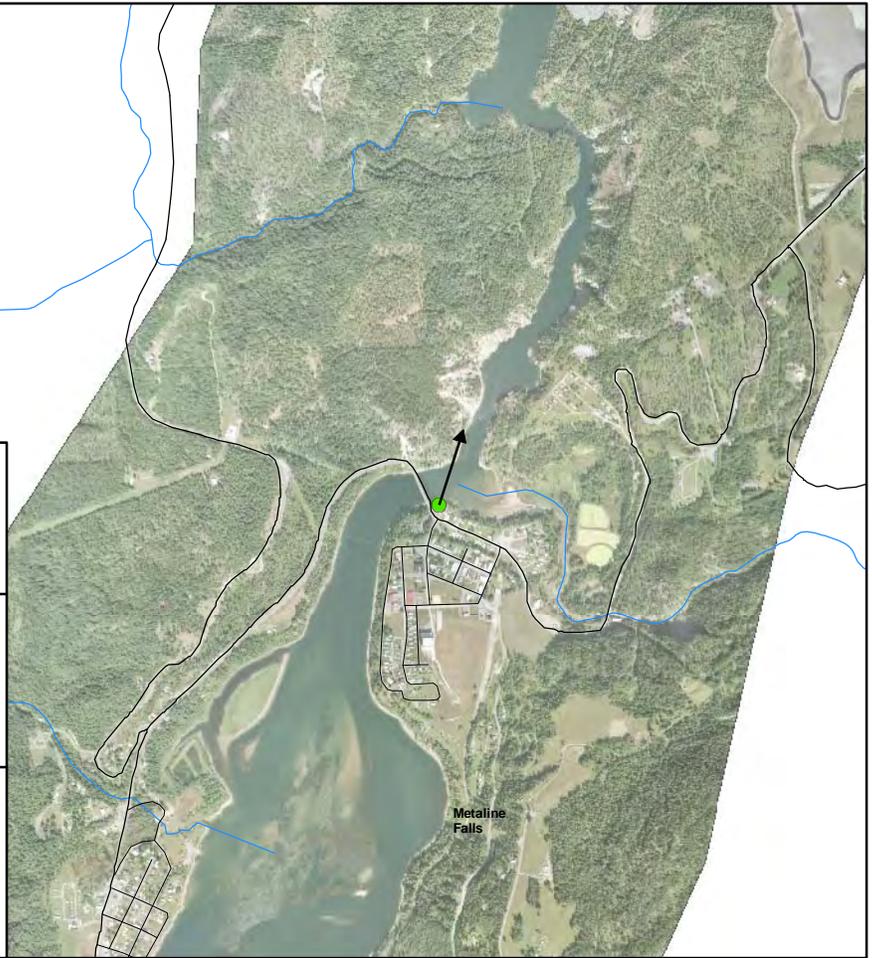
Figure 5.2-11  
KOP 6  
North Pend Oreille Scenic Byway,  
Metaline Falls Viewpoint photo key.



Washington



Map Version 01/19/09





**Figure 5.2-12.** North Pend Oreille Scenic Byway, Metaline Falls Viewpoint.

### **5.2.7. KOP 7—North Pend Oreille Scenic Byway Eagle Nest Viewpoint**

The Eagle Nest Viewpoint is a North Pend Oreille Scenic Byway viewing and interpretive site located along SR 31 between Metaline and Box Canyon Dam. The site consists of a wide, paved and gravel turnout just off of the highway with an interpretive and informational display and a viewing area near the top of the embankment above the river.

Figure 5.2-13 shows the location of KOP 7 relative to surrounding features and the orientation of the photographs taken at this location. Figure 5.2-14 illustrates the primary existing view at this location. These photographs were taken just to the left of the interpretive sign. The scene from this location is typical of views available to local residents, commuters/travelers, and tourists/recreational users.

This KOP is an elevated vantage point that provides panoramic views of a large portion of the reservoir and the surrounding valley. The lands within the SCL Boundary Wildlife Preserve are directly across the reservoir and occupy much of the foreground view, along with the reservoir. Middleground and background views extend both upstream and downstream, and include the

hills adjacent to the reservoir. A few rural residences are visible. The steep hillside to the west of the highway blocks views in that direction. There is a high amount of user activity at this KOP given the proximity to the highway, and highway noises are prominent.

The overall scenic integrity at this viewpoint is rated as Moderate. The landscape character is dominant within the primary field of view, and appears to be only slightly altered overall.

**Legend**

- Key Observation Point (KOP)
- ➔ Photo Direction
- ↘ Roads
- ~ Streams

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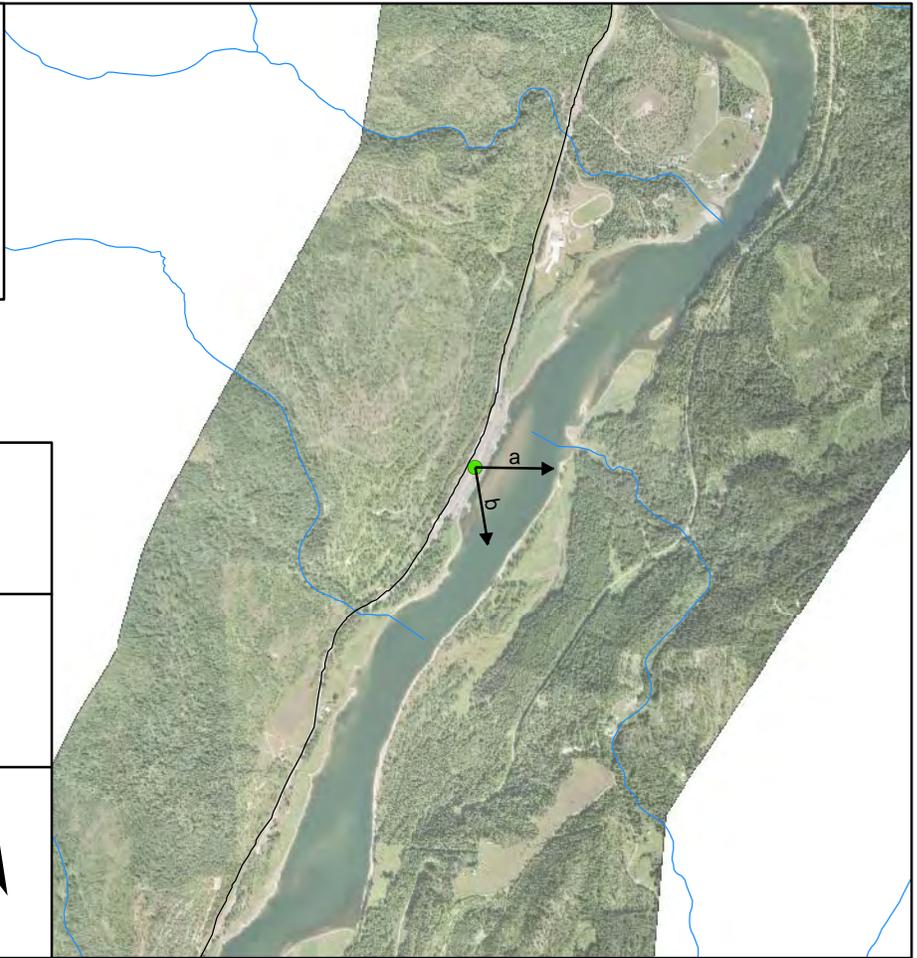
Figure 5.2-13  
KOP 7  
North Pend Oreille Scenic Byway,  
Eagle Nest Viewpoint photo key.



Washington



Map Version 01/19/09



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**Figure 5.2-14.** North Pend Oreille Scenic Byway, Eagle Nest Viewpoint.

### 5.2.8. KOP 8—Campbell Park at Box Canyon Dam

Similar to the SCL Forebay Recreation Area near Boundary Dam, Campbell Park at Box Canyon Dam provides both overnight and day-use recreation facilities, including a campground, picnic sites, swimming area, visitor center, and boat launch. The overnight and day-use facilities are located close together and there is considerable intermingling of activities within the site.

The specific location used as the reference point for KOP 8 is near the fence at the east edge of the day-use parking area and just north of the visitor center. Box Canyon Dam is less than 0.25 mile to the south, and the upstream end of Boundary Reservoir is at the bottom of the embankment below the fence. This location represents typical views of the upper end of Boundary Reservoir available to local residents, commuters/travelers, and tourists/recreational users.

Figure 5.2-15 shows the location of KOP 8 relative to surrounding features and the orientation of the photographs taken at this location. Figure 5.2-16 illustrates the existing view toward Boundary Reservoir at this location. Across the entire field of view at this location, the hydroelectric facilities associated with the Box Canyon Project, including Box Canyon Dam, powerhouse, maintenance buildings, storage yards, and transmission lines are the dominant elements in the foreground view. Foreground views also include train tracks that run across the dam and cut into the nearby hillside, the recreation facilities at Campbell Park, and a parking area. Middleground and distant background views include portions of the upper part of Boundary Reservoir, as well as the forested hills and mountains along the reservoir shoreline and in the surrounding region.

For the AVRS, the primary interest is the field of view from northwest to northeast, which includes Boundary Reservoir. As shown in Figure 5.2-16, views are enclosed at foreground or middleground distance by the slopes and trees adjacent to the reservoir. Elements in the view include a large lawn area in the park, the access road, the fence at the edge of the park, the reservoir, and extensive forest area. Boundary Reservoir has a more riverine character in this location because of the nearby discharge from Box Canyon Dam.

There is a high amount of user activity from several sources at this KOP. Operations at the Box Canyon Project are the primary source of activity. Campbell Park also generates a substantial amount of human use related to recreational activities. Consistent with the activity level, sounds were noted to be prominent. These included a constant noise of rushing water from the spillway and infrequent sounds from vehicles in the operations area. Highway noise is also common at this location, as SR 31 is nearby and within view.

The overall scenic integrity is rated as Moderate for this KOP. The landscape character (primarily the reservoir and the forested slopes) is considered to be dominant. Deviations created by developed uses are evident, with the fence representing the strongest source of contrast, but are not dominant.

**Legend**

- Key Observation Point (KOP)
- ➔ Photo Direction
- ↘ Roads
- ~ Streams

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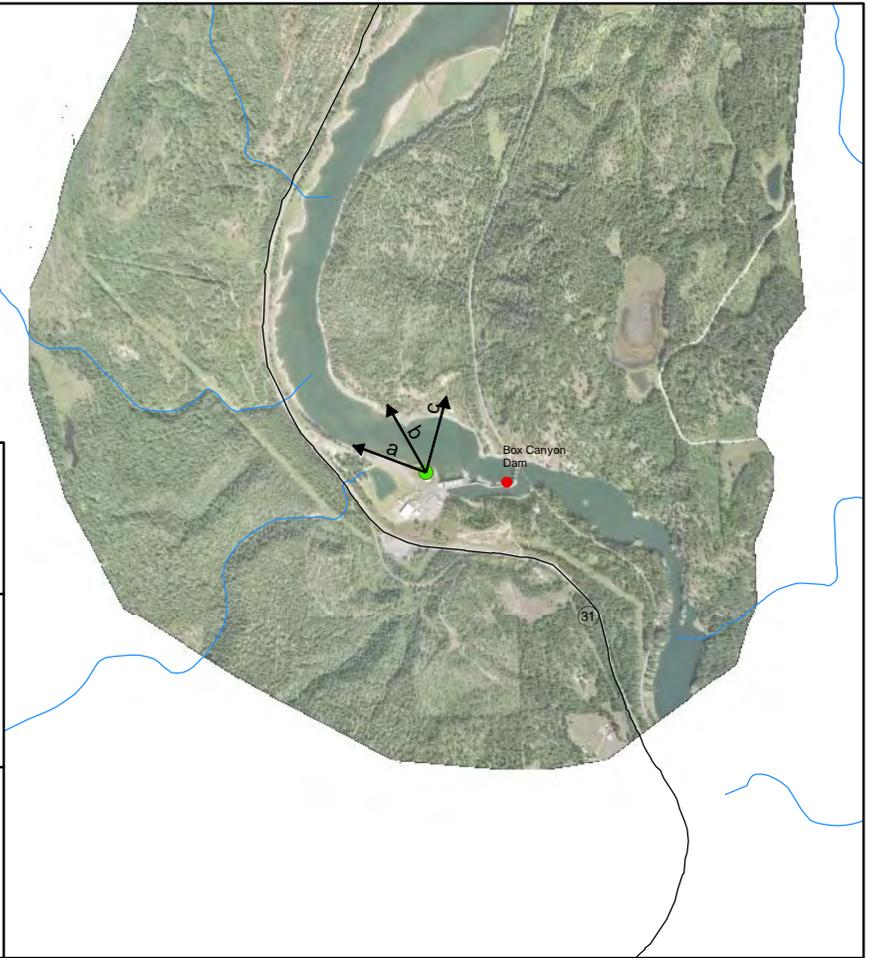
Figure 5.2-15  
KOP 8  
Campbell Park at Box Canyon Dam  
photo key.



Washington



Map Version 01/19/09



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Figure 5.2-16. Campbell Park at Box Canyon Dam views.

### 5.2.9. KOP 9—Boundary Reservoir Forebay

The Boundary Reservoir forebay is located on the reservoir immediately upstream of Boundary Dam. KOP 9 was selected as a reference viewpoint located in the middle of the forebay approximately 0.25 mile upstream (south) from the dam. The scene from this location is typical of views available to tourists/recreational users who are traveling by boat in the northern (or lower) reach of Boundary Reservoir.

Figure 5.2-17 shows the location of KOP 9 relative to surrounding features and the orientation of the photographs used to characterize this viewpoint. Figure 5.2-18 illustrates the existing view toward Boundary Dam, which is considered to be the primary view orientation at this location.

KOP 9 provides unobstructed, 360-degree views that include the northern section of the reservoir and its steep, tree-lined shoreline, as well as the forested hills and mountains that surround the Project area. Toward the north and northwest, foreground views include the crest of the dam, the log boom, the Vista House, the hill that contains the powerhouse, and the Project's transmission lines and "pickle fork" towers. The campground and day-use facilities at the Forebay Recreation Area are also visible within the foreground to the west. The trees near the dam and transmission lines create strong vertical lines in this view, while the crest of the dam and log boom create strong horizontal lines.

There is a moderate amount of user activity evident at this KOP, most of it associated with the recreational facilities. Sounds were limited at the time of the on-site observations and included a boat engine and a camper chopping wood.

The overall landscape character for the full field of view at KOP 9 includes both the evidence of development looking north and northwest toward the dam and the more natural-appearing scene when looking around the reservoir and to the south. For the AVRS, the primary interest is the field of view from northwest to north, which includes the Forebay Recreation Area and the facilities associated with Boundary Dam. Although views in all directions are possible, the viewer's interest is assumed to be drawn toward the Project facilities because of the contrast they create. Consequently, the landscape character seen from KOP 9 seems to be moderately altered, resulting in an overall scenic integrity rating of Low. The transmission lines skylined above the dam create the greatest source of contrast influencing the overall rating.

Legend

- Key Observation Point (KOP)
- ➔ Photo Direction
- ∩ Roads
- ~ Streams

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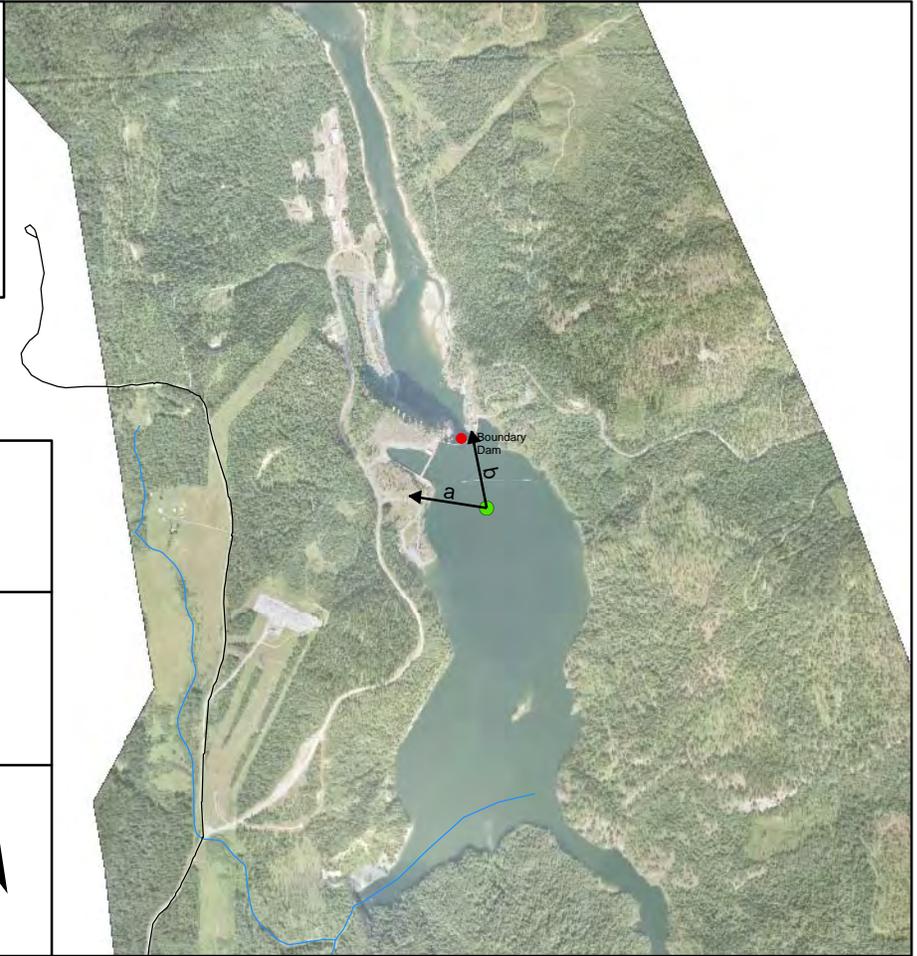
Figure 5.2-17  
KOP 9  
Boundary Reservoir Forebay  
photo key.



Washington



Map Version 01/19/09



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**Figure 5.2-18.** Boundary Reservoir forebay views.

### 5.2.10. KOP 10—Boundary Reservoir at Pewee Falls

Pewee Falls enters Boundary Reservoir in the extreme southwestern corner of the forebay portion of the reservoir. KOP 10 is located in this area of the reservoir, less than 0.25 mile east of Pewee Falls and approximately 1 mile upstream (south) of Boundary Dam. This location is representative of views available to tourists/recreational users who are traveling by boat and wish to get a close view of Pewee Falls. To experience this view of the Falls, viewers are within an enclosure that essentially blocks most views of the dam.

Figure 5.2-19 shows the location of KOP 10 relative to surrounding features and the orientation of the photograph taken at this location. Figure 5.2-20 illustrates the existing view toward the Falls at this location, which provided the basis for the evaluation for this KOP. For context, Appendix 2 includes additional photos of the adjacent shoreline areas visible at KOP 10. The foreground view at this KOP includes the Falls, the steep slopes on both sides of the Falls, and the reservoir. Because this KOP is within an enclosed portion of the reservoir, the steep slopes adjacent to the reservoir block the potential for middleground and background views in most directions.

Pewee Falls and the cliff over which it flows into the reservoir clearly are distinctive elements in this scene. The sheer rock face of the cliff is a result of the long-term erosion that created the river canyon, and erosion has been a prominent force in shaping the current natural landscape. There is also evidence in this view of erosion at the toe of slopes entering the reservoir. Because these erosion features are much less extensive than the rock face behind the Falls and are similar in color and texture to the cliff face, they do not create a high degree of visual contrast within this view.

User activity at this location is predominantly boater traffic on Boundary Reservoir, which varies considerably on a seasonal and daily basis. Although noise from boat engines can be heard at times, at this location the dominant sound is typically from the water cascading over the Falls and splashing into the cove and rocks below.

The overall scenic integrity at this viewpoint is rated as High, because the landscape character appears to be intact and unaltered. The evidence of erosion from this site is considered a minor deviation from the landscape character and a feature that may not be perceived as a deviation by many viewers.

**Legend**

- Key Observation Point (KOP)
- ➔ Photo Direction
- Roads
- Streams

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Figure 5.2-19  
KOP 10  
Boundary Reservoir at Pewee Falls  
photo key.



Washington



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**Figure 5.2-20.** Pewee Falls view.

### **5.2.11. KOP 11—Boundary Reservoir Canyon Reach, Slate Creek Area**

KOP 11 is located between Everett and Slate creeks in the canyon area of the reservoir, approximately 6 miles south of Boundary Dam, with rock cliffs partially making up one side of the reservoir (to the northwest) and hills covered in trees flanking the other sides of the reservoir. This area does not provide any facilities, being located on the water. Boating and swimming are popular recreation activities in this area.

The specific reference location for this KOP is approximately midway between the two creeks at approximately PRM 22. The scenes from this location are typical of views available to tourists/recreational users who are traveling through or into the Canyon Reach by watercraft.

Figure 5.2-21 shows the location of KOP 11 relative to surrounding features and the orientation of several photographs taken at this location. Figure 5.2-22 illustrates these existing views. Foreground views from this KOP include the reservoir and the forested, steep slopes adjacent to the reservoir. A dispersed campsite is visible in one direction, including a small area of erosion at the shoreline. Bare-rock cliffs that are characteristic of the scenery for which the Canyon

Reach is noted are visible in another direction. Distant views are limited by the canyon terrain surrounding the reservoir in this area.

Overall, the natural landscape character at this location appears intact and clearly dominant. The only deviation that is discernible is represented by the dispersed campsite that is faintly evident within a limited area. Based on the unaltered character throughout the full field of view, the overall scenic integrity at KOP 11 is rated as High.

Legend

-  Key Observation Point (KOP)
-  Photo Direction
-  Roads
-  Streams

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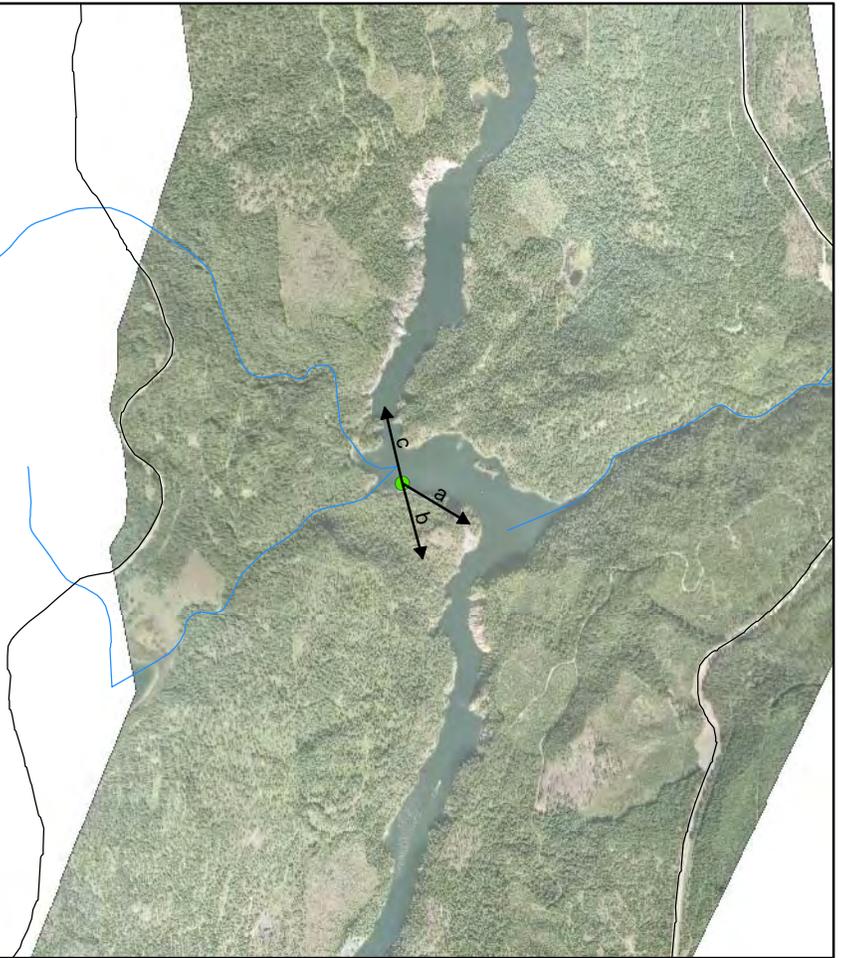
Figure 5.2-21  
KOP 11  
Boundary Reservoir Canyon Reach,  
Slate Creek Area photo key.



Washington



Map Version 01/19/09



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**Figure 5.2-22.** Boundary Reservoir Canyon Reach, Slate Creek Area views.

### 5.2.12. KOP 12—Upper Boundary Reservoir, Metaline Pool

KOP 12 is located approximately 1 mile upstream from the SR 31 bridge, near the middle of Metaline Pool (the relatively wide part of the reservoir between Metaline and Metaline Falls). The site is east of the boat ramp at Metaline Waterfront Park. The scene from this location is typical of views available to tourists/recreational users who are traveling on the reservoir by watercraft. Similar views of this portion of the reservoir are also afforded to visitors traveling by vehicle along SR 31, although KOP 12 was specifically selected to represent a typical on-water view.

Figure 5.2-23 shows the location of KOP 12 relative to surrounding features and the orientation of several photographs taken at this location. Figure 5.2-24 illustrates three existing views at this location.

This KOP provides views in all directions. Foreground views include the reservoir surface, recreation facilities at Metaline Waterfront Park and nearby developed uses in Metaline, and the largely undeveloped shoreline along the east side of the reservoir. Middleground views include the farther reaches of Metaline Pool, the mostly forested shoreline of the reservoir, the forested hills and mountains of the region, and developed uses in Metaline Falls. The abandoned cement plant elevator in Metaline Falls is a prominent feature in the view to the northeast.

There is a moderate amount of user activity at this KOP location, including boating on the reservoir and activity associated with the developed uses in the towns. The distance from the viewpoint to the developed areas and SR 31 reduces the perceived presence of the user activity.

Overall conditions at KOP 12 were quite similar to those for Metaline Waterfront Park (KOP 5). For the full field of view from KOP 12, the landscape character is dominant. Deviations are evident, primarily in views toward Metaline and Metaline Falls, but those deviations are not dominant. The overall scenic integrity for this viewpoint is therefore rated as Moderate.

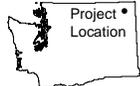
**Legend**

- Key Observation Point (KOP)
- Photo Direction
- Roads
- Streams

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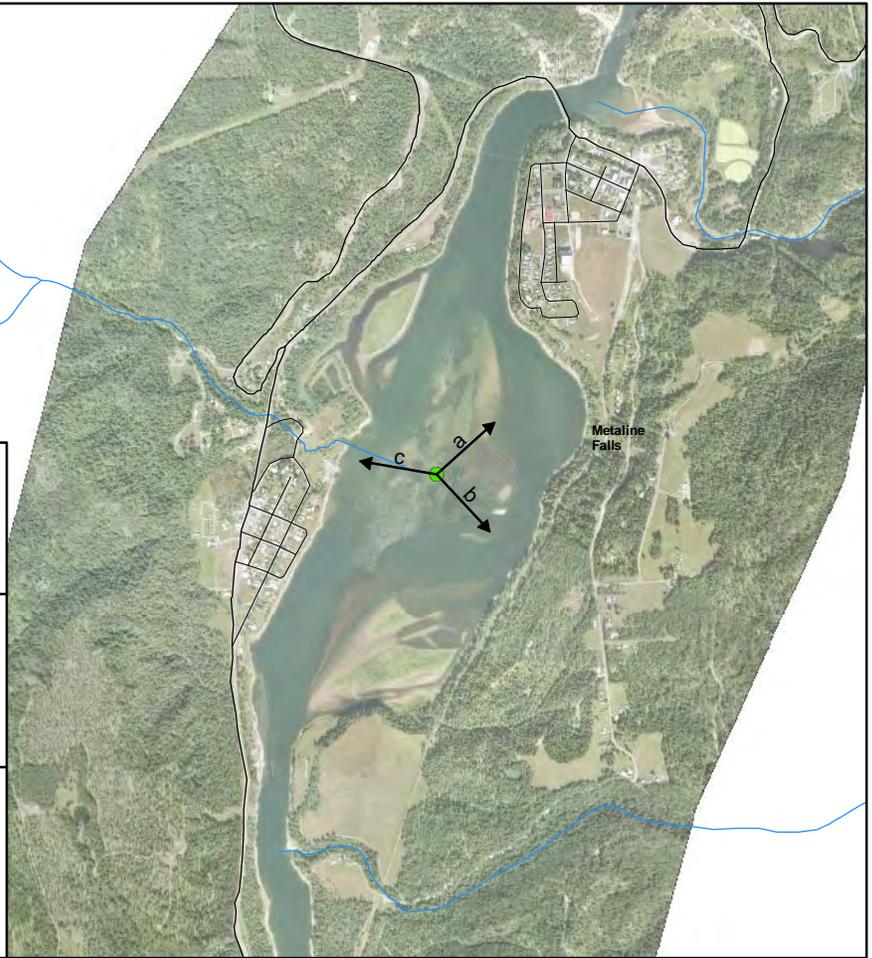
Figure 5.2-23  
KOP 12  
Upper Boundary Reservoir,  
Metaline Pool photo key.



Washington



Map Version 01/19/09



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**Figure 5.2-24.** Upper Boundary Reservoir, Metaline Pool views.

### 5.2.13. KOP 13—Upper Boundary Reservoir, Wolf Creek Area

KOP 13 is located near where Wolf Creek empties into Boundary Reservoir, at a bend in the reservoir approximately 2 miles upstream from Metaline. This area is characterized by several gravel bars and islands that are exposed to varying degrees depending on the elevation of the reservoir. Although the Wolf Creek area is visible from and below SR 31, this KOP represents a typical on-water view available to tourists/recreational users traveling by watercraft on the reservoir.

Figure 5.2-25 shows the location of KOP 13 relative to surrounding features and the orientation of the two representative photographs taken at this location. Figure 5.2-26 illustrates these existing views. This KOP includes views of the reservoir, the reservoir shoreline, and the gravel bars in the foreground. Also within foreground distance to the west is a segment of SR 31 and adjacent slopes created by highway construction. Middleground views are dominated by the highway and tree-covered hills. There are a few rural residences mixed among the trees, but they are not readily noticeable.

There is a high amount of user activity observed from this KOP given the highway location, and sounds from the highway were prevalent. Study 21 (SCL 2009a) identified the gravel bar area at Wolf Creek as a dispersed recreation site, although no recreational use was observed at the time KOP 13 was inventoried. There was an unpleasant, dank, musty odor of unknown origin noticeable at this site during the observation. Views in most directions are cut off at foreground distance by trees and slopes adjacent to the reservoir.

The overall scenic integrity of the landscape at this viewpoint is rated as Moderate, or slightly altered, considering the conditions evident in the full field of view. The natural landscape character is dominant in most directions, whereas deviations are prominent toward SR 31 to the west and are very slightly evident to the east.

**Legend**

- Key Observation Point (KOP)
- Photo Direction
- ∨ Roads
- ~ Streams

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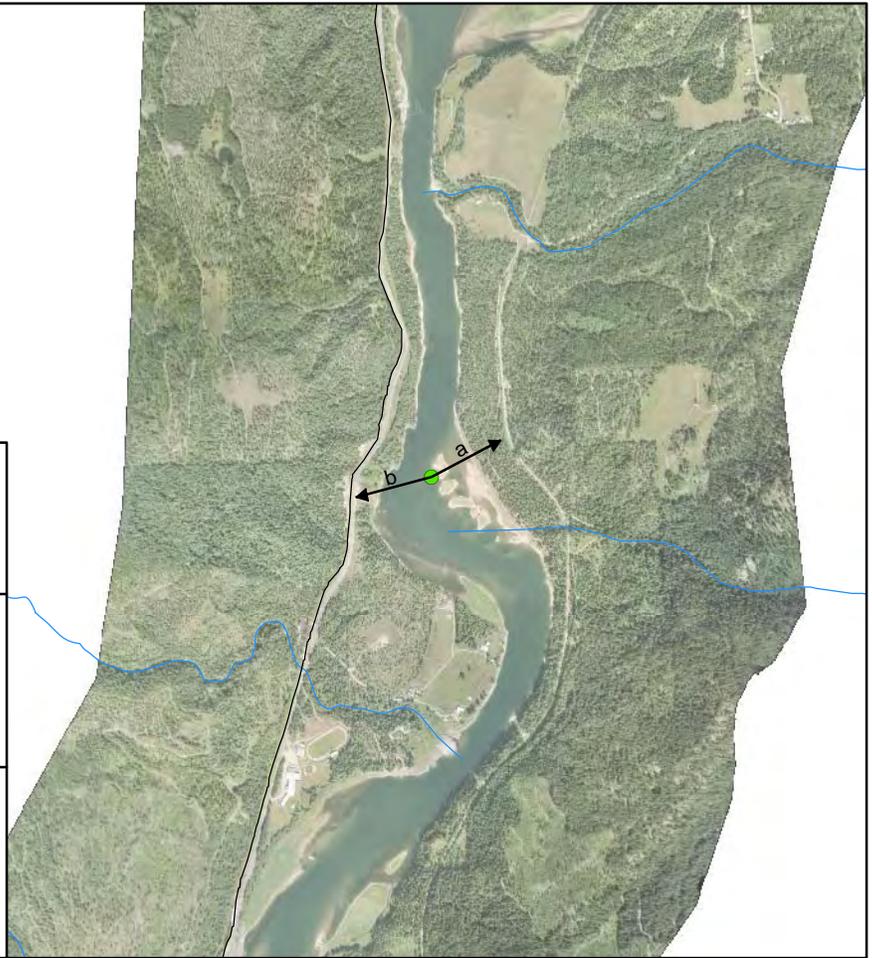
Figure 5.2-25  
KOP 13  
Upper Boundary Reservoir,  
Wolf Creek Area photo key.



Washington



Map Version 01/19/09



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**Figure 5.2-26.** Upper Boundary Reservoir, Wolf Creek Area views.

### 5.3. Potential Adverse Project-Related Effects

As discussed in Section 2, the goals of the AVRS were to assess the aesthetic/visual resources in the Project vicinity and to identify potential effects on those resources from Project operations and proposed changes to the Project. The following discussion focuses on the influence of the Project on the scenic integrity ratings assigned for each KOP, and the subsequent consideration of the context of those ratings. The AVRS objectives had a significant focus on effects from changes to Project facilities or operations. SCL has not identified proposed changes to the Project at this time. Aesthetic/visual effects associated with the existing Project facilities and operations are discussed below.

#### 5.3.1. Project Facilities

Identifying the aesthetic/visual effects of the existing Project facilities involved the following steps:

1. Determining the visibility of Project facilities, specifically, where they can be seen and by whom
2. Assessing the degree of visual contrast between Project facilities and the natural landscape setting
3. Assessing the context within which viewers experience that contrast, and their apparent or expected reaction to what they perceive. Other factors considered included the number of viewers and the distance at which they would view the contrast created by the facilities.

Integrating the visibility, visual contrast, and viewer context information allows for the development of an overall assessment of the significance of an identified aesthetic/visual effect. The visual contrast or degree of change seen by viewers must also be considered relative to applicable plan and policy direction for visual quality management, which is discussed in Section 5.4.

##### 5.3.1.1. *Visibility*

The existing Project facilities consist of the dam and powerhouse structures, the adjacent operations and maintenance area, a 0.5-mile length of transmission line, roadways, and nearby recreational sites maintained by SCL. These facilities are concentrated in the immediate vicinity of Boundary Dam and, because of the mountainous terrain, are visible from a limited geographic area. The publicly accessible area from which Project facilities can be seen primarily includes SCL-operated recreation facilities (the Vista House, the Tailrace Recreation Area near the base of the dam, and the Forebay Recreation Area), the forebay area of the reservoir (for viewers traveling by watercraft), and the SCL West-Side Access Road to Boundary Dam.

Figure 5.3-1 is a map of the viewshed for the Project facilities. As discussed in Section 3, it identifies the areas within the study area from which any element of the Project facilities can be seen, using a GIS-based visibility analysis. To simplify the analysis, the results shown in Figure 5.3-1 are based only on modeling of terrain and do not account for the screening effects of forest vegetation. Therefore, the map overstates the extent of the area from which Project facilities can be seen.

In general, Project facilities are not visible from major land-based travel routes, specifically SR 31 or County Road 2975. The one exception is the views of Project transmission facilities from certain segments of County Road 2975. Views of Project facilities are possible from limited locations along FR 3165, primarily at the western end of the road near the Vista House.

### 5.3.1.2. Visual Contrast

Project facilities create substantial visual contrast with the surrounding landscape when viewed in the foreground (within approximately 0.5 mile). The appearance of the facilities reflects a form and texture noticeably different from adjacent forested slopes or exposed rock faces, and they are readily identifiable as constructed features. The facilities introduce a variety of geometric shapes that are distinct from lines evident in the natural landscape. Project roads and some of the structural components of Boundary Dam and supporting facilities are light in color and stand out from the background. The visual contrast created by the Project facilities is especially noticeable from the Vista House and Tailrace Recreation Area, where close-in views are oriented directly to features such as the face of the dam and spillways, and the lines from the powerhouse ascending the adjacent rock wall.

As indicated in Section 5.2, an overall scenic integrity rating of Low was assigned to KOPs 2, 3, and 9, as a measure of the degree to which the human deviations from the natural landscape characteristics were evident from those viewpoints. Scenic integrity ratings of Moderate or High were determined for the other KOPs in the study area. Those ratings suggest that the landscape seen from most of the KOPs at which Project facilities are evident (KOPs 2, 3, and 9) might also receive Moderate or High ratings if those facilities were not present. In terms of the SMS definitions, the landscapes in which the Project facilities are viewed appear to be modestly altered, and the deviations tend to dominate the natural landscape character.

### 5.3.1.3. Viewer Reaction/Context

Assessment of viewer response to these changes in the landscape is based primarily on results from the questionnaires administered as part of Study 21 (SCL 2009a). Analysis of the responses to a series of questions related to visual quality is summarized as follows:

- Nearly 60 percent of the respondents to the 2007 visitor survey reported seeing structures associated with the Project while recreating in the Project vicinity.
- A majority (53 percent) of the respondents indicated these views *enhanced* their enjoyment of the scenery, whereas 40 percent reported the views of Project facilities had *no effect* on their enjoyment of the scenery.
- Less than 8 percent of the sample population indicated the views of Project structures detracted in a minor or major way from their enjoyment of the scenery.
- Approximately 50 percent of all respondents rated the overall quality of the scenery in the Boundary Reservoir area as “excellent,” 47 percent rated it between excellent and average, and only 3 percent rated the scenery as “average” or below average.

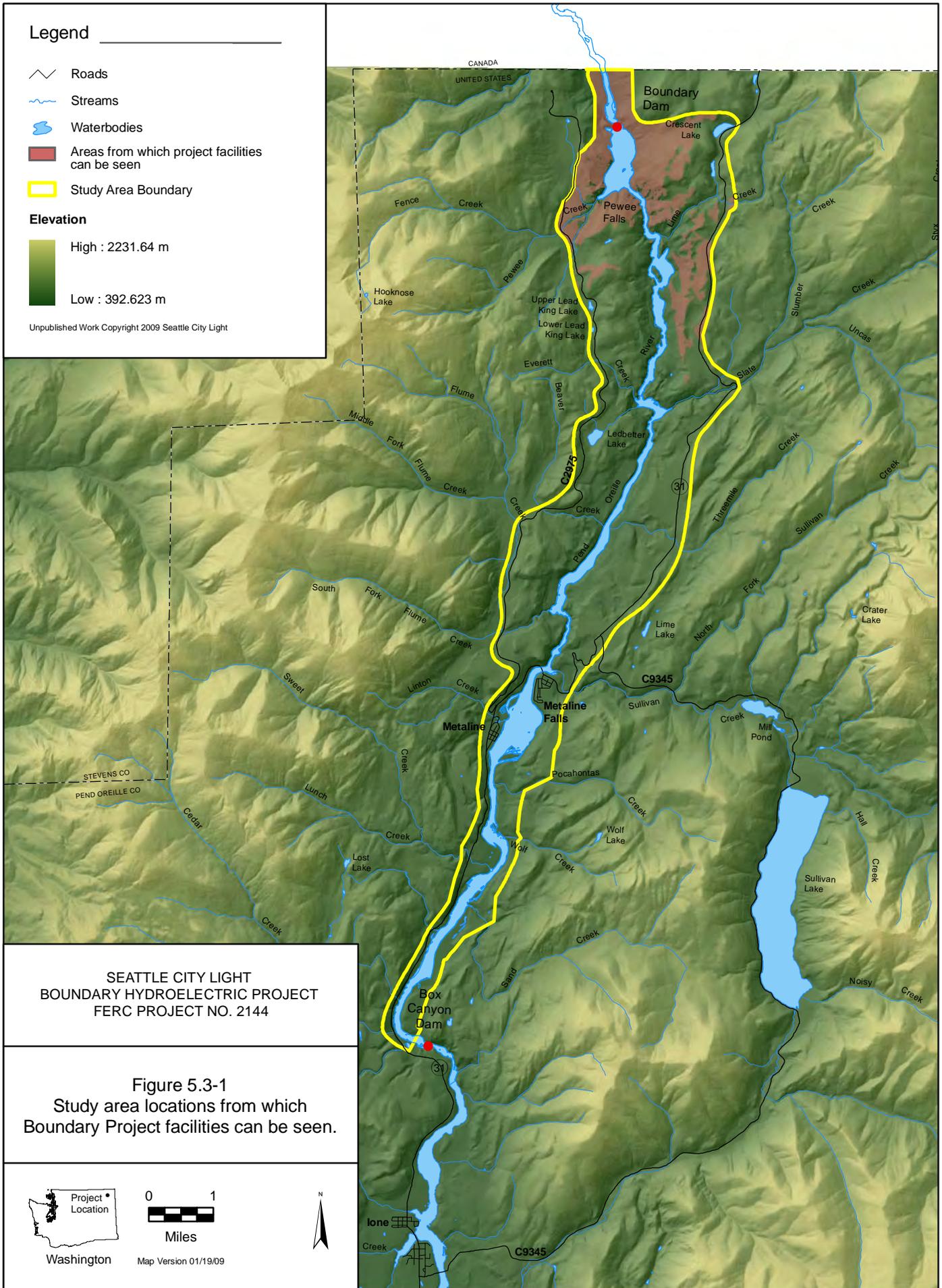
Legend

-  Roads
-  Streams
-  Waterbodies
-  Areas from which project facilities can be seen
-  Study Area Boundary

Elevation

-  High : 2231.64 m
-  Low : 392.623 m

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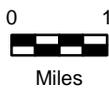


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Figure 5.3-1  
Study area locations from which  
Boundary Project facilities can be seen.



Washington



Miles  
Map Version 01/19/09



The survey responses provide a rather strong indication that few visitors who are exposed to views of Project facilities react adversely to those views. In addition, the sample population assigned overwhelmingly positive ratings to the existing scenic quality, even though a large majority of those people experienced views of Project facilities.

A likely cause of this type of viewer reaction is that almost everyone who sees Project facilities is at one of those facilities and presumably knows in advance they are going to a hydropower project. Stated in different terms, there is a strong degree of self-selection involved on the part of viewers who are exposed to the visual contrast created by the Project facilities. For example, with very few exceptions, tourists/recreational users who see the Project facilities from the Tailrace Recreation Area have come to that location specifically to see the dam and powerhouse, usually as part of a group tour. Similarly, SCL constructed the Vista House specifically to provide a recreational attraction for people interested in seeing Boundary Dam and associated facilities, and selected a location with a commanding, elevated view of the dam.

#### **5.3.1.4. Overall Effects from Project Facilities**

As discussed in Section 5.3.1.2, it is evident that the Project facilities have a noticeable physical effect on the landscape in the study area. Most of the facilities are relatively large in scale, and they create contrast with the natural landscape through a variety of differences in form, line, color, and texture. When those changes are considered only within the context of deviations from the natural landscape characteristics, as was done in assigning scenic integrity ratings for the respective KOPs, that analysis framework unavoidably results in relatively low scenic integrity ratings for the landscapes surrounding the Project facilities.

Based on consideration of the viewer context, however, the actual effect on viewers from the visual contrast created by the Project facilities does not appear to be significant. The survey responses indicate that relatively few viewers who see Project facilities react adversely to those views. The survey results, in combination with the visibility analysis and visitor access patterns, also suggest that visitors who are exposed to Project facilities have some prior knowledge of what they will be seeing and are consciously choosing to visit those facilities. Conversely, it is reasonable to assume that people who might react adversely to the landscape modifications of a hydroelectric project would tend to avoid visiting locations where they would be viewing Project facilities. Therefore, the Project facilities do not appear to be causing a significant adverse effect on viewers within the study area.

#### **5.3.2. Project Operations**

Similar to the assessment of Project facilities, identifying the aesthetic/visual effects of existing Project operations involves determining the visibility of operational effects, assessing the visual contrast they create, evaluating the context within which viewers experience that contrast, and combining the results for those components of the analysis to reach an overall conclusion regarding the significance of any visual effects identified.

### 5.3.2.1. *Visibility*

The reservoir is visible from an extensive area surrounding the Project that includes major land-based travel routes (primarily SR 31), developed recreation sites, and dispersed use areas. Figure 5.3-2 displays the results of the visibility analysis (see Section 3) as applied to the reservoir. As discussed previously for the visibility analysis for Project facilities, Figure 5.3-2 is based on a GIS analysis using terrain only and thereby overstates the actual extent of the study area from which the reservoir would be visible.

### 5.3.2.2. *Visual Contrast*

The visual aspect of Project operations relates primarily to the degree to which reservoir levels fluctuate in response to generation levels, and the corresponding degree of change evident along the reservoir shoreline. Based on patterns of viewer use for the Project vicinity, as documented in Study 21 (SCL 2009a), summer is the key period for the visual analysis because that is the time of year when the greatest number of viewers are present.

The potential for visible evidence of reservoir fluctuation is limited by the small normal operating range of the reservoir and the steep topography along much of the reservoir. SCL voluntarily restricts reservoir fluctuations during daylight hours (from 8 a.m.-6 p.m.) from Memorial Day to Labor Day. These restrictions specify that water surface elevations are to be held between 1,984 feet and 1,994 feet NAVD 88 (1,980 and 1,990 feet NGVD 29, respectively)<sup>1</sup>. While the restriction allows for a low surface elevation of 1,984 feet NAVD 88 (1,980 feet NGVD 29) and a daily fluctuation of 10 feet, recent historical hydrologic data indicate that the typical daily summer fluctuation is 7 feet at the forebay and only 3–4 feet in the upper reservoir above Metaline Falls. Figure 5.3-3 illustrates the median and extreme patterns of daily reservoir surface elevations for the 19-year period of record.

The visual condition of the shoreline when the reservoir is at the low end of this normal range does not include exposure of extensive area of the reservoir substrate (i.e., there is no prominent “bathtub ring”). Figure 5.2-26 illustrates a common condition with respect to Project operations and the visual appearance of the upper reservoir area. This photograph of the Wolf Creek area was taken in the early evening (6:30 p.m.) on a weekday. At the time, the reservoir elevation was approximately 1,990.4 feet NAVD 88 (1,986.4 feet NGVD 29), or 3 feet below its maximum point for the day of 1,993.7 feet NAVD 88 (1,989.7 feet NGVD 29), which occurred at approximately 11:00 a.m. that day. It is evident from this close-in view that the water level had recently been higher, and that the lower water surface elevation later in the day had exposed minimal additional gravel bar areas.

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<sup>1</sup> SCL is in the process of converting all Project information from an older elevation datum (National Geodetic Vertical Datum of 1929 [NGVD 29]) to a more recent elevation datum (North American Vertical Datum of 1988 [NAVD 88]). As such, elevations are provided relative to both data throughout this document. The conversion factor between the old and new data is approximately 4 feet (e.g., the crest of the dam is 2,000 feet NGVD 29 and 2,004 feet NAVD 88).

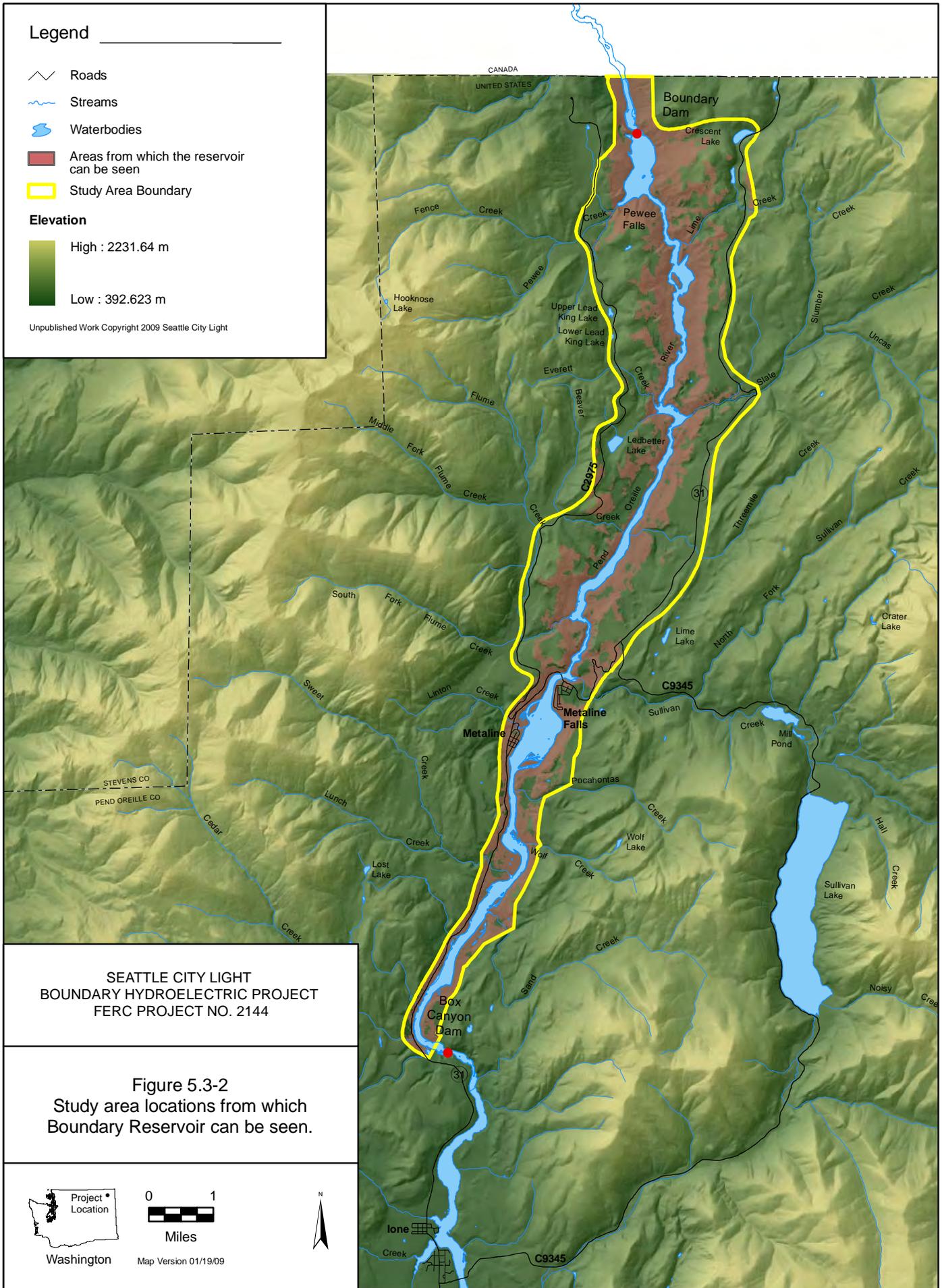
**Legend**

-  Roads
-  Streams
-  Waterbodies
-  Areas from which the reservoir can be seen
-  Study Area Boundary

**Elevation**

-  High : 2231.64 m
-  Low : 392.623 m

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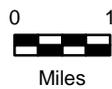


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Figure 5.3-2  
 Study area locations from which  
 Boundary Reservoir can be seen.



Washington



Map Version 01/19/09



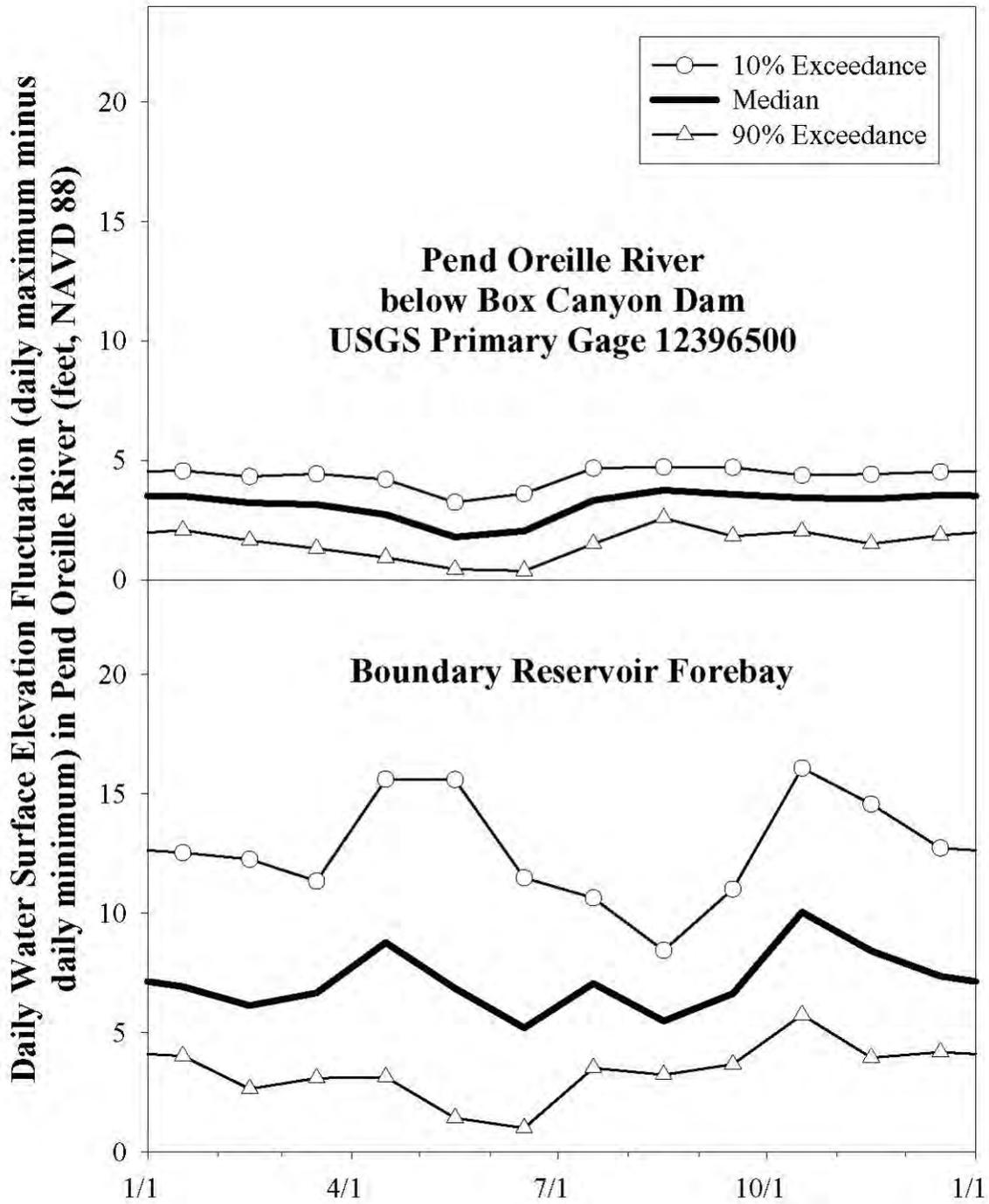


Figure 5.3-3. Patterns of daily water surface fluctuation in Boundary Reservoir.

Source: R2 Resource Consultants (2008)

An additional factor in assessing the degree of visual contrast that might be created by reservoir surface fluctuations is the typical pattern of those fluctuations within the day. Hourly hydrologic data indicate that on any given day the minimum reservoir elevation in the upper reservoir area is likely to occur within 1 or 2 hours of midnight. The elevation then typically is rising gradually to a daily peak that is likely to occur within 1 or 2 hours of noon. Consequently, the minimum elevation and the maximum shoreline exposure typically occur at night when people are not present or able to view those conditions, and the reservoir elevation is typically close to full during the hours when people are most active for recreation, work, or other functions that might bring them near the reservoir.

#### 5.3.2.3. *Viewer Reaction/Context*

The visitor survey did not include any questions specifically addressing viewer reaction of the aesthetic aspects of changes in reservoir levels. There were several questions in the survey that provided respondents with opportunities to provide feedback about specific issues or concerns, however, and both the visitor and area resident survey samples provided numerous open-ended responses relating to water conditions, improvements desired at recreation sites, and similar topics. No comments were received from visitors or residents objecting to the aesthetic aspects of reservoir fluctuations from normal daily Project operations. In addition, no comments were received from participants in the focus group meetings identifying this potential occurrence as an issue. To the extent that reservoir elevations do fluctuate under normal operations, the extensive constituent information developed by SCL does not indicate that viewer groups present in the study area have aesthetic concerns associated with normal operations.

#### 5.3.2.4. *Overall Effects of Project Operations*

In summary, the hydrologic data for the period of record indicate that the range of daily reservoir fluctuations under normal Project operations during the summer period has been limited to approximately 7 feet at the forebay and only 3 to 4 feet in the upper reservoir above Metaline Falls. Because the topography and bathymetry around the upper reservoir are relatively moderate, compared to the steep conditions that are typical for the lower reservoir, the greater potential for reservoir fluctuations to result in noticeable shoreline exposure applies to the upper reservoir area. As indicated by the observed conditions at the upper reservoir KOPs, however, the degree of visual contrast along the shoreline that results under the typical range of daily fluctuations is minimal. The limited contrast that may occur at daily minimum elevations is unlikely to be detected by many viewers or prompt them to react adversely.

Other potential Project-related indirect visual impacts include visual evidence of shoreline erosion, dispersed recreation sites, Project road cuts, and/or the presence of invasive weeds. To date, none of these potential indirect effects have been identified as noticeable concerns at the Project. The potential contribution of these types of visual characteristics to the existing landscape condition was addressed in the inventory and analysis for the KOPs. To the extent that factors such as erosion along the reservoir shoreline or the noticeable presence of noxious, invasive plants were present and evident at the KOPs, they were noted on the KOP forms and

were considered during the assessment of scenic integrity. Those results are summarized as follows:

- Erosion along the reservoir shoreline was observed and documented at two locations (KOPs 10 and 11). The evidence of erosion was not considered to create substantial visual contrast at either location, and did not specifically influence the rating of overall scenic integrity in either case.
- A dispersed recreation site was evident at one location (KOP 11), but created minimal visual contrast and did not diminish the overall scenic integrity at this location.
- Project roads that are visible from specific KOPs are associated with other Project facilities, and the visual contrast created by these roads is included in the observed conditions documented for KOPs 1, 2, 3, and 9.
- The presence of noxious, invasive plants was not observed at any of the KOPs. In addition, factors such as visible erosion and noxious plants were not identified as issues by respondents to the surveys implemented through Study 21 (SCL 2009a).

### **5.3.3. Proposed Project Modifications**

To date, SCL has not identified any proposed changes to Project facilities or operations. If any proposed changes are identified for inclusion in the License Application, the evaluation of the potential effects will include visibility/visual contrast, viewer reaction and context, and plan/policy consistency considerations, as evaluated for existing facilities and operations. Any actions proposed to control or rehabilitate sites of existing erosion would be included in this process. As discussed in the Study 1 Final Report (SCL 2009b), proposed erosion measures would likely focus on bioengineering approaches and would not likely be intrusive in appearance.

## **5.4. Project Consistency with Applicable Policy**

Land and aesthetic/visual resource management within and adjacent to the Project boundary is under the jurisdiction of a number of entities, including the USFS, BLM, Pend Oreille County, and the towns of Metaline and Metaline Falls. This section provides a review of the policies for each jurisdiction that are directly applicable to aesthetic/visual resource management within the study area, and an assessment of the consistency of the Project with the respective policies.

### **5.4.1. USFS**

A substantial portion of the study area is within the CNF and is managed by the USFS. Assessment of Project consistency with USFS management policy is based on the management direction for aesthetic/visual resources established in the CNF Plan, as amended (USFS 1988a). Given the current status of USFS planning efforts, the following discussion addresses both the management direction established in the CNF Plan that is now in force and information that has been developed to date by the USFS for use in the pending update of the CNF Plan.

#### 5.4.1.1. Current (1988) CNF Plan

##### 5.4.1.1.1. Management Direction

The USFS adopted the current CNF Plan in 1998. At the time the current plan was developed, the USFS evaluated and managed aesthetic/visual resources under a methodology called the VMS. In broad terms, application of the VMS to a specific landscape or planning unit involved assigning Visual Quality Objectives (VQOs) based on analysis of the existing visual quality, the visual absorption capability of the landscape, viewing distance zones, and the sensitivity of viewers along various types of travel routes. The VQO classifications used under this system are as follows, ordered from most to least restrictive with respect to permissible management activities:

- Preservation
- Retention
- Partial Retention
- Modification
- Maximum Modification

The current CNF Plan (USFS 1988a) addresses visual resource management on a CNF-wide basis and for respective areas of the CNF that have been assigned specific management area designations designed to support specific management objectives. With respect to visual or scenic resources, the CNF Plan identifies an overall forest management goal to provide CNF visitors with visually acceptable scenery, consistent with the management use and public demand. The management allocations adopted as part of the CNF Plan assign approximately 3 percent of the CNF acreage to the Preservation VQO, 15 percent to the Retention VQO, 31 percent to the Partial Retention VQO, and 50 percent to the Modification VQO.

CNF lands are assigned to 1 of 13 management areas under the current Plan. Table 5.4-1 summarizes the 4 management area designations that apply to the CNF lands that are within or adjacent to the Project boundary, and the visual resource management direction associated with those designations. Figure 5.4-1 shows the geographic distribution of those management area designations. Briefly, almost all of the CNF lands immediately east of Boundary Reservoir are assigned to Management Area 6, Scenic/Winter Range, as are some lands to the west of the reservoir. The foreground visual corridor along FR 3165 from SR 31 to the Vista House is in Management Area 3A, Recreation. A block of lands located west of the SCL lands around Boundary Dam are assigned to Management Area 5, Scenic/Timber.

The visual management prescription for three management areas (Areas 3A, 5, and 6) under the current CNF Plan (USFS 1988a) is a VQO of Retention or Partial Retention. In areas where the designated objective is Retention, the corresponding management direction is that management activities “should not be visually evident.” In areas where the designated objective is Partial Retention, “management activities remain visually subordinate to the characteristic landscape.” In both cases, the viewshed within the foreground should be perceived as natural appearing. The visual management prescription for Management Area 8 is a VQO of Modification or Maximum Modification, where human alterations can begin to dominate the natural landscape.

**Table 5.4-1.** Current CNF Plan management area designations for lands adjacent to the Project

<b>Management Area</b>	<b>Management Goal</b>	<b>Location Relative to Project</b>	<b>Visual Management Direction</b>
3A, Recreation	Provide roaded and unroaded recreation opportunities in a natural appearing setting.	FR 3165 corridor from SR 31 to the Vista House east of Boundary Dam	Retention or Partial Retention VQO
5, Scenic/Timber	Provide a natural appearing foreground, middleground, and background along major scenic travel routes while providing wood products.	West of SCL lands around Boundary Dam and on west bank of tailrace reach of Pend Oreille River below Boundary Dam	Retention or Partial Retention VQO
6, Scenic/Winter Range	Provide a natural appearing foreground, middleground, and background along major scenic travel routes while providing for winter range management.	CNF lands extending east from Boundary Reservoir toward SR 31, and smaller blocks west and southwest from forebay reach of Boundary Reservoir	Retention or Partial Retention VQO
8, Winter Range	Meet the habitat needs of deer and elk to sustain carrying capacity at 120 percent of the 1980 level, while managing timber and other resources consistent with fish and wildlife management objectives.	Small tracts on east side of reservoir in Wolf Creek area	Modification or Maximum Modification VQO

Notes:

CNF – Colville National Forest

FR – Forest Road

SR – State Route

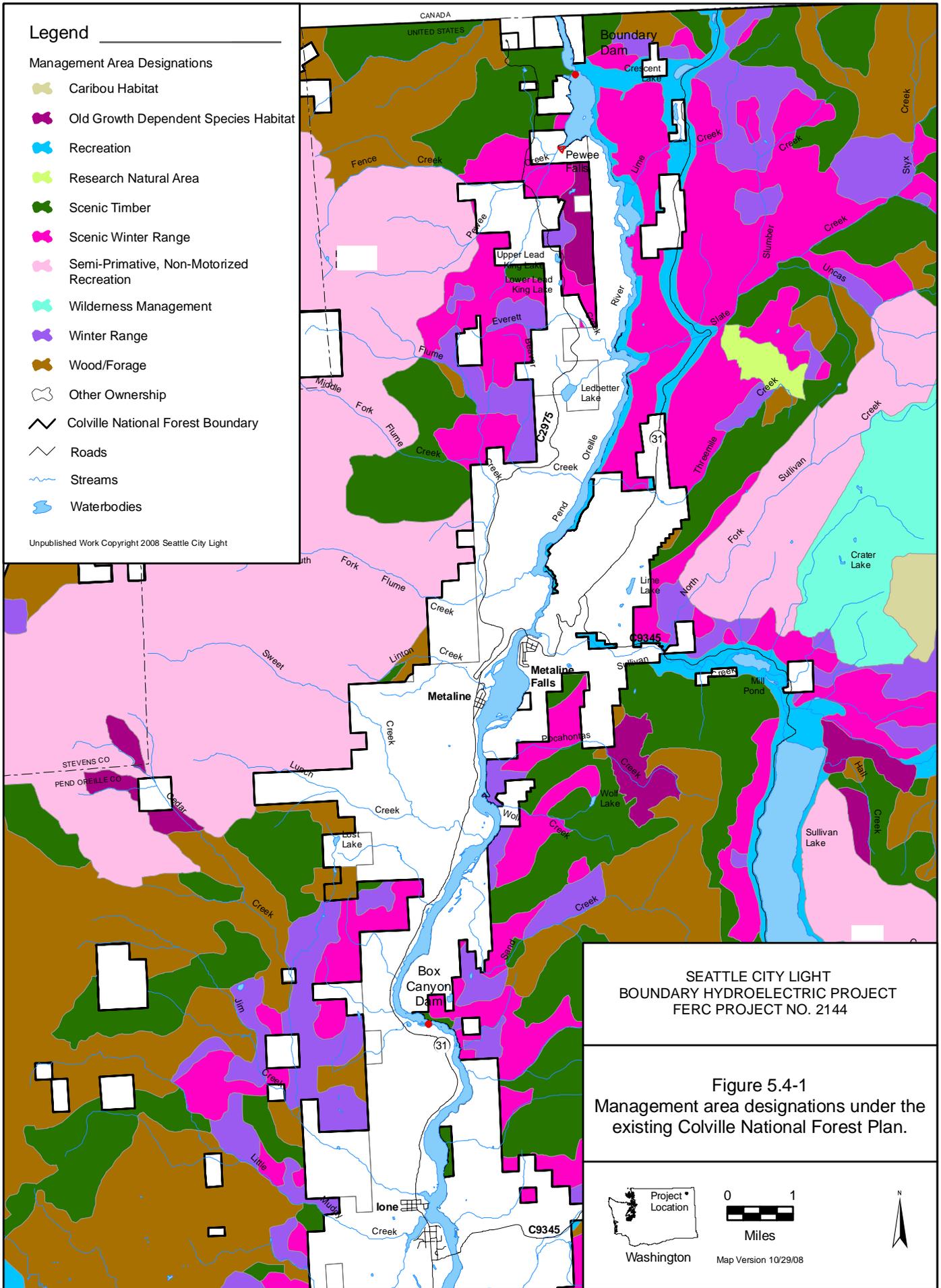
VQO – Visual Quality Objective

**Legend**

**Management Area Designations**

-  Caribou Habitat
-  Old Growth Dependent Species Habitat
-  Recreation
-  Research Natural Area
-  Scenic Timber
-  Scenic Winter Range
-  Semi-Primitive, Non-Motorized Recreation
-  Wilderness Management
-  Winter Range
-  Wood/Forage
-  Other Ownership
-  Colville National Forest Boundary
-  Roads
-  Streams
-  Waterbodies

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Figure 5.4-1  
Management area designations under the  
existing Colville National Forest Plan.



After the current CNF Plan was completed in 1988, the CNF Forest Supervisor distributed a letter (USFS 1992) to all CNF Ranger Districts, providing additional direction for making visual quality consistency determinations related to proposed actions and guidance on the appropriate VQOs to be used by CNF Districts. This 1992 letter lists the most sensitive visual quality areas/corridors in the CNF as Sensitivity Levels 1 and 2. (In the visual management system used by the USFS at the time, travel routes and major use areas were classified as Sensitivity Levels 1 [High], 2 [Moderate], or 3 [Low], based on the assumed sensitivity of the viewers expected to be present. Note that USFS terminology has been revised from the previous system, and these are now called Concern Levels). Identified Sensitivity Level 1 areas at or near the Project included:

- Boundary Dam Reservoir Road (SCL West-Side Access Road)
- Boundary Dam Vista House Road (FR 3165)
- Pend Oreille River corridor
- Crescent Lake area
- SR 31 corridor (Scenic Byway)
- County Road 2975 (road to Gardner Caves)

In 1992, the Sullivan Lake Ranger District (formerly the Republic Ranger District) recommended that the CNF reduce the rating of County Road 2975 leading to Gardner Caves and the Boundary Dam Reservoir Road to Sensitivity Level 2; however, these rating changes were not made at that time for consistency reasons. (Under the ongoing CNF Plan revision effort, these ratings will again be reassessed. The Project road leading down to the Tailrace Recreation Area may be dropped altogether due to security restrictions now in place that limit public access to the area [Bodie 2006].)

#### *5.4.1.1.2. Project Consistency*

As noted in Section 5.4.1.1.1, the current CNF Plan has an overall management goal of providing CNF visitors with visually acceptable scenery, consistent with management use and public demand. Although most of the Project is located outside of the CNF, the Project is nevertheless consistent with this overall management goal. Hydroelectric generation is the authorized management use of the lands occupied by the Project, and the facilities developed by SCL for that use are evident on the landscape. The Project features include recreation facilities developed specifically to accommodate public visitors who wish to view Boundary Dam and Reservoir, including the Vista House and the Tailrace Recreation Area, and every year several thousand visitors travel to the Project to use those recreation facilities. Based on the visitation pattern and the visitor survey data developed through Study 21 (SCL 2009a), visitors to the Project area are finding the scenery acceptable.

Most of the CNF-managed lands near the Project, particularly those near Boundary Dam and its associated facilities, are within management areas that have an assigned VQO of Retention or Partial Retention under the current CNF Plan. Where the VQO is Retention, management activities should be designed so as not to be visually evident to the casual forest visitor. The corresponding direction for Partial Retention is that management activities may be evident but will remain visually subordinate to the characteristic landscape. In terms of jurisdiction, those prescriptions apply specifically to the respective CNF-managed lands and to management

activities undertaken or permitted by the USFS, and not to management activities undertaken by other parties on adjacent, non-CNF-managed lands.

Views of Project facilities are available from some of the nearby CNF-managed lands assigned to Management Areas 3A, 5, and 6. If those outward-looking views to the Project are considered in terms of the VQOs under the current CNF, the views would not meet the descriptive criteria for Retention or Partial Retention. From the Vista House (which was originally built for visitors to view construction of the Project), for example, Boundary Dam and its supporting facilities (the transformer bays, transmission lines, and operations facilities in the Tailrace Recreation Area) clearly dominate the scene in the foreground; this condition would likely be considered indicative of a Maximum Modification VQO. Because construction of the Project pre-dated the current CNF Plan by more than 20 years, however, it is assumed that the visual management prescriptions established in the CNF Plan took the existing visual condition into account and were intended to apply to future management activities over which the USFS has jurisdiction.

#### *5.4.1.2. CNF Plan Update*

As stated in Section 4.1, the USFS is scheduled to complete its CNF Plan update in approximately 2010. Therefore, it is not possible to definitely identify the CNF visual management direction that will apply to the study area in future years, or to specifically assess Project consistency with that policy. With that significant limitation, the following discussion summarizes information the USFS has provided to date that will be applied in the plan revision process, and how that information may relate to the Project.

##### *5.4.1.2.1. Pending Management Direction*

Although the specific visual management direction that will issue from the updated CNF Plan is unknown, it is anticipated that the management direction will reflect a change in methods and terminology. The USFS now manages the aesthetic/visual quality of lands and waters under its jurisdiction using the SMS (USFS 1995) as a methodology and tool for inventory and analysis. SMS evolved from and replaces the previous VMS used by the USFS. SMS methodology differs from VMS in that it increases the role of information derived from constituents throughout the inventory and planning process. SMS-related components (in whole or in part) are used by the USFS to identify, achieve, and sustain a desired landscape character and scenic integrity on USFS-managed lands and waters.

SMS planning variables are defined for specific management areas on USFS-managed lands based on current conditions and/or desired management direction. Aesthetic/visual quality or scenic integrity, an SMS variable that replaces the VQO classifications used under the previous system, is being assessed during the CNF Plan revision process currently underway. Scenic Integrity Levels ranging from Very High to Unacceptably Low are assigned to the landscape as a frame of reference for measuring later achievement of the scenic objectives prescribed for specific management areas. Assignment of scenic integrity levels considers the valued attributes of the existing landscape character being viewed, and includes not only natural and natural-appearing attributes, but also those direct human alterations that have become accepted over time

as positive landscape character attributes. The Scenic Integrity Levels are identified as follows (USFS 1995):

- Very High (Unaltered Landscape—corresponds to Preservation VQO)
- High (Appears as Unaltered Landscape—corresponds to Retention VQO)
- Moderate (Slightly Altered Landscape—corresponds to Partial Retention VQO)
- Low (Moderately Altered Landscape—corresponds to Modification VQO)
- Very Low (Heavily Altered Landscape—corresponds to Maximum Modification VQO)
- Unacceptably Low (Extremely Altered Landscape—only to be used for inventory, and not as a management objective)

The USFS (2005) has prepared preliminary information for the CNF Plan update indicating that the USFS-managed lands in the Project vicinity are currently categorized with a Scenic Integrity Level of Moderate (Slightly Altered Landscape). (Note that this determination applies to the existing visual condition, and is not a statement of visual management direction.) The USFS had similarly categorized the SR 31 viewshed as Slightly Altered in its environmental review of the current CNF Plan (USFS 1988a).

In another methodology change, SMS categorizes the USFS-managed landscape into three Concern Levels: 1 (High), 2 (Moderate), and 3 (Low). Concern levels (formerly termed Sensitivity Levels in VMS methodology) represent the degree of scenery importance for specific viewing locations such as communities, recreation areas, roads, and trails. Concern Level designations can be validated in SMS methodology through the constituent analysis component. The USFS obtains constituent information in a variety of ways, including surveys, observations of visitor activity, constituent interviews, and public meetings.

In addition to draft scenery management goals being prepared by the USFS for the CNF Plan revision, other aesthetic/visual resource landscape planning factors are also being developed. Interrelated landscape planning materials being developed at this time include descriptions of Valued Landscape Character, Landscape Character Goals, and Niche Areas (USFS 2008a). Scenic Integrity Objectives (ranging from Very High to Unacceptably Low) expressing the applicable visual management direction will be determined later in the planning process.

The USFS has developed several Niche Areas to help guide recreation site types and appropriate levels of development, including aesthetic/visual characteristics, in the CNF and adjacent areas. Portions of the Project area fall within two Niche Areas, identified as the International Byways Niche and the Remote Access Niche. The International Byways Niche is a corridor of variable width encompassing SR 31 that includes all of Boundary Reservoir upstream from the Forebay Reach (which extends from the downstream end of Z Canyon to Boundary Dam [PRM 18.0 to 17.0]). The Remote Access Niche occupies two extensive areas of the CNF, one of which includes Boundary Dam and the forebay reach of the reservoir. These Niche Areas are described by the USFS as follows:

- International Byway Niche—“Major travel routes networking Canada and the U.S. communities, multitude of scenic byway designations, six International gateways all help provide transportation and economic connection between communities and

countries. Driving for pleasure, scenery and wildlife viewing and interpretation, water-related, highly developed campgrounds and day use facilities (including ski area) are located adjacent to the byways and help support international and regional touring events (motorized and non-motorized).”

- Remote Access Niche—“Wettest climate on the Colville; steep and dramatic mountainous country with sub-alpine Wilderness provides extensive views in all directions. Rare animal species habitat provides wildlife viewing, forest product gathering, and snowmobiling; while motorized access to non-motorized back country provides an opportunity for solitude.”

Niche Area descriptions are being integrated into the CNF planning narratives addressing Valued Landscape Character. The USFS needs to develop the Valued Landscape Character descriptions in more detail, to include a listing of the positive attributes identified within each area. This will be accomplished through constituent analysis and content analysis applied to existing information.

The Valued Landscape Character descriptions have been developed for CNF-wide vegetation types and for five landscape zones within the CNF. The Project area is included within the Salmo-Priest Remote Dispersed landscape zone, which encompasses all of the CNF lands to the north and east of Ione, Washington. Items from the character description for this zone relating to the cultural and social landscape and sense of place include the following (USFS 2008a):

- “Visitors can also find an unusual solitude within the walls of the canyon along Pend Oreille River. It is common to see the remains of cabins in remote areas that leave visitors wondering of the challenges people faced in trying to extract a living from the area. Current use is primarily dispersed among several developed camping or boating areas and along trails.”
- “Several dams have been constructed within the area to provide water storage or direct flow for hydroelectric power generation....Box Canyon Dam is set among the small towns and private land of the north Pend Oreille River Valley, while Boundary Dam is tucked into the rock faces of a remote canyon just 1 mile south of the Canadian border. These dams have become a recognized part of the characteristic landscape and the history of the area.”
- The Salmo Priest Remote Dispersed area is valued regionally and locally for the mix of recreation opportunities provided within the steep and dramatic mountainous country.....Other special places in the National Forest include the Pend Oreille River, ...Z Canyon, Boundary Dam,....”

#### 5.4.1.2.2. *Project Consistency*

Consistency of the Project with future USFS management direction cannot be addressed conclusively until the updated CNF Plan has been issued and adopted. In the interim, however, it is appropriate to note two key observations based on the preliminary CNF planning materials and the SMS framework.

As noted above in the draft Valued Landscape Character description for the Salmo-Priest Remote Dispersed area, Boundary Dam and the other existing dams in this area have become a recognized part of the characteristic landscape and history of the area, and factor into the sense of place. This is consistent with information developed through Study 21 (SCL 2009a), including visitor survey data indicating that many of the people coming to the study area for recreation use do so specifically to view the SCL facilities at Boundary Dam and/or to take the tour offered by SCL. Similarly, participants at local focus group meetings reported that local business operators and tourist information providers commonly recommend the Vista House and the Boundary Dam tour as worthwhile activities for visitors to the area.

In addition, the visitor survey that SCL conducted in the study area during the 2007 recreation season included a series of questions addressing scenic quality and visitor response to views of Project facilities. Recreational visitors rated scenic quality in the study area quite highly, with 50 percent rating the visual quality as Excellent (a 9 on a 1 to 9 scale) and 94 percent rating the visual quality as above average. Sixty percent of the sample reported they had seen structures associated with the Project and only a few people regarded views of Project facilities as a detriment. Less than 8 percent of the respondents indicated that the views of the Project had detracted from their enjoyment of the scenery, while 40 percent reported no effect and nearly 53 percent stated that views of Project facilities had enhanced their enjoyment of the scenery (SCL 2009a).

Based on the importance of constituent information in the SMS methodology and the consistency of the results reported above, SCL anticipates that the survey information from Study 21 (SCL 2009a) will be incorporated or referenced in the visual resource management component of the CNF Plan update.

#### **5.4.2. BLM**

The BLM-managed lands within the study area are managed under the guidance provided by the Spokane District Resource Management Plan (RMP) adopted in 1985 and amended in 1992. A schedule for an intended update of this plan has not been determined (Smith 2008).

The 1985 RMP (BLM 1985) includes the local BLM-managed lands within the Scattered Tracts Management Area, for which the plan establishes an overall program emphasis identified as “Lands, Grazing, Recreation and Forest.” The description of existing conditions for the management area references 13 attributes that do not include aesthetic or visual resources. Similarly, the summary of the management direction for the proposed plan does not reference management classifications or designations relative to visual resources. The tabulation of resource outputs and environmental consequences for the plan alternatives indicates the proposed plan was expected to result in a low level of increased impact to visual quality. The description of program elements within the proposed plan indicates that visual resources would continue to be evaluated as a part of activity and project planning, which would consider the significance of the proposed project and the visual sensitivity of the affected area.

The 1985 RMP does not classify the BLM-managed lands within the study area as to visual sensitivity and there is no specific visual resource management direction assigned to those lands.

Based on the current plan, the Project is consistent with BLM management direction for visual resources.

#### **5.4.3. Pend Oreille County**

Pend Oreille County oversees management and development of lands within the unincorporated areas of the County by means of 1) the Pend Oreille County Shoreline Master Plan, (2) the Pend Oreille County Comprehensive Plan, and (3) the Pend Oreille County Critical Areas Ordinance. The provisions of the Shoreline Program and the Critical Areas Ordinance have been incorporated into the County's development code (Pend Oreille County 2007).

Under the Shoreline Master Plan, the shoreline areas under county jurisdiction are designated as one of four shoreline environments (conservancy, natural, rural, and urban), with corresponding descriptions of allowed uses of the shoreline area. Although review of applications for shoreline development permits may consider recreational values and the existing character of the shoreline environment, the shoreline program does not include regulatory prescriptions relating to visual resources. Similarly, the five types of environmentally sensitive areas regulated under the Critical Areas portion of the code do not include provisions for visual resources.

The Pend Oreille County (2005) Comprehensive Plan includes eight individual elements addressing land use, economic development, transportation, housing, parks and recreation, utilities, essential public facilities, and capital facilities. The plan includes some goals and policies that support, for example, maintenance of rural character, provision of suitable buffer areas around extractive natural resource uses, and adequate development setbacks. Policies of this type may be based in part on a desire to maintain an aesthetically pleasing rural environment, but they do not define specific management direction or development regulation based on protection of visual resources.

Review of Pend Oreille County plans, policies and regulations indicated there are no County provisions that apply specifically and directly to the aesthetic/visual resource attributes of the Project. Therefore, the Project is consistent with County policy and planning direction.

#### **5.4.4. Municipalities**

The towns of Metaline and Metaline Falls also play a role in land management within their town limits, which extend up to the reservoir shoreline. Both towns have comprehensive plans (Town of Metaline 1996; Town of Metaline Falls 1996), shoreline programs, and development codes that are very similar in orientation to those described above for Pend Oreille County. Review of these plans, policies, and regulations indicated there are no provisions that apply specifically and directly to the aesthetic/visual resource attributes of the Project. Therefore, the Project is consistent with policy and planning direction for Metaline and Metaline Falls.

### **5.5. Potential Mitigation and Enhancement Options**

As discussed in Section 4.5, the RSP (SCL 2007) indicates that if existing or potential adverse Project-related effects to aesthetic/visual resources were identified in the analysis, potential solutions or options to address these adverse effects were to be defined and evaluated for

feasibility and effectiveness. The analysis documented in Section 5.3 did not result in identification of any significant effects from Project facilities or operations on aesthetic/visual resources. In addition, to date, SCL has not identified any proposed changes to Project facilities or operations. Therefore, there are no existing effects or proposed actions that warranted identification and assessment of mitigation options, and no such options are addressed in this report.

## 6 CONCLUSIONS

This section describes the status of the respective components of the AVRS with respect to the study objectives, and summarizes the key findings and observations for each component based on the results presented in Section 5.

The overall goals of the AVRS were to assess the aesthetic/visual resources in the Project area and identify potential effects on those resources from Project operations and proposed changes to the Project. In consultation with the relicensing participants, SCL defined a set of 13 KOPs to provide the framework for the analysis. These included 8 land-based KOPs and 5 KOPs based on reference locations on the surface of Boundary Reservoir.

A field inventory of conditions at the 13 KOPs was conducted in August 2008, using the Visual Conditions Form to document existing conditions and potential Project effects. Using the information recorded on the forms and photographs taken during the field inventory, overall scenic integrity ratings were assigned to each KOP based on guidance from the USFS (1995) SMS. The analysis of KOP conditions resulted in overall scenic integrity ratings of High for 2 KOPs, Moderate for 8 KOPs, and Low for 3 KOPs.

It is evident from the evaluation of KOP conditions that the Project facilities have a noticeable physical effect on the landscape in the study area. When those changes are considered only within the context of deviations from the natural landscape characteristics, as was done in assigning scenic integrity ratings for the respective KOPs, that analysis framework unavoidably results in lower scenic integrity ratings for the landscapes immediately surrounding the Project facilities.

Based on consideration of the viewer context, however, the actual effect on viewers from the visual contrast created by the Project facilities does not appear to be an issue. The recreation visitor survey responses indicate that relatively very few viewers who see Project facilities react adversely to those views. The survey results, in combination with the visibility analysis and visitor access patterns, also suggest that visitors who are exposed to Project facilities have some prior knowledge of what they will be seeing and are consciously choosing to visit those facilities. Conversely, it is reasonable to assume that people who might react adversely to the landscape modifications of a hydroelectric project would tend to avoid visiting locations where they would be viewing Project facilities. Therefore, the Project facilities do not appear to be causing a significant adverse effect on viewers within the study area.

The potential effects of existing Project operations were also evaluated based on the conditions documented at the KOPs and other relevant information. Historical hydrologic data indicate that

the range of daily reservoir fluctuations under normal Project operations during the summer period has been limited. Based on the physical conditions along the reservoir, the degree of visual contrast that results under the typical range of daily fluctuations is minimal. The contrast is unlikely to be detected by many viewers or prompt them to react adversely. Indirect aesthetic effects from other potential sources, such as visible evidence of erosion or noxious plants, were not considered to be significant for any of the KOPs.

To date, SCL has not identified any proposed changes to Project facilities or operations. This potential Project-related effect topic will need to be revisited when the License Application is developed. If any proposed changes are identified, the evaluation of the potential effects will involve visibility/visual contrast, viewer reaction and context, and plan/policy consistency considerations, as evaluated for existing facilities and operations.

Land and aesthetic/visual resource management within and adjacent to the Project boundary was reviewed to assess the consistency of the Project with the respective policies. This task resulted in findings that the documents with planning direction for the areas under the jurisdiction of the BLM, Pend Oreille County, and the towns of Metaline and Metaline Falls did not include specific visual resource management direction for those lands, and that the Project was therefore consistent with policies for those jurisdictions.

Assessment of Project consistency with USFS management policy is based on the management direction for aesthetic/visual resources established in the land and resource management plan for the CNF. The Project is consistent with the overall management goal established in the current CNF Plan of providing CNF visitors with visually acceptable scenery, consistent with management use and public demand. Based on the visitation pattern for recreation facilities at the Project and the visitor survey data developed through Study 21 (SCL 2009a), visitors to the Project area are finding the scenery acceptable. Views of Project facilities are available from some of the nearby CNF-managed lands. If those outward-looking views to the Project are considered in terms of the assigned VQOs under the current CNF, the views would not meet the descriptive criteria for Retention or Partial Retention. Because construction of the Project predated the current CNF Plan by more than 20 years, however, it is assumed that the visual management prescriptions established in the CNF Plan took the existing visual condition into account and were intended to apply to future management activities over which the USFS has jurisdiction.

Consistency of the Project with future USFS management direction cannot be addressed conclusively until the updated CNF Plan has been issued and adopted. In the interim, however, preliminary CNF planning materials provide some indication of potential future management direction. The USFS draft Valued Landscape Character description notes that Boundary Dam and the other existing dams in this area have become a recognized part of the characteristic landscape and history of the area, and factor into the sense of place. This is consistent with information developed through Study 21 (SCL 2009a), including visitor survey data indicating that many of the people coming to the study area for recreation use do so specifically to view the SCL facilities at Boundary Dam and/or to take the tour offered by SCL. In addition, the visitor survey that SCL conducted in the study area during the 2007 recreation season indicated that visitors rated scenic quality in the study area quite highly, and few people regarded views of

Project facilities as a detriment. Less than 8 percent of the respondents indicated that the views of the Project had detracted from their enjoyment of the scenery, while 40 percent reported no effect and nearly 53 percent stated that views of Project facilities had enhanced their enjoyment of the scenery (SCL 2009a).

The analysis documented in Section 5.3 did not result in identification of any significant effects from Project facilities or operations on aesthetic/visual resources. In addition, to date, SCL has not identified any proposed changes to Project facilities or operations. Therefore, there have been no existing effects or proposed actions that warranted identification and assessment of mitigation options. The aesthetic effects of any future actions that are proposed through the relicensing process will be addressed in resource-specific plans for those actions that will be developed in the future, such as addressing the appearance of new or modified facilities that might be identified in the recreation management plan.

## **7 VARIANCES FROM FERC-APPROVED STUDY PLAN AND PROPOSED MODIFICATIONS**

The RSP indicates that Project consistency with USFS policy and management direction for the CNF will be evaluated based on the updated CNF Plan, which was anticipated to be available in 2007. As discussed in Section 4.1, the schedule for the CNF Plan update has been extended and a draft plan is now expected in 2010. In response to this change, consistency with USFS policy was evaluated based on current planning direction, as established in the CNF Plan adopted in 1988, and based on preliminary CNF Plan revision products the USFS has provided to SCL.

At the time the RSP was developed in 2007, it was anticipated that the CNF Plan update would be available in 2008 for review and application within the AVRS. CNF reference materials identified in the RSP that had not been prepared at the time the AVRS was conducted included 1) a description of Desired Landscape Character Goals and 2) Scenic Integrity Objectives that would identify aesthetic resource management direction for CNF lands. The AVRS was necessarily implemented without the benefit of these reference materials.

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## **Appendix 1: Key Observation Point Visual Condition Forms**



**Boundary Hydroelectric Project  
Study 23 Aesthetic/Visual Resources  
Field Conditions Form**

Name: S. Brooks Date: 8/27/08 Time: 1206 Weather: partially cloudy; 50s Res. Elev. (ft): 1992.4 Forebay  
Gage

**1. VIEWPOINT INFORMATION**  
 KOP No.: 1 KOP Name/Description: Forebay Recreation Area  
 GPS No.: 005 GPS Reading: 11 U 474367 5425637 GPS Distance: 0.5m to dam  
 Reference Points: @ picnic table in day use area closest to waters edge  
 Photo No./Direction: P19/1°, P20/21°, P21/52°, P22/103°, P23/151°, P24/180°, P25/219°, P26/271°, P27/321°

**Notes**  
 Viewing range @ site is full 360°  
 Primary view orientation/interest is N/NNE toward Boundary Dam

**2. WATER RESOURCES**  
 Water Resource (circle one): reservoir creek/stream beach/sandy/gravel area  
 Water Movement (circle one): none slow swift rapid falls  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line w color m texture

**Notes**  
 Scale contrast - the reservoir scale is med/mod in relation to the visible expanse of the landscape  
 Spatial dominance - mnts/hills are co-dominate w/ the reservoir  
 Texture on water is more smooth/fine, whereas texture in mnts/hills is more coarse/dense

**3. LANDFORM**  
 Type (circle one): reservoir/water hills mountains other  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form s line m color s texture

**Notes**  
 Type - mnts/hills surrounding reservoir  
 Strong degree of contrast in line and texture (dam, fence, & log boom lines are in contrast w/ the rolling hills landscape line); texture is smooth in manmade areas and smooth/fine to coarse/dense in all other areas

**4. VEGETATION**  
 Shade Cover (circle one): 0-25 percent 26-50 percent 51-75 percent 76-100 percent  
 Diversity (circle one): none little present substantial extensive  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line w color w texture

**Notes**  
 Shade cover is a 80% on slopes adjacent to the reservoir; denser in areas located away from the dam utilities (transmission lines) and facilities

**5. LAND/WATER USE AND STRUCTURES**

Intensity (circle one): undeveloped rural urban  
 Type (circle one): boating (water) hiking (land) resident industrial  
 Structures (circle one): none/undeveloped few/low development moderately developed many/highly developed  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
S form S line m color m texture

**Notes**

Type - industrial setting (utilities, recreation facilities, roads, etc.)  
 Dam facilities are strong presence in one direction only. Even in that direction, scale contrast is not large/severe.

**6. USER ACTIVITY**

Degree (circle one): low moderate high  
 Frequency (circle one): low moderate high  
 Litter/Pollution (circle one): low moderate high  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant

**Notes**

Observations recorded near noon on a summer weekday, w/ little user activity @ the time. Site can be busier @ other times, use concentrated in small portion of total field of view.

**7. OTHER CONSIDERATIONS**

Smells (circle one in each pair):  
present absent  
 dominant inconspicuous discordant harmonious  
 Sounds (circle one in each pair):  
present absent  
 dominant inconspicuous discordant harmonious  
 Visibility (circle one on each line):  
 screened partially screened panorama  
 inferior normal superior

**Notes**

Smells - slight fishy smell, noticeable off and on; slight smell of cut firewood near picnic table  
 Sounds - slight consistent hum of dam facilities, louder lapping of water on shoreline and against boat/boat launch, infreq. vehicle noise from road

**8. OVERALL SCENIC INTEGRITY RATING**

(Based on discussion in Chapter 2 and examples in Appendix H of the SMS Handbook)

Scenic Integrity Rating:  
 \_\_\_\_\_ very high \_\_\_\_\_ high X moderate \_\_\_\_\_ low \_\_\_\_\_ very low \_\_\_\_\_ unacceptably low

**Notes**

Overall rating reflects the overall character for the full field of view. Generally, the landscape character dominates, and even looking towards the dam the denotation of the landscape is evident but does not dominate the view.

**Boundary Hydroelectric Project  
Study 23 Aesthetic/Visual Resources  
Field Conditions Form**

Name: S. Brooks Date: 8/27/08 Time: 1247 Weather: partially cloudy; 50% Res. Elev. (ft): 1991.8 Forebay

**1. VIEWPOINT INFORMATION**

KOP No.: 2 KOP Name/Description: Tailrace Recreation Area  
 GPS No.: 006 GPS Reading: 11 U 474238 5426353 GPS Distance: ~0.25m towards dam  
 Reference Points: @ viewpoint area to the right of garbage can; ~50-60 ft from tunnel  
 Photo No./Direction: P33/42°; P34/82°; P35/129°; P36/153°; P37/200°; P38/238°; P39/310°; P40/1°

**Notes**

Terrain blocks views to south/southwest and east. Eye is drawn to river, cliffs, and dam making east/southeast the primary view orientation.

**2. WATER RESOURCES**

Water Resource (circle one): reservoir creek/stream beach/sandy/gravel area  
 Water Movement (circle one): none slow swift rapid falls  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line m color m texture

**Notes**

Little water movement @ time of observation. There can be much more movement @ times of spill or higher generation. Water is subordinate to landforms.

**3. LANDFORM**

Type (circle one): reservoir/water hills mountains other  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
S form S line m color S texture

**Notes**

High scale contrast from sheer, high rock cliffs. Color of cliffs has moderate contrast w/ the forest and water.

**4. VEGETATION**

Shade Cover (circle one): 0-25 percent 26-50 percent 51-75 percent 76-100 percent  
 Diversity (circle one): none little present substantial extensive  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line w color m texture

**Notes**

About 70% shade cover w/in visible area  
 Diversity - mixed evergreen and deciduous trees; some areas of shrubs and grass cover

**5. LAND/WATER USE AND STRUCTURES**

Intensity (circle one): undeveloped rural urban  
 Type (circle one): boating (water) hiking (land) resident industrial  
 Structures (circle one): none/undeveloped few/low development moderately developed many/highly developed  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line w color m texture

**Notes**

Structures evident incl. powerhouse built into rock face, dam face, spillway structures, parking area, day use area, etc. Arched concrete powerhouse openings mimic color of rockface, but have different lines. Downstream face of dam is lighter than adjacent features, but does not create high contrast. yellow boom above spill gate appears mobile, assumed not to be a common presence.

**6. USER ACTIVITY**

Degree (circle one): low moderate high  
 Frequency (circle one): low moderate high  
 Litter/Pollution (circle one): low moderate high  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant

**Notes**

Area adjacent to this KOP site is relatively busy from SCL operations activity @ Project.

**7. OTHER CONSIDERATIONS**

Smells (circle one in each pair):  
present absent  
 dominant inconspicuous discordant harmonious  
 Sounds (circle one in each pair):  
present absent  
dominant inconspicuous discordant harmonious  
 Visibility (circle one on each line):  
 screened partially screened panorama  
 inferior normal superior

**Notes**

Smells - slight smell of flowers and weeds; blended in w/ environment  
 Sounds - constant hum of facilities, workers working on vehicles, using air compressor, etc.  
 Longer distant views blocked in most directions, except downstream (north)

**8. OVERALL SCENIC INTEGRITY RATING**

(Based on discussion in Chapter 2 and examples in Appendix H of the SMS Handbook)

Scenic Integrity Rating:  
 \_\_\_\_\_ very high \_\_\_\_\_ high \_\_\_\_\_ moderate X low \_\_\_\_\_ very low \_\_\_\_\_ unacceptably low

**Notes**

Because of strong influence of the rock walls and river, the natural landscape character is more prominent than the deviations (developed features). Deviations are evident but do not dominate. Still, deviations are sufficient that natural landscape character could not be considered slightly altered.

**Boundary Hydroelectric Project  
Study 23 Aesthetic/Visual Resources  
Field Conditions Form**

Name: S. Brooks Date: 8/27/08 Time: 248 Weather: partially cloudy; 50s-60s Res. Elev. (ft): 1990.3

**1. VIEWPOINT INFORMATION**  
 KOP No.: 3 KOP Name/Description: Vista House  
 GPS No.: \_\_\_\_\_ GPS Reading: \_\_\_\_\_ GPS Distance: 0.5m to dam  
 Reference Points: viewing platform near southwest corner  
 Photo No./Direction: P59/221°, P60/269°, P61/311°, P62/341°, P63/11°, P64/60°, P65/129°, P66/199°, P67/222°

**Notes**  
 Platform provides panoramic view in nearly all directions, but eye is drawn primarily to Boundary Dam and associated facilities.

**2. WATER RESOURCES**  
 Water Resource (circle one): reservoir creek/stream beach/sandy/gravel area  
 Water Movement (circle one): none slow swift rapid falls  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line m color m texture

**Notes**  
 Virtually all of forebay reach of the reservoir is visible. River downstream from the dam is also visible.

**3. LANDFORM**  
 Type (circle one): reservoir/water hills mountains other  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
s form s line m color s texture

**Notes**  
 Type - mnts/hills around reservoir; massive sheer rock face opposite the platform  
 Rock face adjacent to dam provides strong contrast, especially w/ nearby forested slopes.

**4. VEGETATION**  
 Shade Cover (circle one): 0-25 percent 26-50 percent 51-75 percent 76-100 percent  
 Diversity (circle one): none little present substantial extensive  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
w form m line w color m texture

**Notes**  
 Shade cover is about 70% in the areas surrounding the dam; less when expanse of water is factored in. Generally a conifer forest cover.

### 5. LAND/WATER USE AND STRUCTURES

Intensity (circle one): undeveloped rural urban  
Type (circle one): boating (water) hiking (land) resident industrial  
Structures (circle one): none/undeveloped few/low development moderately developed many/highly developed  
Scale Contrast (circle one): small/minimal medium/moderate large/severe  
Spatial Dominance (circle one): subordinate co-dominate dominant  
Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
S form S line m color S texture

#### Notes

Dam itself introduces straight and curved lines. Vertical electric lines in the rock face, picnic forks, and T-line towers are prominent. Color contrast from several features/surfaces of the dam and maintenance area northwest from the tailrace.

### 6. USER ACTIVITY

Degree (circle one): low moderate high  
Frequency (circle one): low moderate high  
Litter/Pollution (circle one): low moderate high  
Scale Contrast (circle one): small/minimal medium/moderate large/severe  
Spatial Dominance (circle one): subordinate co-dominate dominant

#### Notes

Presence of SCL workers activity in powerhouse area is not as evident as @ KOP 2 (Tailrace Recreation Area). Level of visitor activity @ platform is not high, but is instead intermittent.

### 7. OTHER CONSIDERATIONS

Smells (circle one in each pair):  
present absent  
dominant inconspicuous discordant harmonious  
Sounds (circle one in each pair):  
present absent  
dominant inconspicuous discordant harmonious  
Visibility (circle one on each line):  
screened partially screened panorama  
inferior normal superior

#### Notes

Sounds - noise/hum of the dam facilities is constant

### 8. OVERALL SCENIC INTEGRITY RATING

(Based on discussion in Chapter 2 and examples in Appendix H of the SMS Handbook)

Scenic Integrity Rating:

\_\_\_\_\_ very high \_\_\_\_\_ high \_\_\_\_\_ moderate X low \_\_\_\_\_ very low \_\_\_\_\_ unacceptably low

#### Notes

In primary view orientation, deviations are quite evident and dominant over the natural landscape character. Landscape is more than slightly altered, not considered intact.

**Boundary Hydroelectric Project  
Study 23 Aesthetic/Visual Resources  
Field Conditions Form**

Name: S Brooks Date: 8/28/08 Time: 1150 Weather: cloudy Res. Elev. (ft): 1993.0 Forebay  
Grage

**1. VIEWPOINT INFORMATION**  
 KOP No.: 4 KOP Name/Description: BLM Boundary Recreation Area  
 GPS No.: 018 GPS Reading: 11 u 475300 5422366 GPS Distance: 1 m to island  
 Reference Points: about 1 ft. west of existing usermade campfire ring; south campsite  
 Photo No./Direction: P128/18°, P129/52°, P130/101°, P131/133°, P132/183°, P133/292°, P134/341°

**Notes**  
 Slope behind site blocks views to the west. Field of view generally about 180°, ranging north to south.

**2. WATER RESOURCES**  
 Water Resource (circle one): reservoir creek/stream beach/sandy/gravel area  
 Water Movement (circle one): none slow swift rapid falls  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line m color m texture

**Notes**  
 Portion of reservoir in view is primarily side-channel area between Everett Island and western shoreline. Reservoir near full, channel area full @ time of observation. View to NNE extends past north end of island to main body of reservoir.

**3. LANDFORM**  
 Type (circle one): reservoir/water hills mountains other  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line w color w texture

**Notes**  
 View orientation is primarily across channel to the forested, low ridge of Everett Island. View to NE and behind site shows steeper, higher slopes.

**4. VEGETATION**  
 Shade Cover (circle one): 0-25 percent 26-50 percent 51-75 percent 76-100 percent  
 Diversity (circle one): none little present substantial extensive  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form w line w color m texture

**Notes**  
 Shade cover is about 50% on slopes surrounding the reservoir, generally some diversity in vegetation w/ mostly grass cover within campsite and some shrub/erb areas on Everett Island (lacking vegetation in the campsite, and on water).

### 5. LAND/WATER USE AND STRUCTURES

Intensity (circle one): undeveloped rural urban  
Type (circle one): boating (water) hiking (land) resident industrial  
Structures (circle one): none/undeveloped few/low development moderately developed many/highly developed  
Scale Contrast (circle one): small/minimal medium/moderate large/severe  
Spatial Dominance (circle one): subordinate co-dominate dominant  
Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
w form w line w color w texture

#### Notes

Designated BLM use site appears to be accessed primarily from the reservoir (boat-in); can also be accessed by vehicle or on foot via a low standard road site has minimal facilities - picnic table and fire ring. Road is evident @ margin of site.

### 6. USER ACTIVITY

Degree (circle one): low moderate high  
Frequency (circle one): low moderate high  
Litter/Pollution (circle one): low moderate high  
Scale Contrast (circle one): small/minimal medium/moderate large/severe  
Spatial Dominance (circle one): subordinate co-dominate dominant

#### Notes

Litter/pollution - garbage evident in the fire pits; some trash around site

### 7. OTHER CONSIDERATIONS

Smells (circle one in each pair):  
present absent  
dominant inconspicuous discordant harmonious

Sounds (circle one in each pair):  
present absent  
dominant inconspicuous discordant harmonious

Visibility (circle one on each line):  
screened partially screened panorama  
inferior normal superior

#### Notes

Smell of evergreens consistent in this location  
Sounds incl. wind rustling the trees and occasionally bees swarming and birds chirping  
Visibility towards reservoir is partially screened from reservoir by trees in immediate foreground on Everett Island.

### 8. OVERALL SCENIC INTEGRITY RATING

(Based on discussion in Chapter 2 and examples in Appendix H of the SMS Handbook)

Scenic Integrity Rating:  
           very high            high   X   moderate            low            very low            unacceptably low

#### Notes

Natural landscape character clearly dominates. Deviations, primarily campsite facilities and road to site, are evident but do not dominate. Based on deviations being evident, overall integrity considered moderate.

**Boundary Hydroelectric Project  
Study 23 Aesthetic/Visual Resources  
Field Conditions Form**

Name: S. Brooks Date: 8/27/08 Time: 1058 Weather: cloudy; rain off/on Res. Elev. (ft): 1994.1 <sup>temps in 50s</sup> UGS Auxiliary Gauge (1.2 m downstream from primary box gauge)

**1. VIEWPOINT INFORMATION**  
 KOP No.: 5 KOP Name/Description: Metaline Waterfront Park  
 GPS No.: 004 GPS Reading: \_\_\_\_\_ GPS Distance: 0.5 m to reservoir  
 Reference Points: @ the covered fire pit in the park near the reservoir  
 Photo No./Direction: P9/312°; P10/21°; P11/62°; P12/99°; P13/152°; P14/233°; P15/282°

**Notes**  
 View orientation is naturally towards and across the reservoir; field of view of reservoir nearly 180°

**2. WATER RESOURCES**  
 Water Resource (circle one): reservoir creek/stream beach/sandy/gravel area  
 Water Movement (circle one): none slow swift rapid falls  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line m color m texture

**Notes**  
 Reservoir @ this location is relatively wide and is a key element of the view.

**3. LANDFORM**  
 Type (circle one): reservoir/water hills mountains other  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line m color m texture

**Notes**  
 Hills (ridges / low mnts) are prominent in view across the reservoir, much less in views behind the park. Terrain in this part of the valley is less steep, rugged than in other parts of the study area.

**4. VEGETATION**  
 Shade Cover (circle one): 0-25 percent 26-50 percent 51-75 percent 76-100 percent  
 Diversity (circle one): none little present substantial extensive  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
w form w line m color m texture

**Notes**  
 Shade cover is about 60% surrounding the reservoir  
 Diversity is present in this view; mixed deciduous and evergreen trees on surrounding hills, low cover along park shorelines, lawn area w/in park, and various planted deciduous trees on the town side of the park.

**5. LAND/WATER USE AND STRUCTURES**

Intensity (circle one): undeveloped rural urban  
 Type (circle one): boating (water) hiking (land) resident industrial  
 Structures (circle one): none/undeveloped few/low development moderately developed many/highly developed  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
S form m line S color m texture

**Notes**  
 Structural features evident include rec facilities in park, residential uses in and near Metaline Falls, former elevator structure in Metaline Falls, and adjacent residences in Metaline. Park road to boat ramp is strong near-field element; light colored structures in Metaline Falls stand out.

**6. USER ACTIVITY**

Degree (circle one): low moderate high  
 Frequency (circle one): low moderate high  
 Litter/Pollution (circle one): low moderate high  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant

**Notes**  
 Litter pollution was moderate (garbage in fire ruins, fruit pits on the ground, stacked wood near fire pit, paper/plastic party supplies lying around).  
 No user activity present @ time of observation (weekday morning). Site can be busy on special occasions, but use intensity generally not high.

**7. OTHER CONSIDERATIONS**

Smells (circle one in each pair):  
present absent  
 dominant inconspicuous discordant harmonious

Sounds (circle one in each pair):  
present absent  
 dominant inconspicuous discordant harmonious

Visibility (circle one on each line):  
 screened partially screened panorama  
 inferior normal superior

**Notes**  
 Smells from cut firewood near the fire pit  
 Sounds were all infrequent but incl. noise from hung (incl. s-brakes), wind rustling the paper/plastic party supplies left on a nearby gazebo, wind rustling the trees, and rain drops. Views back towards Metaline and to west are screened by trees and to residences across the street.

**8. OVERALL SCENIC INTEGRITY RATING**

(Based on discussion in Chapter 2 and examples in Appendix H of the SMS Handbook)  
 Scenic Integrity Rating:  
 \_\_\_\_\_ very high \_\_\_\_\_ high X moderate \_\_\_\_\_ low \_\_\_\_\_ very low \_\_\_\_\_ unacceptably low

**Notes**  
 Natural landscape character dominates over deviations in most of field of view. Deviations are prominent in one direction - towards Metaline Falls - but are less evident from E to S. Deviations are dominant in views towards Metaline, but that is not primary view orientation. Overall situation across full primary field of view is that deviations are evident but not dominant.

**Boundary Hydroelectric Project  
Study 23 Aesthetic/Visual Resources  
Field Conditions Form**

Name: S. Brooks Date: 8/27/08 Time: 158 Weather: temp: 50s to 60s partially cloudy Res. Elev. (ft): 1993.1 USGS Auxiliary Gauge

**1. VIEWPOINT INFORMATION**  
 KOP No.: 6 KOP Name/Description: North Bend Oreille Scenic Byway, Metaline Falls  
 GPS No.: 608 GPS Reading: 11 U 472698 5412452 GPS Distance: 0.25m to reservoir  
 Reference Points: Byway/interpretive sign off of Hwy 31 across bridge in mfs; @ rock wall, 20ft. from sign  
 Photo No./Direction: P49/18°; P50/48°; P51/119°; P52/192°; P53/234°; P54/308°; P55/9°

**Notes**  
 View orientation @ site is to relatively narrow corridor downstream (NNE) along river towards falls; trees block views to west; trees and structures block views to east. Hwy 31, local street, & part of downtown MF can be seen behind site, but orientation is to framed river view.

**2. WATER RESOURCES**  
 Water Resource (circle one): reservoir creek/stream beach/sandy/gravel area  
 Water Movement (circle one): none slow swift rapid falls  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line m color m texture

**Notes**  
 Water movement was slow when looking below @ reservoir in immediate foreground, but was more rapid in the distance @ the falls. More movement would be apparent when reservoir level is lower. Entry to more winding river canyon is a key viewing element.

**3. LANDFORM**  
 Type (circle one): reservoir/water hills mountains other  
 Scale Contrast (circle one): small/minimal medium/moderate to large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
S form S line m color m texture

**Notes**  
 Ridges forming over canyon are prominent in view. WA Rock in near foreground provides strong scale contrast, distinct lines, (along w/ edge of river), some color defiance and rough texture.

**4. VEGETATION**  
 Shade Cover (circle one): 0-25 percent 26-50 percent 51-75 percent 76-100 percent  
 Diversity (circle one): none little present substantial extensive  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form w line m color m texture

**Notes**  
 Shade cover is not continuous on slopes surrounding the reservoir; much of field of view is open water area. Diversity is primarily evergreens (firs, pines, and cedars) some of the trees @ viewpoint are noticeably larger than trees on slopes.

### 5. LAND/WATER USE AND STRUCTURES

Intensity (circle one): undeveloped rural urban  
Type (circle one): boating (water) hiking (land) resident industrial  
Structures (circle one): none/undeveloped few/low development moderately developed many/highly developed  
Scale Contrast (circle one): small/minimal medium/moderate large/severe  
Spatial Dominance (circle one): subordinate co-dominate dominant  
Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line s color s texture

#### Notes

Few developed features are evident in framed view that is primary orientation; t-line w/ structure on WA Rock, is most noticeable feature. Remainder of site context (behind or beside KOP) includes residences, hwy, and streets, Hwy 31 Bridge (fenced view), and commercial bldg in town.

### 6. USER ACTIVITY

Degree (circle one): low moderate high  
Frequency (circle one): low moderate high  
Litter/Pollution (circle one): low moderate high  
Scale Contrast (circle one): small/minimal medium/moderate large/severe  
Spatial Dominance (circle one): subordinate co-dominate dominant

#### Notes

Hwy 31 is primary source of user activity @ site. Traffic volumes are not high in relative terms, but provide continuous presence throughout most of the day.

### 7. OTHER CONSIDERATIONS

Smells (circle one in each pair):  
present absent  
dominant inconspicuous discordant harmonious  
Sounds (circle one in each pair):  
present absent  
dominant inconspicuous discordant harmonious  
Visibility (circle one on each line):  
screened partially screened panorama  
inferior normal superior

#### Notes

Smells incl. trees/vegetation, and infreq. smell of diesel trucks along the road. Fairly consistent vehicle sounds, incl. vehicles crossing the bridge, plus more infreq. sounds of pounding hammers in the residential area and birds chirping.

### 8. OVERALL SCENIC INTEGRITY RATING

(Based on discussion in Chapter 2 and examples in Appendix H of the SMS Handbook)

Scenic Integrity Rating:  
           very high            high   X   moderate            low            very low            unacceptably low

#### Notes

For the primary view orientation @ site, landscape character is clearly dominant. Denotations, primarily t-line, are evident but not dominant. Overall integrity for view back towards town would be low, but that is not the primary orientation.

**Boundary Hydroelectric Project  
Study 23 Aesthetic/Visual Resources  
Field Conditions Form**

Name: S. Brooks Date: 8/27/08 Time: 4:48 Weather: temp in 50s-60s partially cloudy Res. Elev. (ft): 1991.5 USGS  
Library  
Grage

**1. VIEWPOINT INFORMATION**  
 KOP No.: 7 KOP Name/Description: North Bend Oreille Scenic Byway, Eagle Nest Viewpoint  
 GPS No.: 010 GPS Reading: \_\_\_\_\_ GPS Distance: ~0.5 m to reservoir/  
camp  
 Reference Points: pit left of interpretic sign along Hwy 31 looking towards wild life area  
 Photo No./Direction: P74/38°; P75/59°; P76/91°; P77/149°; P78/171°; P79/201°; P80/230°

**Notes**  
 Site for interpretic sign is widened shoulder area immediately adjacent to Hwy 31. High steep slope on west side of hwy blocks views for approximately 180°. Primary view orientation is from NNE through SSW downstream, across reservoir and upstream

**2. WATER RESOURCES**  
 Water Resource (circle one): reservoir creek/stream beach/sandy/gravel area  
 Water Movement (circle one): none slow swift rapid falls  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form s line m color m texture

**Notes**  
 Spatial dominance - reservoir is co-dominant w/ the surrounding hills/mnts, as a prominent element of the view. Across the reservoir at the wild life preserve, a beachy/sandy area is visible. opposite shoreline is strong/linear element, generally divides view horizontally.

**3. LANDFORM**  
 Type (circle one): reservoir/water hills mountains other  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form s line m color m texture

**Notes**  
 Terrain in this part of valley, especially across reservoir to the east, is more characteristic of hills than mnts.

**4. VEGETATION**  
 Shade Cover (circle one): 0-25 percent 26-50 percent 51-75 percent 76-100 percent  
 Diversity (circle one): none little present substantial extensive  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
w form w line m color m texture

**Notes**  
 Shade cover is extensive on slopes surrounding the reservoir, much of field of view is open. There is little diversity - appears to be primarily evergreen trees on slopes. Weeds and low growing vegetation on slope below viewpoint.

### 5. LAND/WATER USE AND STRUCTURES

Intensity (circle one): undeveloped rural urban  
 Type (circle one): boating (water) hiking (land) resident industrial  
 Structures (circle one): none/undeveloped few/low development moderately developed many/highly developed  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line m color m texture

#### Notes

The primary structural feature present is Hwy 31, which is behind the viewpoint. The hwy pullout includes an interpretive sign and a rock on either side of sign, w/in a parking area and adjacent to the road. A few houses are visible across the reservoir some distance away.

### 6. USER ACTIVITY

Degree (circle one): low moderate high  
 Frequency (circle one): low moderate high  
 Litter/Pollution (circle one): low moderate high  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant

#### Notes

Traffic on Hwy 31 provides high/frequent user activity. Unknown percentage of vehicles stop @ viewpoint; user activity on site is brief and intermittent. One party stopped during observation.

### 7. OTHER CONSIDERATIONS

Smells (circle one in each pair):  
present absent  
dominant inconspicuous discordant harmonious  
 Sounds (circle one in each pair):  
present absent  
dominant inconspicuous discordant harmonious  
 Visibility (circle one on each line):  
 screened partially screened panorama  
 inferior normal superior

#### Notes

Smells - temporary pavement smell (just finished paving the hwy) overpowered all other potential smells from this location. Constant sounds of cars/trucks along the hwy. Site provides elevated vantage point over reservoir, panoramic views ranging about 180°.

### 8. OVERALL SCENIC INTEGRITY RATING

(Based on discussion in Chapter 2 and examples in Appendix H of the SMS Handbook)

Scenic Integrity Rating:  
 \_\_\_\_\_ very high \_\_\_\_\_ high X moderate \_\_\_\_\_ low \_\_\_\_\_ very low \_\_\_\_\_ unacceptably low

#### Notes

For the primary field of view, landscape character is dominant; deviations are limited and unobtrusive. View back across hwy shows much more deviation, but is not primary orientation.

**Boundary Hydroelectric Project  
Study 23 Aesthetic/Visual Resources  
Field Conditions Form**

Name: S. Brooks Date: 8/27/08 Time: 10:06 Weather: cloudy; SDS; slight rain Res. Elev. (ft): 1994.8 <sup>USGS</sup> <sub>Box Gauge</sub>

**1. VIEWPOINT INFORMATION**  
 KOP No.: 8 KOP Name/Description: Box Canyon Dam  
 GPS No.: 003 GPS Reading: \_\_\_\_\_ GPS Distance: Less than 0.25 m to reservoir  
 Reference Points: (1) picnic table near picnic area, interpretive sign, visitor center, & fence  
 Photo No./Direction: P1/22°, P2/62°, P3/141°, P4/202°, P5/243°, P6/289°, P7/329°

**Notes**  
 Site provides full 360° field of view. For study 23 analysis, primary interest is view from NW to NE over upper end of Boundary Reservoir.

**2. WATER RESOURCES**  
 Water Resource (circle one): reservoir creek/stream beach/sandy/gravel area  
 Water Movement (circle one): none slow swift rapid falls  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form s line m color m texture

**Notes**  
 Water movement was variable; rapid @ the spillway, swift between the spillway and day-use area, and slow beyond the day use area. The reservoir is a major element of the view & provides strong horizontal line along opposite shoreline.

**3. LANDFORM**  
 Type (circle one): reservoir/water hills mountains other  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form s line m color m texture

**Notes**  
 Low, rolling hills in most of field of view; steep rise from left to right looking directly across reservoir (NE).

**4. VEGETATION**  
 Shade Cover (circle one): 0-25 percent 26-50 percent 51-75 percent 76-100 percent  
 Diversity (circle one): none little present substantial extensive  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line m color m texture

**Notes**  
 Shade cover is about 70% on slopes adjacent to reservoir. Large lawn area and paved surfaces in Campbell Park, much of area is open. Diversity is mixed evergreen and deciduous trees in forested slopes. Trees and lower cover on slope below fence, extensive grass cover in near foreground.

### 5. LAND/WATER USE AND STRUCTURES

Intensity (circle one): undeveloped rural urban  
 Type (circle one): boating (water) hiking (land) resident industrial  
 Structures (circle one): none/undeveloped few/low development moderately developed many/highly developed  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form s line s color s texture

#### Notes

W/in primary field of view, fence along top of bank is most noticeable developed feature, provides strong line color and texture contrast. Other elements incl. concrete and rock barriers in park, access rd, and Hwy 31.

### 6. USER ACTIVITY

Degree (circle one): low moderate high  
 Frequency (circle one): low moderate high  
 Litter/Pollution (circle one): low moderate high  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant

#### Notes

Sources of user activity @ or past site incl. Hwy 31, visitors using Campbell Park, and PUD staff @ Box Canyon Dam operations area. Overall level of activity is high.

### 7. OTHER CONSIDERATIONS

Smells (circle one in each pair):  
~~present~~ absent  
 dominant ~~inconspicuous~~ discordant harmonious  
 Sounds (circle one in each pair):  
~~present~~ absent  
~~dominant~~ inconspicuous discordant harmonious  
 Visibility (circle one on each line):  
 screened partially screened panorama  
 inferior normal superior

#### Notes

Smells - gas from vehicles @ dam (could smell off and on)  
 Sounds - from dam facilities (spillway, vehicles/horns, bells) and j-brakes from trucks along the hwy - spillway (flowing water) noise was constant; other noises were heard off and on.

### 8. OVERALL SCENIC INTEGRITY RATING

(Based on discussion in Chapter 2 and examples in Appendix H of the SMS Handbook)

Scenic Integrity Rating:  
 \_\_\_\_\_ very high \_\_\_\_\_ high X moderate \_\_\_\_\_ low \_\_\_\_\_ very low \_\_\_\_\_ unacceptably low

#### Notes

For the primary field of view, the landscape character (reservoir and forested hills) is still considered to be dominant. Deviations are evident (particularly the fence), but are not quite dominant. (Deviations are dominant in E-S field of view, toward Box Canyon Dam and operations center.)

**Boundary Hydroelectric Project  
Study 23 Aesthetic/Visual Resources  
Field Conditions Form**

Name: S. Brooks Date: 8/28/08 Time: 1008 Weather: cloudy; 50s Res. Elev. (ft): 1993.7 Forebay (grage)

**1. VIEWPOINT INFORMATION**  
 KOP No.: 9 KOP Name/Description: Boundary Reservoir Forebay  
 GPS No.: 013 GPS Reading: 11 U 474498 5425710 GPS Distance: 0-25 m towards dam  
 Reference Points: about 0.25 m south of dam  
 Photo No./Direction: P88/349°, P89/311°, P90/269°, P91/233°, P92/191°, P93/140°, P94/102°, P95/61°, P96/1°

**Notes**  
 Site provides full 360° field of view. Based on elements in view, viewer interest is assumed to be drawn to the foreground view of Boundary Dam and associated facilities (NNW).

**2. WATER RESOURCES**  
 Water Resource (circle one): reservoir creek/stream beach/sandy/gravel area  
 Water Movement (circle one): none slow swift rapid falls  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
S form S line m color m texture

**Notes**  
 The reservoir surrounds the river in this location and largely determines the scale. Reservoir shoreline provides a strong horizontal element.

**3. LANDFORM**  
 Type (circle one): reservoir/water hills mountains other  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
S form m line m color m texture

**Notes**  
 mnts/hills adjacent to reservoir roughly equal in dominance w/ water. Slope left of dam provides some color, texture contrast.

**4. VEGETATION**  
 Shade Cover (circle one): 0-25 percent 26-50 percent 51-75 percent 76-100 percent  
 Diversity (circle one): none little present substantial extensive  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line m color m texture

**Notes**  
 Shade cover is about 75% on slopes around the reservoir, but viewpoint surrounded by open water expanse.  
 Diversity - mainly present when looking @ the campground vs. surrounding hills, where most trees appear to be conifers.

### 5. LAND/WATER USE AND STRUCTURES

Intensity (circle one): undeveloped rural urban  
Type (circle one): boating (water) hiking (land) resident industrial  
Structures (circle one): none/undeveloped few/low development moderately developed many/highly developed  
Scale Contrast (circle one): small/minimal medium/moderate large/severe  
Spatial Dominance (circle one): subordinate co-dominate dominant  
Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
S form S line S color m texture

#### Notes

Pickle forks and +-line towers on hill left of dam are sky lined, and are most prominent developed features. Dam and log boom introduce strong horizontal line, but not major scale contrast. Shed structure above trash rack, trailer, & cylindrical tank are lighter

### 6. USER ACTIVITY

Degree (circle one): low moderate high  
Frequency (circle one): low moderate high  
Litter/Pollution (circle one): low moderate high  
Scale Contrast (circle one): small/minimal medium/moderate large/severe  
Spatial Dominance (circle one): subordinate co-dominate dominant

#### Notes

Sources of user activity evident mid. Forebay Recreation Area, dam access rd, and dam facilities. Little dam operations activity evident from this viewpoint.

### 7. OTHER CONSIDERATIONS

Smells (circle one in each pair):  
present absent  
dominant inconspicuous discordant harmonious  
Sounds (circle one in each pair):  
present absent  
dominant inconspicuous discordant harmonious  
Visibility (circle one on each line):  
screened partially screened panorama  
inferior normal superior

#### Notes

Sounds from boat; somebody @ the campground cutting wood

### 8. OVERALL SCENIC INTEGRITY RATING

(Based on discussion in Chapter 2 and examples in Appendix H of the SMS Handbook)

Scenic Integrity Rating:

\_\_\_\_\_ very high \_\_\_\_\_ high \_\_\_\_\_ moderate X low \_\_\_\_\_ very low \_\_\_\_\_ unacceptably low

#### Notes

For the primary field of view, which is w to NNW toward dam, deviations created by dam and associated facilities are dominant, landscape clearly appears altered. Overall integrity ratings would be higher if based on full 360° view.

**Boundary Hydroelectric Project  
Study 23 Aesthetic/Visual Resources  
Field Conditions Form**

Name: S. Brooks Date: 8/28/08 Time: 1028 Weather: cloudy; 50s Res. Elev. (ft): 1993.7 Forebay  
stage

**1. VIEWPOINT INFORMATION**

KOP No.: 10 KOP Name/Description: Pewee Falls  
GPS No.: 014 GPS Reading: 11 u 474277 5424421 GPS Distance: less than 0.25 m to falls  
Reference Points: Less than 0.25 m from falls, looking towards the falls  
Photo No./Direction: P103/122°; P104/199°; P105/231°; P106/278°; P107/302°; P108/10°; P109/51°

**Notes**

Site provides full 360° field of view. Pewee Falls is most prominent visual feature @ this location, so primary field of view is assumed to be SW toward falls.

**2. WATER RESOURCES**

Water Resource (circle one): reservoir creek/stream beach/sandy/gravel area  
Water Movement (circle one): none slow swift rapid falls  
Scale Contrast (circle one): small/minimal medium/moderate large/severe  
Spatial Dominance (circle one): subordinate co-dominate dominant  
Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form s line s color m texture

**Notes**

In scale, SW part of forebay reach of reservoir is largest element in view. Shoreline provides strong horizontal element, while falls creates strong vertical line, plus color contrast.

**3. LANDFORM**

Type (circle one): reservoir/water hills mountains other  
Scale Contrast (circle one): small/minimal medium/moderate large/severe  
Spatial Dominance (circle one): subordinate co-dominate dominant  
Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form w line m color m texture

**Notes**

Sheer rock cliffs on either side of the falls are a key visual feature. Similar bare rock areas on other slopes in this bay, mainly to right (N) of falls. Other steep, unvegetated slopes w/ erosion evident are also present, primarily E of falls.

**4. VEGETATION**

Shade Cover (circle one): 0-25 percent 26-50 percent 51-75 percent 76-100 percent  
Diversity (circle one): none little present substantial extensive  
Scale Contrast (circle one): small/minimal medium/moderate large/severe  
Spatial Dominance (circle one): subordinate co-dominate dominant  
Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line m color m texture

**Notes**

Shade cover is extensive on most slopes surrounding the reservoir; overall cover influenced by bare slopes and open water area. There are some trees falling into the water from this view, primarily b/ of erosion to east/south and N of the falls.

### 5. LAND/WATER USE AND STRUCTURES

Intensity (circle one): undeveloped rural urban  
Type (circle one): boating (water) hiking (land) resident industrial  
Structures (circle one): none/undeveloped few/low development moderately developed many/highly developed  
Scale Contrast (circle one): small/minimal medium/moderate large/severe  
Spatial Dominance (circle one): subordinate co-dominate dominant  
Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
none form none line none color none texture

**Notes**  
No evidence of human development noticeable @ this viewpoint, other than watercraft used by viewers or other boats on reservoir.

### 6. USER ACTIVITY

Degree (circle one): low moderate high  
Frequency (circle one): low moderate high  
Litter/Pollution (circle one): low moderate high  
Scale Contrast (circle one): small/minimal medium/moderate large/severe  
Spatial Dominance (circle one): subordinate co-dominate dominant

**Notes**  
Level of user activity on Boundary Reservoir overall is variable, but low to moderate depending on season, day of week, etc. Viewpoint is away from main traffic area somewhat; has low activity level overall.

### 7. OTHER CONSIDERATIONS

Smells (circle one in each pair):  
present absent  
dominant inconspicuous discordant harmonious  
Sounds (circle one in each pair):  
present absent  
dominant inconspicuous discordant harmonious  
Visibility (circle one on each line):  
screened partially screened panorama  
inferior normal superior

**Notes**  
Sounds - constant sounds from water running (falls), plus water lapping against the boat. Views to N & NE open, rest of field enclosed by slopes around the bay of reservoir.

### 8. OVERALL SCENIC INTEGRITY RATING

(Based on discussion in Chapter 2 and examples in Appendix H of the SMS Handbook)

Scenic Integrity Rating:  
\_\_\_\_\_ very high X high \_\_\_\_\_ moderate \_\_\_\_\_ low \_\_\_\_\_ very low \_\_\_\_\_ unacceptably low

**Notes**  
Landscape character dominates, deviations are not evident. (Eroded slopes are evident but not dominant, and would not likely be perceived as deviations by many viewers.)

**Boundary Hydroelectric Project  
Study 23 Aesthetic/Visual Resources  
Field Conditions Form**

Name: S. Brooks Date: 8/28/08 Time: 1118 Weather: cloudy; 50s Res. Elev. (ft): 1993.5 Forebay stage

**1. VIEWPOINT INFORMATION**  
 KOP No.: 11 KOP Name/Description: Boundary Reservoir Canyon Reach, Slate Creek Area  
 GPS No.: 017 GPS Reading: 11 4 475160 5419125 GPS Distance: 0.25 m from BLM campsite  
 Reference Points: Near Slate creek and BLM campsite  
 Photo No./Direction: P117/101°, P118/121°, P119/159°, P120/198°, P121/262°, P122/349°, P123/21°, P124/70°

**Notes**  
 Location offers full 360° field of view, but views are enclosed in all directions by slopes surrounding reservoir. There is no dominant feature that orients the view in a specific direction.

**2. WATER RESOURCES**  
 Water Resource (circle one): reservoir creek/stream beach/sandy/gravel area  
 Water Movement (circle one): none slow swift rapid falls  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line m color m texture

**Notes**  
 Reservoir surface is a prominent element in the view. Shoreline creates a noticeable horizontal line.

**3. LANDFORM**  
 Type (circle one): reservoir/water hills mountains other  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line m color m texture

**Notes**  
 Forested ridges surround site in all directions. Slopes are generally moderate for the canyon reach. View to NW (downstream) includes area of sheer, bare rock cliffs. Small eroded bank area on south shore.

**4. VEGETATION**  
 Shade Cover (circle one): 0-25 percent 26-50 percent 51-75 percent 76-100 percent  
 Diversity (circle one): none little present substantial extensive  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form w line m color m texture

**Notes**  
 Shade cover more than 75% on slopes surrounding the reservoir, open area around site. Vegetation is predominantly evergreen trees, some small areas of grass/forb cover near shoreline.

### 5. LAND/WATER USE AND STRUCTURES

Intensity (circle one): undeveloped rural urban  
 Type (circle one): boating (water) hiking (land) resident industrial  
 Structures (circle one): none/undeveloped few/low development moderately developed many/highly developed  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
w form w line m color w texture

**Notes**  
 Evidence of development in view is limited to a single dispersed campsite. Only "structure" present is a picnic table moved to site by users. Site can be recognized, but only from close offshore in small area of reservoir.

### 6. USER ACTIVITY

Degree (circle one): low moderate high  
 Frequency (circle one): low moderate high  
 Litter/Pollution (circle one): low moderate high  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant

**Notes** Study 21 indicated no observed use of dispersed site in 2007. Visitor observed @ site on day of observation. Only other user activity is occasional boat traffic.

### 7. OTHER CONSIDERATIONS

Smells (circle one in each pair):  
 present absent  
 dominant inconspicuous discordant harmonious  
 Sounds (circle one in each pair):  
present absent  
 dominant inconspicuous discordant harmonious  
 Visibility (circle one on each line):  
 screened partially screened panorama  
 inferior normal superior

**Notes**  
 Sounds incl. boat engine & water lapping against the boat. In freq. sounds from wind rustling leaves on trees. Also, can slightly hear water flowing from Everett Creek. Views blocked @ foreground or middle ground in all directions.

### 8. OVERALL SCENIC INTEGRITY RATING

(Based on discussion in Chapter 2 and examples in Appendix H of the SMS Handbook)

Scenic Integrity Rating:  
 \_\_\_\_\_ very high X high \_\_\_\_\_ moderate \_\_\_\_\_ low \_\_\_\_\_ very low \_\_\_\_\_ unacceptably low

**Notes**  
 Landscape character is clearly dominant and intact. Deviation represented by dispersed campsite is fairly evident w/in an extremely limited area. Based on full field of view, integrity is high.

**Boundary Hydroelectric Project  
Study 23 Aesthetic/Visual Resources  
Field Conditions Form**

Name: S Brooks Date: 8/28/08 Time: 6:15 PM Weather: partly sunny, 70s Res. Elev. (ft): 1991.0 USGS Auxiliary Gages

**1. VIEWPOINT INFORMATION**  
 KOP No.: 12 KOP Name/Description: Upper Boundary Reservoir, Metaline Pool  
 GPS No.: 019 GPS Reading: 11 4 471914 541117 GPS Distance: 0.25m to park  
 Reference Points: Approximately the middle of Metaline Pool  
 Photo No./Direction: P127/221°, P128/252°, P129/291°, P130/322°, P131/350°, P132/121°, P133/48°, P134/99°  
P135/149°, P136/181°

**Notes**  
 Full 360° view from KOP location. There is no dominant feature that naturally orients the view in a specific direction! Observation made late in day, w/ sun and deep shadows affecting westerly views.

**2. WATER RESOURCES**  
 Water Resource (circle one): reservoir creek/stream beach/sandy/gravel area  
 Water Movement (circle one): none slow swift rapid falls  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line m color m texture

**Notes**  
 Expanse of water in a wide area of the reservoir is a key component of view. Shorelines create noticeable horizontal element.

**3. LANDFORM**  
 Type (circle one): reservoir/water hills mountains other  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line w color w texture

**Notes**  
 Reservoir water and surrounding hills/mnts are co-dominant. Terrain characteristic of hills in most directions, but some more prominent ridges to the west.

**4. VEGETATION**  
 Shade Cover (circle one): 0-25 percent 26-50 percent 51-75 percent 76-100 percent  
 Diversity (circle one): none little present substantial extensive  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form w line m color m texture

**Notes**  
 Shade cover about 80% on slopes surrounding the reservoir area around viewpoint is open mix of evergreens and deciduous trees on slopes in undeveloped areas, planted trees in residential areas, low growing vegetation in some shoreline & island locations. Cleared patch on slope south of Metaline Falls is noticeable.

### 5. LAND/WATER USE AND STRUCTURES

Intensity (circle one): undeveloped rural urban  
 Type (circle one): boating (water) hiking (land) resident industrial  
 Structures (circle one): none/undeveloped few/low development moderately developed many/highly developed  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line m color m texture

#### Notes

Urban development, primarily residential, evident to w/sw (Met.) and NE (MF). Tall, light colored former elevator structure in MF is prominent to NE. Development in other directions (E, S, NW) limited to isolated structures.

### 6. USER ACTIVITY

Degree (circle one): low moderate high  
 Frequency (circle one): low moderate high  
 Litter/Pollution (circle one): low moderate high  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant

#### Notes

Sources of user activity incl. developed uses in the two towns, traffic on Hwy 31 and other rds, and boat traffic on reservoir. Distance from town & hwy reduces felt presence of user activity.

### 7. OTHER CONSIDERATIONS

Smells (circle one in each pair):  
present absent  
dominant inconspicuous discordant harmonious  
 Sounds (circle one in each pair):  
present absent  
 dominant inconspicuous discordant harmonious  
 Visibility (circle one on each line):  
 screened partially screened panorama  
 inferior normal superior

#### Notes

Smells - dank, musty odor of unknown origin, possibly organic in nature was present and dominant.  
 Sounds - intermittent sounds of trucks / brakes along hwy

### 8. OVERALL SCENIC INTEGRITY RATING

(Based on discussion in Chapter 2 and examples in Appendix H of the SMS Handbook)

Scenic Integrity Rating:

\_\_\_\_\_ very high \_\_\_\_\_ high X moderate \_\_\_\_\_ low \_\_\_\_\_ very low \_\_\_\_\_ unacceptably low

#### Notes

For the full field of view, the landscape character is dominant. Deviations are evident, primarily in views toward Met. and MF, but are not dominant even in those views.

**Boundary Hydroelectric Project  
Study 23 Aesthetic/Visual Resources  
Field Conditions Form**

Name: S. Brooks Date: 8/28/08 Time: 6:30 pm Weather: partly sunny, 70s Res. Elev. (ft): 1990.4 USGS Auxiliary Gage

**1. VIEWPOINT INFORMATION**  
 KOP No.: 13 KOP Name/Description: Upper Boundary Reservoir, Wolf Creek Area  
 GPS No.: 020 GPS Reading: 114 471374 5408566 GPS Distance: ~ 0.25 m to Hwy  
 Reference Points: mid-channel in the wolf creek area  
 Photo No./Direction: P138/269°, P139/319°, P140/10°, P141/22°, P142/62°, P143/98°, P144/152°, P145/179°, P146/232°

**Notes**  
 Full 360° view from KOP location. Most views to E and particularly W are cut off by slopes adjacent to reservoir. There is no dominant feature that naturally orients the view in a specific direction. Gravel bars on E side of channel & steep banks in W side are key features.

**2. WATER RESOURCES**  
 Water Resource (circle one): reservoir creek/stream beach/sandy/gravel area  
 Water Movement (circle one): none slow swift rapid falls  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form m line m color m texture

**Notes**  
 Reservoir surface is primary water resource feature, but gravel sand bars in the channel are also prominent. Western shore has stronger horizontal line compared to E bank (gravel bar area).

**3. LANDFORM**  
 Type (circle one): reservoir/water hills mountains other  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form w line m color w texture

**Notes**  
 Surrounding hills make landforms co-dominant w/ water. Eroded bank areas can be seen below Hwy 31 rd cut and nearby shoreline area to north.

**4. VEGETATION**  
 Shade Cover (circle one): 0-25 percent 26-50 percent 51-75 percent 76-100 percent  
 Diversity (circle one): none little present substantial extensive  
 Scale Contrast (circle one): small/minimal medium/moderate large/severe  
 Spatial Dominance (circle one): subordinate co-dominate dominant  
 Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
m form w line m color m texture

**Notes**  
 Shade cover about 75% on slopes surrounding the reservoir, some open area. Little diversity - appears to be a mix of evergreen and some deciduous trees. Grass/forb cover along part of E shoreline, some shrub cover and bare areas.

### 5. LAND/WATER USE AND STRUCTURES

Intensity (circle one): undeveloped ural urban  
Type (circle one): boating (water) hiking (land) resident industrial  
Structures (circle one): none/undeveloped few/low development moderately developed many/highly developed  
Scale Contrast (circle one): small/minimal medium/moderate large/severe  
Spatial Dominance (circle one): subordinate co-dominate dominant  
Characteristic Landscape Description (Select: strong, moderate, weak, or none):  
w form w line m color w texture

#### Notes

One residence tucked in trees, visible to E; may be others visible under better lighting. Hwy 31 and steep rd. cut evident, and power lines paralleling the road.

### 6. USER ACTIVITY

Degree (circle one): low moderate high  
Frequency (circle one): low moderate high  
Litter/Pollution (circle one): low moderate high  
Scale Contrast (circle one): small/minimal medium/moderate large/severe  
Spatial Dominance (circle one): subordinate co-dominate dominant

#### Notes

Evidence of user activity is primarily from Hwy 31. Distance separation reduces influence of heavy traffic.

### 7. OTHER CONSIDERATIONS

Smells (circle one in each pair):  
present absent  
dominant inconspicuous discordant harmonious  
Sounds (circle one in each pair):  
present absent  
dominant inconspicuous discordant harmonious  
Visibility (circle one on each line):  
screened partially screened panorama  
inferior normal superior

#### Notes

Smells - unknown odor, possibly organic in nature  
Sounds - can hear freq noise of trucks and cars along the hwy.  
Views cut off at foreground distance in most directions by slopes adjacent to river

### 8. OVERALL SCENIC INTEGRITY RATING

(Based on discussion in Chapter 2 and examples in Appendix H of the SMS Handbook)

Scenic Integrity Rating:  
           very high            high   X   moderate            low            very low            unacceptably low

#### Notes

Natural landscape character dominates over deviations in most of field of view. Deviations are prominent in one direction (SW toward Hwy 31), and slightly evident to E. with enclosed views & evident deviations, overall integrity is on the high side of moderate.

## **Appendix 2: Key Observation Point Supplemental Photographs**





**Figure A.2-1.** Forebay Recreation Area views.

Figure A.2-1, continued...



Figure A.2-1, continued...

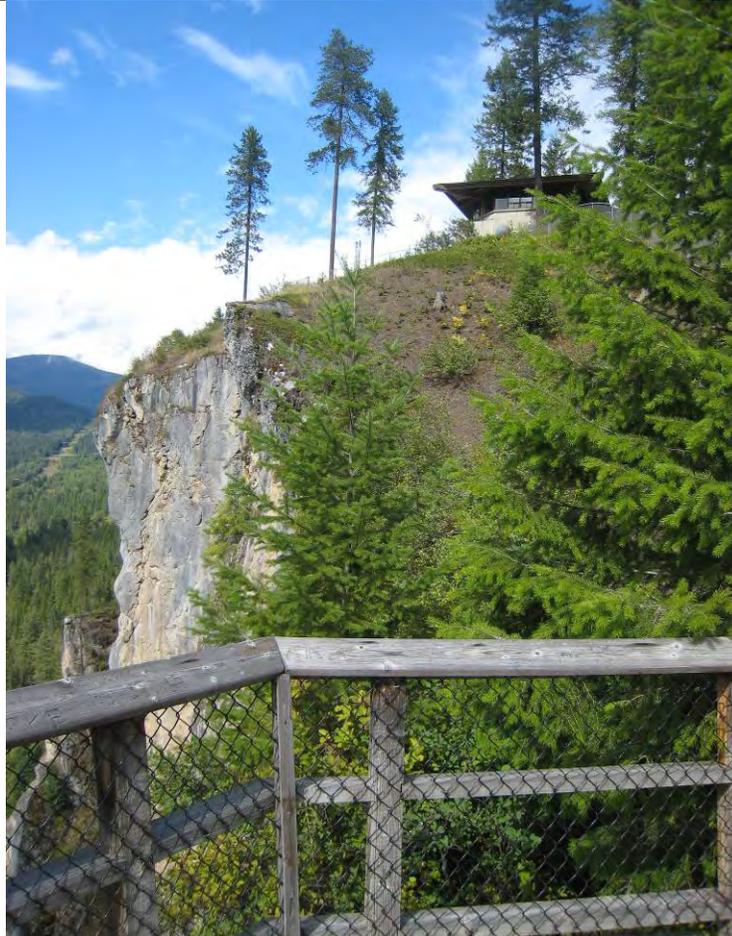




**Figure A.2-2.** Tailrace Recreation Area views.

Figure A.2-2, continued...





**Figure A.2-3.** Vista House views.

Figure A.2-3, continued...





**Figure A.2-4.** BLM Boundary Recreation Area views.

Figure A.2-4, continued...





Figure A.2-5. Metaline Waterfront Park views.

Figure A.2-5, continued...





**Figure A.2-6.** North Pend Oreille Scenic Byway Metaline Falls Viewpoint.

Figure A.2-6, continued...





**Figure A.2-7.** North Pend Orellie Scenic Byway Eagle Nest Viewpoint.

Figure A.2-7, continued...





Figure A.2-8. Campbell Park at Box Canyon Dam views.

Figure A.2-8, continued...





**Figure A.2-9.** Boundary Reservoir Forebay views.

Figure A.2-9, continued...





**Figure A.2-10.** Pewee Falls.

Figure A.2-10, continued...



Figure A.2-10, continued...





**Figure A.2-11.** Boundary Reservoir Canyon Reach views.

Figure A.2-11, continued...





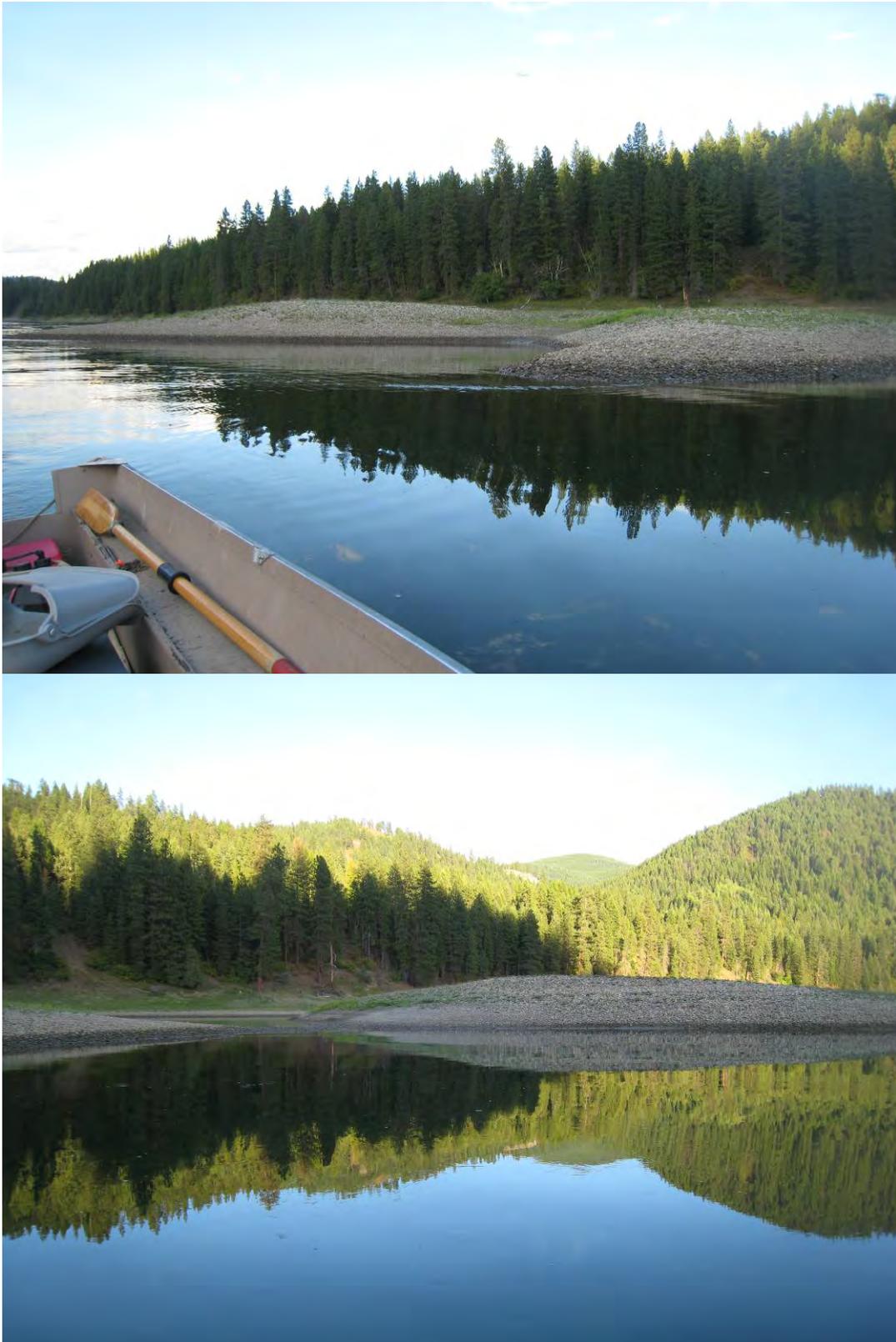
**Figure A.2-12.** Upper Boundary Reservoir Metaline Pool views.

Figure A.2-12, continued...



Figure A.2-12, continued...





**Figure A.2-13.** Upper Boundary Reservoir Wolf Creek area views.

Figure A.2-13, continued...



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