

**RA-01 RECREATION USE AND FACILITY  
ASSESSMENT INTERIM REPORT**

**SKAGIT RIVER HYDROELECTRIC PROJECT  
FERC NO. 553**

**Seattle City Light**

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HDR Engineering, Inc.**

**March 2022  
Initial Study Report**

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**List of Attachments**

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Attachment A	Study Area Mapbook
Attachment B	Representative Photographs of Recreation Facilities Taken During Physical Inventory in September 2021

## **List of Acronyms and Abbreviations**

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ABA .....	Architectural Barriers Act
ADA .....	Americans with Disabilities Act
City Light .....	Seattle City Light
ELC .....	Environmental Learning Center
FERC .....	Federal Energy Regulatory Commission
ft .....	feet/foot
GPS .....	Global Positioning System
ISR .....	Initial Study Report
LP .....	licensing participant
NAVD 88 .....	North American Vertical Datum 1988
NCI .....	North Cascades Institute
NPS .....	National Park Service
OHV .....	off-highway vehicle
ORAR .....	outdoor recreation access route
PAD .....	Pre-Application Document
Project .....	Skagit River Hydroelectric Project
QA/QC .....	quality assurance/quality control
RD .....	recreation days
RLNRA .....	Ross Lake National Recreation Area
RSP .....	Revised Study Plan
SPD .....	Study Plan Determination
SR .....	State Route
USFS .....	U.S. Forest Service
USR .....	Updated Study Report

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## 1.0 INTRODUCTION

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The RA-01 Recreation Use and Facility Assessment (Recreation Assessment) is being conducted in support of the relicensing of the Skagit River Hydroelectric Project (Project), Federal Energy Regulatory Commission (FERC) No. 553, as identified in the Revised Study Plan (RSP) submitted by Seattle City Light (City Light) on April 7, 2021 (City Light 2021). On June 9, 2021, City Light filed a “Notice of Certain Agreements on Study Plans for the Skagit Relicensing” (June 9, 2021 Notice)<sup>1</sup> that detailed additional modifications to the RSP agreed to between City Light and supporting licensing participants (LP) (which include the Swinomish Indian Tribal Community, Upper Skagit Indian Tribe, National Marine Fisheries Service, National Park Service [NPS], U.S. Fish and Wildlife Service, Washington State Department of Ecology, and Washington Department of Fish and Wildlife). The June 9, 2021 Notice proposed no changes to the Recreation Assessment as described in the RSP.

In its July 16, 2021 Study Plan Determination (SPD), FERC approved the Recreation Assessment with modifications. Specifically, FERC recommended City Light modify the methods and study sites related to the trail accessibility evaluation and the visitor and observation survey portions of the study, including:

- Trail accessibility evaluation SPD modifications:
  - Evaluating the entire Diablo to Ross Lake portage route in lieu of assessing the accessibility of Ross Dam Trail.
  - Examining the ability of trailhead signs to effectively communicate trail conditions (i.e., level of difficulty) to the public and note where no signage exists.
- Visitor and observation survey SPD modifications:
  - Adding Marble Creek Campground, Newhalem Creek Campground, and Canyon Creek Trailhead as visitor survey study sites.
  - Removing observation counts at the East Bank Trailhead, Diablo Overlook, and Newhalem picnic sites.<sup>2</sup>
  - Adding trail use counters on the East Bank Trail at the terminus near Hozomeen Campground and near Roland Point; calibrate counters for five, 1-hour periods between Memorial Day and Labor Day; consult with the Nlaka’pamux Council, the Nlaka’pamux Coalition, and other interested LPs regarding the appropriate location of the counters to capture trail use in the vicinity of culturally sensitive areas.
  - Following the block sampling protocol and sampling frequencies as recommended by the agencies but conducting observation counts every hour over a 4-hour period per survey day.
  - Using three survey sampling areas (Ross Lake [including Canyon Creek Trailhead], Diablo and Gorge lakes, and the Skagit River downstream of Gorge Powerhouse), each area with

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<sup>1</sup> Referred to by FERC in its July 16, 2021 Study Plan Determination as the “updated RSP.”

<sup>2</sup> NPS and the U.S. Forest Service recommended removing the observation counts at these sites in their RSP comment letters.

a target of 384 responses or 1,152 responses total, with at least 192 survey responses from the peak and off-peak seasons.

- Using the visitor survey instrument with a map proposed by NPS and U.S. Forest Service (USFS), with a modification to Question 4 for respondents to identify their preferred campgrounds.

City Light is implementing the Recreation Assessment as proposed in the RSP, with the additional modifications included in the SPD.

This is an interim report for the 2021 study efforts and is being filed with FERC as part of City Light's Initial Study Report (ISR). Notably, this interim report includes results for the first step of the Recreation Assessment—the inventory and evaluations of existing recreation facilities. The 2022 study effort will consist of the remaining steps, including: (1) identifying recreation uses and visitor attitudes, beliefs, and preferences (i.e., visitor surveys, observation counts, trail use counts); (2) estimating current recreation use at recreation resource areas; (3) identifying future recreation use and demand opportunities; and (4) data analysis and preparation of the study report for the Updated Study Report (USR). City Light will complete these remaining tasks in 2022, with results included in the USR.

## 2.0 STUDY GOALS AND OBJECTIVES

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The goals of this study are to determine: (1) the condition, accessibility, and use impacts of study area recreation facilities; (2) the preferences, attitudes, and characteristics of the study area's recreation users (3) current study area recreation use and activities; and (4) future demand for study area recreation facilities and opportunities. The objectives for each of the goals is described below.

### Goal 1 Objectives (Determine the Condition, Accessibility, and Impacts of Project Facilities)

- Determine the condition of the Project recreation facilities.
- Evaluate accessibility at select study area recreation facilities.
- Inventory select study area recreation facilities and trails and document recreational use and access impacts (e.g., erosion, user-created trails, trash/waste disposal, etc.).
- Evaluate the usable periods of the Gorge Lake Boat Launch ramp.

### Goal 2 Objectives (Determine the Preferences, Attitudes, and Characteristics of the Study Area's Recreation Users)

- Describe recreation visitors and their trip characteristics, including seasonality and access routes, by recreation facility and type of user (anglers, boaters, campers, hikers, etc.).
- Describe user preferences and expectations at recreation facilities, including water surface elevation; level and quality of interpretation and posted information; and condition of recreation facilities.
- Identify any recreation issues such as safety, conflicts, and crowding.
- Describe recreation visitors' activities (including primary activity and all activities engaged in while visiting) at recreation facilities.
- Describe recreation visitors' socio-demographic characteristics.
- Describe recreation visitors' access experience and any potential barriers to participation in recreation activities.

### Goal 3 Objectives (Current Study Area Recreation Use and Activities)

- Identify the amount, activity type, and spatial and temporal distribution of existing and desired recreation use within the study area and, where reasonable and possible, describe historical recreation use trends within this area.
- Identify the current facility capacity/occupancy of study area recreation facilities.
- Identify recreation opportunities within the study area that may have unmet demand.
- Identify potential constraints or barriers to recreation use.
- Assess the regional uniqueness and relative significance of the study area's primary recreation opportunities.

Goal 4 Objectives (Future Demand for Activities)

- Roughly estimate future recreation demand within the study area through the term of the new license (30 to 50 years).

### **3.0 STUDY AREA**

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The study area includes the lands and waters within and adjacent to the Project Boundary at Ross Lake, Diablo Lake, and Gorge Lake, the towns of Newhalem and Diablo, and the Skagit River from the town of Newhalem downstream to Marblemount. Refer to the maps in Attachment A of this study report showing the study area and specific study sites.

The Project is unique given its location within the Ross Lake National Recreation Area (RLNRA) and North Cascades National Park. Because of this unique situation and the existing partnerships that City Light has with NPS and USFS in co-managing many of the recreation resources within and adjacent to the Project Boundary, City Light has included up to 50 additional study sites (depending upon the study element) in the study area at the request of NPS, USFS, and other LPs and per FERC's SPD. City Light does not consider these additional study sites (distinguished in the study site tables for each study element in Section 4.1 of this study report) to be Project recreation facilities. However, City Light has and will collect study information for these non-Project recreation facility study sites in this study to provide information on recreation use in the Project vicinity.

## **4.0 METHODS**

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This study consists of six elements, including:

- (1) An inventory and evaluation of study area recreation facilities for condition, accessibility compliance, facility capacity, and/or use impacts, as well as an assessment of the usable periods of the Project's developed boat launch (i.e., Gorge Lake Boat Launch);
- (2) Identifying recreation uses and visitor attitudes, beliefs, and preferences at study area recreation facilities;
- (3) Estimating the current recreation use at study area recreation resource areas;
- (4) Identifying future use and demand opportunities;
- (5) A quality assurance/quality control (QA/QC) review and data entry of visitor and observation survey data; and
- (6) Analyzing the data and preparing the report.

The methodology for each of these elements is described below. Notably, City Light has not implemented the study methods detailed in Sections 4.2 through 4.5 of this study report. City Light will complete these remaining tasks in 2022 with results included in the USR.

### **4.1 Inventory and Evaluate Existing Recreation Facilities**

This study element includes an inventory of the Project recreation facility study sites and evaluation of the condition of each site amenity (tables, restrooms, parking areas, other structures, etc.) at Project recreation facilities; whether each facility complies with current applicable accessibility guidelines; and an assessment of recreation access and use impacts at all Project recreation facilities and select non-Project recreation facilities. City Light will evaluate the usable periods of the Gorge Lake Boat Launch ramp in 2022 and results will be included in the study report to be included in the USR.

City Light inventoried and evaluated the study sites identified in Table 4.1-1 and displayed on the maps in Attachment A of this study report. Table 4.1-1 also identifies the specific types of evaluations that City Light conducted at each facility as not all the evaluations applied to each facility.

#### **4.1.1 Inventory Recreation Facilities**

City Light inventoried the number and type of recreation facilities at the recreation facilities listed in Table 4.1-1. For trail study sites in Table 4.1-1, City Light inventoried the facilities associated with the trailhead and not the trail, except where trail assessments are specifically indicated in Table 4.1-1. Photographs were taken as appropriate as either a representative photograph of similar facilities or of each one-of-a-kind facility. Facilities of interest included picnic sites, campsites, restrooms, parking areas/spaces, boat launch, and recreation signs. This inventory informs the site capacity for study area recreation facilities (e.g., parking capacity, etc.).

**Table 4.1-1. Study area recreation facilities inventoried and evaluated for condition, accessibility compliance, and use impacts.**

Resource Area	Land Management	Facility Type	Recreation Facility Name	Type of Evaluation				
				Inventory	Condition	Accessibility	Use Impact	Trail Accessibility
Ross Lake	Federal (NPS)	Non-Project	Hozomeen Campground			X	X	
	Federal (NPS)	Non-Project	Hozomeen Boat Launch			X	X	
	Federal (NPS)	Non-Project	Winnebago Flats Campground			X	X	
	Federal (NPS)	Non-Project	Winnebago Flats Boat Launch			X	X	
	Federal (NPS)	Non-Project	Hozomeen Lake Trailhead			X	X	
	Federal (NPS)	Non-Project	Ross Lake Boat-in Campsites			X	X	
	Federal (NPS)	Non-Project	Ross Dam Trailhead			X	X	X
	Federal (NPS)	Non-Project	East Bank Trailhead				X	
	Federal (NPS)	Non-Project	Happy Panther Trail					X
Diablo Lake	Federal (NPS)	Project	Skagit Tour Dock	X	X	X	X	
	Federal (NPS)	Project	Diablo Dam parking area	X	X	X	X	
	Federal (NPS)	Project	West Ferry Landing	X	X	X	X	
	Federal (NPS)	Project	East Ferry Landing	X	X	X	X	
	Federal (NPS)	Project	North Cascades Environmental Learning Center (ELC) parking area	X			X	
	Federal (NPS)	N/A	Diablo Lake to Ross Lake Portage Route <sup>1</sup>			X		X
	Federal (NPS)	Non-Project	Diablo Overlook			X	X	
	Federal (NPS)	Non-Project	Colonial Creek Campground			X	X	
	Federal (NPS)	Non-Project	Colonial Creek Boat Launch and Fishing Pier			X	X	
	Federal (NPS)	Non-Project	Diablo Lake Boat-in Campsites			X	X	
	Federal (NPS)	Non-Project	Thunder Knob Trail			X	X	X
	Federal (NPS)	Non-Project	Thunder Creek Trail <sup>2</sup>			X	X	X
	Federal (NPS)	Non-Project	Diablo Lake Trail			X	X	X
Gorge Lake	City Light	Project	Ross Lodge Picnic Shelter	X	X	X	X	
	Federal (NPS)	Non-Project	Sourdough Mountain Trail				X	
	Federal (NPS)	Non-Project	Stetattle Creek Trail				X	

Resource Area	Land Management	Facility Type	Recreation Facility Name	Type of Evaluation				
				Inventory	Condition	Accessibility	Use Impact	Trail Accessibility
	Federal (NPS)	Non-Project	Diablo Dam Trail			X	X	X
	Federal (NPS)	Non-Project	Gorge Lake Campground			X	X	
	City Light	Project	Gorge Lake Boat Launch	X	X	X	X	
	Federal (NPS)	Non-Project	Gorge Creek Overlook			X	X	X
Newhalem	Federal (NPS)	Project	Ladder Creek Falls Trail and Gardens	X	X			
	Federal (NPS)	Project	Trail of the Cedars	X	X			X
	City Light	Project	Gorge Powerhouse parking area	X	X	X	X	
	City Light	Project	Gorge Powerhouse Visitor Gallery	X				
	City Light	Project	Skagit Information Center	X				
	City Light	Project	Gorge Inn Museum	X				
	City Light	Project	Newhalem Picnic Sites	X	X	X	X	
	City Light	Project	Newhalem Main Street parking area	X	X	X	X	
	City Light	Project	Newhalem State Route (SR) 20 parking area	X	X	X	X	
	City Light	Project	Newhalem Interpretive Displays	X	X	X	X	
	City Light	Project	Newhalem Playground	X	X	X	X	
Skagit River	Federal (NPS)	Non-Project	Goodell Creek Campground			X	X	
	Federal (NPS)	Non-Project	Goodell Creek Boat Launch			X	X	
	Federal (NPS)	Non-Project	Damnation Creek Boat-in Picnic Site			X	X	
	Federal (NPS)	Non-Project	Copper Creek Boat Access Site			X	X	
	Federal (USFS)	Non-Project	Marblemount Boat Launch			X	X	

1 Per FERC's Study Plan Determination, FERC directed City Light to assess the Diablo Lake to Ross Lake portage route.

2 The study segment is the 1.6-mile segment from Colonial Creek Campground to the Fourth of July Trail junction, which parallels the Thunder Creek arm of Diablo Lake. Beyond this junction, the trail leads another 18 miles away from the Project/Ross Lake.

### 4.1.2 Facility Condition Assessment

City Light conducted a qualitative assessment of the condition of developed recreation facilities and signs at each of the study sites in Table 4.1-1. For trail study sites in Table 4.1-1, City Light assessed the condition of the facilities associated with the trailhead and not the trail. The assessment categories are poor, fair, good, and excellent condition. Table 4.1-2 identifies the evaluation criteria used for each recreation facility amenity.

**Table 4.1-2. Facility condition evaluation categories and criteria.**

Condition Rating and Description	Examples of Condition by Facility Type			
	Vehicle Parking (surfacing on vehicle parking areas)	Recreation Site Amenities (tables, boat ramps, docks, trails, etc.)	Recreation Site Buildings (public restrooms/ structures)	Signs (Project/recreation signs)
<b>Poor (1)</b> All or most facilities are in disrepair and need of immediate replacement; conditions create safety hazards and impair function; little evidence of recent maintenance.	Widespread areas of cracking; eroding edges; potholes; visible subgrade.	Splitting or rotten boards or planks; missing bolts or fasteners; overgrown or impassable trail tread; rutted or eroded trail surface.	Rot; leaks; sagging roofs; holes in exterior.	Signs do not exist; sign panels are bent/broken; posts or supports are broken; holes in panels.
<b>Fair (2)</b> Need for improved maintenance and repair in <u>some</u> areas; no major safety concerns; repairs should be made but are not needed immediately.	Limited areas of cracking; eroding edges; potholes; striping faded or lacking; curbs/wheel stops missing or damaged.	Loose bolts or boards; rusted or bent grills; dock boards loose; dock floatation or anchoring in disrepair; signs of vegetation encroaching; some trail tread erosion.	Surfaces need painting; roof shingles need replacement or repair; inoperable lock; door hinge in disrepair.	Sign panels faded; loose bolts or posts; some text not readily legible.
<b>Good (3)</b> All facilities in good condition and well maintained; no significant signs of disrepair or aging.	Surfacing still consistent and intact; striping visible but slightly faded; no cracking or potholes.	Materials clearly not new but fully operable (e.g., boards and planking secure; no signs of damage observed; clear trail tread; no vegetation encroachment).	Minor signs of weathering but in functional condition; facilities operable and only need minor maintenance.	Minor signs of weathering but fully intact, legible, and secure.
<b>Excellent (4)</b> All facilities are new, near new, or recently reconditioned and well maintained.	Newly surfaced or resurfaced with clear striping.	New materials; newly built or restored trail surface with clearly defined vegetation clearances.	Newly installed or reconditioned structure.	New sign panels and posts.

City Light identified the individual condition ratings for each site amenity within a facility as well as an overall facility rating. City Light developed the overall facility rating by summing the total of each of the site amenities at each facility, adjusting for when a facility has limited features or lacks one or more of the types of facilities outlined in Table 4.1-2.

City Light categorized the overall facility condition using the rating scale and categories (which correlate with the general rehabilitation timeframes) set forth in Table 4.1-3. These general rehabilitation timeframes are not rigid and are intended to be guidelines. The purpose of these general rehabilitation timeframes is to understand where Project recreation facilities rank in terms of overall condition and rehabilitation priority.

**Table 4.1-3. Overall facility condition evaluation categories, rating score, and general rehabilitation timeframes.**

Overall Facility Condition Rating Category	Overall Facility Condition Evaluation Rating Score	General Rehabilitation Timeframe
Poor	1 to 3	Immediate
Fair	4 to 6	Within 5 Years
Good	7 to 10	5 to 10 Years
Excellent	11 to 13	More than 10 Years

### 4.1.3 Accessibility Compliance Assessment

City Light assessed the developed recreation facilities identified in Table 4.1-1 for consistency with current accessibility guidelines. For the recreation facilities located on City Light land and constructed using City Light funds, City Light used the 2010 Americans with Disabilities Act (ADA) Standards for Accessible Design for public accommodations (U.S. Department of Justice 2010). For the recreation facilities located on federal lands, City Light used the 2015 Architectural Barriers Act (ABA) Standards (U.S. Access Board 2015).

For trail study sites in Table 4.1-1, City Light assessed the accessibility of the facilities associated with the trailhead and where they exist (and not the trail). See Section 4.1.4 of this study report for methods to qualitatively assess the accessibility potential for selected trails identified in Table 4.1-1. Per FERC's SPD, City Light included an assessment of whether trailheads or trails had a trail conditions sign that identified and rated the overall trail difficulty and constraining trail conditions.

City Light evaluated each facility against these above standards and then utilized a rating system that categorized the level of accessibility at each facility. City Light used the following three ratings: inaccessible, partially accessible, and fully accessible. City Light assigned a rating using the evaluation criteria in Table 4.1-4.

**Table 4.1-4. Level of accessibility compliance rating system and categories.**

Accessibility Rating System and Categories		
Inaccessible (0)	Partially Accessible (1)	Accessible (2)
Little or no consideration for accessibility. Clearly not in compliance with current ADA or ABA standards.	Some accessible facilities, but in disrepair or not up to current ADA or ABA standards (e.g., slopes too steep, docks inaccessible, etc.).	High quality of accessibility. Facilities appear fully consistent with current ADA or ABA standards.

#### 4.1.4 Qualitative Trail Accessibility Assessment

City Light qualitatively assessed eight trails, including one Project trail (Trail of the Cedars) and seven non-Project trails (Ross Dam Trail, Happy Panther Trail, Thunder Knob Trail, Thunder Creek Trail, Diablo Lake Trail, Diablo Dam Trail, and Gorge Creek Overlook Trail), where additional information was needed to understand the potential to provide enhanced accessible trail access. In addition, in FERC's SPD, FERC recommended City Light assess the Diablo Lake to Ross Lake portage route. Notably, the portage route is not a developed trail, but rather consists of a variety of facilities and features that transport visitors from Diablo Lake to Ross Lake.

As such, City Light qualitatively assessed the eight developed recreation trails and the Diablo Lake to Ross Lake portage route to characterize the general opportunities and constraints to making future accessibility improvements. City Light assessed the running slope, cross slope, tread obstacles (e.g., rocks, roots), trail width, trail surface material and compaction, and connection to parking and trailhead facilities, among other connections, and summarized the overall constraints and barriers for each trail in Table 4.1-1. City Light also photographed representative conditions and notable constraints or barriers during the field assessments.

#### 4.1.5 Recreation Use Impact Assessment

City Light assessed the recreation use impacts at each of the study sites identified in Table 4.1-1. For trail study sites in Table 4.1-1, City Light assessed the use impacts of the facilities associated with the trailhead only and not the trail. The recreation use impact at each facility is categorized as low, moderate, or high depending on the amount and dispersion of use impact evidence (Table 4.1-5). Evidence of use impact typically include the presence of litter, dumping, tree cutting, inadequate vegetation clearances around fire pits/rings, visible off-highway vehicle (OHV) use/tracks, trampled vegetation, erosion, human waste, toilet paper, etc.

**Table 4.1-5. Recreation use impact assessment rating system and categories.**

Use Impact Rating System and Categories		
Low (0)	Moderate (1)	High (2)
Few if any evidence of use impact is observed at each site.	Several signs/evidence of use impact but not extensive or widespread impacts.	Extensive evidence of use impact; widespread use with many impacts evident.

In some instances, selecting a single impact category may not be practical and as a result the impact level may span two categories (e.g., low-to-moderate or moderate-to-high). This broader categorization may be used when a facility has satellite areas where impact conditions vary significantly from most of the facility.

City Light will provide the impact assessment form data in Microsoft Excel form to LPs upon request.

#### 4.1.6 Gorge Lake Boat Launch Ramp Assessment

City Light identified the constructed top and lower end of the Gorge Lake Boat Launch ramp to determine its functional water surface elevation vertical range. The Gorge Lake Boat Launch ramp

is considered functional from the constructed top of the boat ramp down to 3 feet (ft) above the lower end of the constructed ramp.

City Light will identify the usable periods of the Project's developed boat ramp at the Gorge Lake Boat Launch facility in 2022. City Light will use the output from the OM-01 Operations Model Study (City Light 2022) to compare the daily median reservoir water surface elevation for the period of record to the functional water surface elevation range of the ramp to identify the periods of the recreation season (April through October) that the boat ramp is usable. The output of this assessment will be tables and/or figures that identify the usable period for the Gorge Lake Boat Launch ramp that will be included in the study report in the USR.

## **4.2 Identify Recreation Uses and Visitor Attitudes, Beliefs, and Preferences**

City Light will conduct observations and visitor surveys in 2022 to gather information to address the study goals, objectives, and issues at each of the study sites as outlined in City Light's RSP and FERC's SPD. The study sites for this element of the study include both Project and non-Project recreation facilities.

City Light will conduct the observation and visitor surveys directly at the study site's use areas where visitors are observed (i.e., parking areas, picnic areas, fishing piers, boat launch ramps, docks, shoreline access areas, etc.). City Light will generally observe the overall use patterns at each site during each survey day. City Light will also conduct visitor surveys and record observation use counts where City Light observes overflow use and use in areas immediately adjacent (i.e., within approximately 200 yards) to the formal study sites if City Light is not able to correlate the use area/uses to an adjacent non-study site facility or use (i.e., neighboring trailhead, parking area, campground, residence, etc.). Refer to the Attachment A for maps of the study sites.

### **4.2.1 Observation Survey**

At the study sites listed in Table 4.2-1, City Light will conduct a 4-hour block sampling protocol with a spot count every hour over the 4-hour period (approximately from 8 a.m. to 12 p.m. or 12 p.m. to 4 p.m.) during each visit to a study site. City Light surveyors will seek out visitors and secure numerous visitor surveys during the time in between the spot counts during each visit. As discussed below in the Sampling Frequency section, City Light will conduct a roving use survey using a stratified two-stage (geographic and temporal) probability sampling approach (Malvestuto 1996; Pollock et al. 1994). City Light surveyors will be visiting each study site at different times on each successive survey day, as feasible given the 4-hour block sampling protocol methodology, to provide a range of observations/spot count times over the entire survey period, which will allow City Light to summarize uses at different times of the day (i.e., morning, midday, and afternoon).

During the hourly observation surveys, the City Light surveyors will count and record the following date, facility, and use parameters as observed from each study site.

- Date;
- Time observation started and ended;
- Location/study site;
- General weather conditions (sunny, partly cloudy, cloudy, rain/snow);

- Observed vehicles (single vehicle);
- Observed vehicles with trailers;
- Observed trailers (no vehicle);
- Observed docked boats (as visible from the study site);
- Observed people;
- Observed types of shoreline recreation activities (as visible from the study site);
- Observed types of reservoir/water-based recreation activities/watercraft (if reservoir/water views exist; as visible from the study site); and
- Observed user conflicts or issues.

Observations will be made and recorded by facility to include parking outside provided parking areas. This data will be used to identify the types of recreation activities visitors participate in in the study area. In addition, this data will also be used to calculate aspects of the study area recreation use estimates (see Section 4.3 of this study plan). In between the hourly spot counts, the surveyor will administer on-site recreation visitor questionnaire surveys to randomly selected recreation visitors (see Section 4.2.1).

#### **4.2.2 Visitor Survey**

At the study sites listed in Table 4.2-2, City Light will administer visitor surveys during each visit to a study site on each survey day. The visitor survey will collect visitor perceptions, attitudes, and satisfaction levels on current resource conditions (e.g., recreation facilities, recreation use levels, and users' feedback on lake elevations relative to their recreation experience), visitors' zip codes, user characteristics, recreation activities, management concerns, and overall recreation experiences. Non-response bias will also be collected during visitor survey collection, whereby City Light's surveyor will collect the following information from visitors who refuse to complete the survey: reason, observed activity, gender, and age (if possible). For all survey efforts, the number of refusals will be recorded. The visitor survey at the study area recreation facilities will be administered as an on-site, in-person survey as the first option, but will also utilize a mail-back windshield survey at study area recreation facilities if needed to meet the target number of surveys in instances where visitors are not readily available. City Light will number each survey in order to track both on-site response and mail-back response rates. If City Light determines an inadequate number of on-site surveys are being obtained, City Light may adjust the survey plan in order to increase the number of on-site surveys and limit the number of mail-back windshield surveys.

Table 4.2-1. Study areas and sites for the observation survey (use spot count).

Resource Area	Land Management	Facility Type	Project or Non-Project Facility	Recreation Facility/Study Site	Observation Survey Location	Comments
Ross Lake	Federal (NPS)	Day use	Non-Project	Hozomeen Boat Launch	▪ Parking area	
	Federal (NPS)	Day use	Non-Project	Winnebago Flats Boat Launch	▪ Parking area	
	Federal (NPS)	Day use	Non-Project	Ross Dam Trail	▪ Trailhead parking area	
	Federal (NPS)	Day use	Project	Skagit Tour Dock	▪ Parking area	
	Federal (NPS)	Day use	Project	West Ferry Landing	▪ Parking area	
Diablo Lake	Federal (NPS)	Day use <sup>1</sup>	Project	North Cascades Environmental Learning Center (ELC) / Diablo Lake Trailhead	▪ Parking area ▪ Shoreline	Parking specific to Diablo Lake Trail does not exist (part of the ELC parking area)
	Federal (NPS)	Day use	Project	Diablo Dam Parking Area	▪ Roadside parking area	
	Federal (NPS)	Day use	Non-Project	Colonial Creek Boat Launch and Fishing Pier	▪ Parking area ▪ Dock ▪ Fishing pier	
	Federal (NPS)	Day use	Non-Project	Thunder Knob Trailhead	▪ Trailhead parking area	Located along SR 20
	Federal (NPS)	Day use	Non-Project	Thunder Creek Trailhead	▪ Trailhead parking area	Located within Colonial Creek Campground
Gorge Lake	City Light	Day use	Project	Ross Lodge Picnic Shelter	▪ Picnic shelter	
	City Light	Day use	Project	Gorge Lake Boat Launch	▪ Parking area	
	Federal (NPS)	Day use	Non-Project	Gorge Overlook	▪ Parking area	
	Federal (NPS)	Day use	Non-Project	Sourdough Mountain Trailhead	▪ Trailhead parking area	
	Federal (NPS)	Day use	Non-Project	Diablo Dam Trailhead	▪ Trailhead parking area	
Newhalem	Federal (NPS)	Day use	Project	Newhalem Parking Areas	▪ Main Street parking area ▪ SR 20 parking area	
	Federal (NPS)	Day use	Project	Gorge Powerhouse	▪ Parking area	
Skagit River	Federal (NPS)	Day use	Non-Project	Goodell Creek Boat Launch	▪ Parking area	
	Federal (USFS)	Day use	Non-Project	Marblemount Boat Launch	▪ Parking area	

1 The North Cascades Environmental Learning Center (ELC) also provides some overnight programs.

Table 4.2-2. Survey areas, study sites, and specific locations for the visitor survey.

Visitor Survey Area	Resource Area	Land Management	Facility Type	Project or Non-Project Facility	Recreation Facility/Study Site	Specific Visitor Survey Locations	Target Number of Surveys	Comments
Ross Lake Survey Area	Ross Lake	Federal (NPS)	Overnight	Non-Project	Hozomeen Campground	▪ Campsites	384 surveys	
		Federal (NPS)	Day use	Non-Project	Hozomeen Boat Launch	▪ Parking area ▪ Launch ramp/dock		
		Federal (NPS)	Overnight	Non-Project	Winnebago Flats Campground	▪ Campsites		
		Federal (NPS)	Day use	Non-Project	Winnebago Flats Boat Launch	▪ Parking area ▪ Launch ramp/dock		
		Federal (NPS)	Overnight	Non-Project	Ross Lake Boat-in Campsites	▪ Indirectly via reservoir access study sites		
		Federal (NPS)	Day use	Non-Project	Ross Dam Trailhead	▪ Parking area ▪ Ross Lake Resort dock		
		Federal (NPS)	Day use	Non-Project	East Bank Trailhead	▪ Parking area		
		Federal (USFS)	Day use	Non-Project	Canyon Creek Trailhead	▪ Parking area		
		Federal (NPS)	Day use	Project	Ferry Landings	▪ Parking area ▪ Docks		Located on Diablo Lake but the ferry primarily provides visitors access to Ross Lake
Diablo/Gorge Lake Survey Area	Diablo Lake	Federal (NPS)	Day use <sup>1</sup>	Project	North Cascades Environmental Learning Center (ELC) / Diablo Lake Trailhead	▪ Parking area	384 surveys	Parking for the Diablo Lake Trail is part of the ELC parking area
		Federal (NPS)	Day use	Project	Diablo Dam Parking Area	▪ Roadside parking area		
		Federal (NPS)	Day use	Non-Project	Diablo Overlook	▪ Parking area		
		Federal (NPS)	Overnight	Non-Project	Colonial Creek Campground	▪ Campsites ▪ Shoreline		
		Federal (NPS)	Day use	Non-Project	Colonial Creek Boat Launch and Fishing Pier	▪ Parking area ▪ Dock ▪ Fishing pier ▪ Shoreline		
		Federal (NPS)	Day use	Project	Skagit Tour Dock	▪ Parking area		
	Gorge Lake	Federal (NPS)	Overnight	Non-Project	Gorge Lake Campground	▪ Campsites		
		City Light	Day use	Project	Gorge Lake Boat Launch	▪ Parking area ▪ Launch ramp/dock		
		Federal (NPS)	Day use	Non-Project	Gorge Creek Overlook	▪ Parking area		
	Newhalem/Skagit River Survey Area	Newhalem	City Light	Day use	Project	Newhalem Parking Areas		▪ Main Street parking area ▪ SR 20 parking area
Federal (NPS)			Day use	Project	Gorge Powerhouse	▪ Parking area	Ladder Creek Falls Trail parking occurs at this site	
Skagit River		Federal (NPS)	Overnight	Non-Project	Newhalem Campground	▪ Campsites		
		Federal (NPS)	Overnight	Non-Project	Goodell Creek Campground	▪ Campsites		
		Federal (NPS)	Day use	Non-Project	Goodell Creek Boat Launch	▪ Parking area		
		Federal (USFS)	Day use	Non-Project	Marblemount Boat Launch	▪ Parking area		
		Federal (USFS)	Day use	Non-Project	Marble Creek Campground	▪ Campsites		
Total							1,152 surveys	

1 The North Cascades Environmental Learning Center (ELC) also provides some overnight programs.

## **Types of Visitor Surveys**

### *On-Site Visitor Survey*

The on-site visitor survey will be administered at all study sites where recreation visitors are readily visible and willing to participate. When visitors are not readily visible (i.e., where vehicles are parked and visitors cannot be located), City Light will contact visitors via a mail-back windshield survey. City Light will prioritize securing on-site visitor surveys whenever possible but may need to employ mail-back windshield surveys when use patterns at study sites necessitate their use.

For the on-site survey, only members of a group who are 18 years or older will be asked to complete a survey. City Light's recreation researchers will train surveyors on random selection techniques for choosing groups at a facility and participants within groups, introduction strategies, recording, and tracking refusals. Prior to administering the survey, City Light surveyors will orient visitors using a standardized, detailed map of the study area, including identifying the location of the visitor intercept. Upon completion of a survey by a respondent, the recreation researcher will review the survey for skipped or missed questions and anomalous data or responses in order to maximize the quality of the survey data and minimize anomalous data during data entry.

### *Mail-Back Windshield Visitor Survey*

The mail-back windshield visitor survey will be administered at recreation facilities where recreation visitors are not present but their vehicles are. City Light anticipates utilizing mail-back surveys, if needed, primarily at parking areas for the reservoir boat launches, river access sites, and trailheads. In these cases, a mail-back version of the visitor survey will be left on vehicle windshields with pre-addressed envelopes and postage for convenient response and return. The survey packet of information left on the windshield will include a cover letter which explains the purpose of the survey. City Light will number each survey in order to track both on-site response and mail-back response rates.

## **Visitor Survey Development**

The visitor survey will address the study objectives. Survey topics will address items such as visitors' perceptions of the following:

- Existing and desired recreation facilities;
- Whether reservoir water levels affect visitor's recreation experience;
- Satisfaction with shoreline access and opportunities;
- Comparison of project recreation resource areas to other regional recreation areas that provide similar recreation opportunities;
- Personal safety;
- Crowding;
- Conflict;
- Constraints or barriers to participation that are potentially within City Light or agency control (e.g., lawlessness, trail conditions, campfire use, parking access and fees); and

- Ways to enhance their recreation experience.

City Light will use the visitor survey instrument with a map proposed by NPS and USFS with a modification to Question 4 for respondents to identify their preferred campgrounds (per FERC's recommendation in its SPD). Prior to survey implementation, the survey instrument will be pre-tested in the field with recreation users, and refined for clarity, if necessary. The pre-test will include a total of 10 to 15 completed surveys, with the intent to receive feedback on readability, length, and general understanding of survey content. If necessary, minor changes to the survey instrument may be made in consultation with LPs to make the survey easier to complete and understand. City Light will develop a study area map as part of the visitor survey instrument. The map will be used for specific questions on the visitor survey instrument and to assist respondents in orienting themselves and provide an understanding of the area and facility naming conventions.

### **Field Reconnaissance, Logistics and Preparation**

This task will involve logistical preparation including developing field work logistics and protocols; field crew training; selection of sampling dates; pre-testing field logistics and protocols; and revising schedules, logistics, or protocols based on preliminary findings.

#### **4.2.2.1 Sampling Approach and Data Collection**

##### **Target Number of Visitor Surveys**

The overall survey area encompasses Ross Lake, Diablo Lake, Gorge Lake, Newhalem, and the Skagit River. Within this overall area, the recreation setting is distinctly divided between Ross Lake and the State Route (SR) 20 Corridor. The primarily backcountry setting at Ross Lake is characterized by remote, boat-in/hike-in access and opportunities, very limited vehicle access, and limited recreational developments. In contrast, the frontcountry setting along the SR 20 Corridor at Diablo Lake, Gorge Lake, Newhalem, and the Skagit River is characterized by more and higher levels of recreation development combined with improved vehicle and road access throughout. Based on these distinct recreation settings, City Light has split the overall visitor survey study area into three separate survey areas: (1) Ross Lake (including Canyon Creek Trailhead); (2) Diablo and Gorge Lakes; and (3) Skagit River downstream of Gorge Powerhouse.

The target number of visitor surveys for each survey area is based on the estimated recreation use. The overall geographic area of the two combined survey areas roughly aligns with the RLNRA boundaries, where visitation has generally ranged from 700,000 to 900,000 visitors annually from 2010 to 2020 (see Section 2.3 of this study plan). Exact recreation use estimates for the specific survey areas do not exist, but City Light has assumed the visitation to any survey area to be at least 200,000 visitors. Thus, using a 95 percent confidence interval with a sampling error no more than +/- 5 percent, City Light's target number of surveys for each survey area is 384 surveys (at a minimum) with at least 192 survey responses from the peak and off-peak seasons (1,152 surveys in total) (Salant and Dillman 1994). Since it is not apparent how varied the Project sample population is in its response to various questions, City Light will use a more conservative sampling approach that utilizes a "50/50 split," which assumes the sample population is relatively varied (Salant and Dillman 1994). City Light will make every attempt to secure the identified target number of surveys for each survey area and overall. City Light will continuously monitor the survey returns throughout the survey season to ensure survey targets for each survey area and overall are met during the established study year. City Light may adjust the sampling frequency

or methodology to improve survey responses in order to meet targets. City Light will continue the survey effort throughout the established study survey season (discussed below), even if the target survey numbers have been met prior to the end of the survey season.

### **Sampling Frequency for Observation and Visitor Surveys**

The sampling frequency for the observation and visitor surveys will be divided into two categories: peak and off-peak seasons. The peak season for recreation use is the summer season (July 1 through Labor Day). The off-peak season includes the shoulder seasons of spring (May and June) and fall (Tuesday after Labor Day through October). The closure of SR 20 from November through April limits visitor access to the area and associated recreation use during the winter months. Overall, City Light will conduct 35 total days of surveying at each study site including 18 days during the peak season and 17 days during the off-peak season according to the seasonal sampling frequencies as follows.

The sampling frequency for the peak season (18 survey days total) will be:

- Four randomly selected weekday days per month in July and August (separated by at least one week);
- Four randomly selected weekend days (Saturday or Sunday) per month in July and August (non-consecutive); and
- One holiday day (Saturday or Sunday) for each three-day holiday weekend (Independence Day and Labor Day holiday weekends) (two survey days total).

The sampling frequency for the off-peak season (17 survey days total) will be:

- Two randomly selected weekday days per month (separated by at least one week);
- Two randomly selected weekend days (Saturday or Sunday) per month (non-consecutive); and
- One pre-selected holiday day (Saturday or Sunday) for the three-day Memorial Day holiday weekend.

City Light will conduct up to two selected days of preliminary testing to clarify any problems/confusion with the survey instrument and/or process.

To identify recreation visitor's attitudes, beliefs, and preferences at study area recreation resource areas, City Light will conduct a roving use survey using a stratified two-stage (geographic and temporal) probability sampling approach (Malvestuto 1996; Pollock et al. 1994). During the survey, City Light's surveyor will conduct a recreation visitor survey at all the study sites identified in Table 4.2-2. The survey sample will be stratified by development/resource area, type of day (weekdays, non-holiday weekends, and holiday weekends), and time of day.

### **Timing of Sampling**

City Light's surveyors will conduct the surveys on each survey day at each site while roving between the sites during each 4-hour sampling block. The 4-hour sampling blocks will alternate between the morning period and afternoon period throughout the survey season, which will provide a range of visitation times and potential user groups over the course of the survey period.

City Light anticipates utilizing multiple survey teams to conduct the surveys on each survey day. The final survey team/staff approach will be determined based on field testing and logistics prior to starting the surveys.

#### 4.2.2.2 Trail-Specific Use Counts

City Light will install and maintain a single trail counter on the study area trails in Table 4.2-3 for the duration of the survey season (i.e., May through October). City Light will locate the counters in the vicinity of the trailhead or trail intersection near the Project reservoirs. The exact location will be determined during the installation of each trail counter. Once installed, City Light will record the Global Positioning System (GPS) location of each trail counter and include a location map and summary of trail use as part of the study report. City Light will calibrate the counters following installation, routinely maintain/download the data at each counter during the study season, and remove the counters at the end of the study season.

**Table 4.2-3. Trail counter study locations.**

FERC Project Development	Resource Area	Land Management	Project or Non-Project Facility	Trail Counter Study Site
Ross	Ross Lake	Federal (NPS)	Non-Project	Ross Dam Trailhead
		Federal (NPS)	Non-Project	East Bank Trailhead (SR20)
		Federal (NPS)	Non-Project	East Bank Trail near Roland Point
		Federal (NPS)	Non-Project	Lightning Creek Trail
		Federal (NPS)	Non-Project	Desolation Peak Trail
		Federal (NPS)	Non-Project	East Bank Trail near Hozomeen Campground
		Federal (NPS)	Non-Project	Hozomeen Lake Trail
		Federal (NPS)	Non-Project	Little Beaver Trail
		Federal (NPS)	Non-Project	Big Beaver Trail
Diablo	Diablo Lake	Federal (NPS)	Non-Project	Thunder Knob Trail
		Federal (NPS)	Non-Project	Thunder Creek Trail
		Federal (NPS)	Non-Project	Sourdough Mountain Trail
		Federal (NPS)	Non-Project	Diablo Lake Trail
		Federal (NPS)	Non-Project	Diablo Dam Trail
Gorge	Newhalem	Federal (NPS)	Project	Ladder Creek Falls Trail
		Federal (NPS)	Project	Trail of the Cedars

### 4.3 Estimate Current Recreation Use at Recreation Resource Areas

This study element will describe use levels (i.e., occupancy) and observed activities at the recreation study sites in Table 4.2-4, where City Light will be collecting visitor use observation data as part of this study. As part of the study report, City Light will provide a summary of recreation facility occupancy at parking areas and picnic areas and the distribution of observed recreation activities at recreation facilities.

First, City Light will calculate the average existing use levels for several recreation parameters (e.g., people, vehicles, facility occupancy rates/percent of capacity) by season (peak and off-peak)

and day type (i.e., weekend, weekday, holiday) during the survey season and describe the occupancy levels at each study site listed in Table 4.2-4.

Second, for each recreation facility or group of facilities in Table 4.2-4, City Light will calculate the frequency distribution of observed recreation activities during the survey season.

#### **4.3.1 Recreation Use Estimate**

To estimate the recreation use that occurs within the study area, City Light will estimate the existing annual day and overnight visits for the recreation facilities and sites listed in Table 4.2-4 in recreation days (RD) by developing one use estimate specific to Project recreation facilities and a separate use estimate for non-Project recreation facilities. This division is necessary given the differing data collection methods for the data sources (i.e., Project recreation facilities versus non-Project recreation facilities). City Light will estimate the Project recreation facilities' use based on visitor use data collected as part of this study (see Section 4.2.2) and incorporate additional daily visitor use data from operators of the North Cascades Environmental Learning Center (ELC), which provides visitor use programs and services at Project recreation facilities.

For the non-Project recreation facilities use estimate, City Light will utilize a combination of visitor use data collected as part of this study (see Section 4.2.2) as well as existing NPS overnight and day use data, third party data (e.g., Ross Lake Resort), and USFS data (as available) (Table 4.2-5). Where available and provided by other parties, City Light will summarize the use information from the non-Project recreation facilities, but since the data will not be collected as part of this study's methods, City Light may have to summarize the data differently (i.e., general visits instead of RDs) or with less detail (i.e., by week, month, or season) than for the Project recreation facilities' use, where all the data is collected consistently and as part of this study's methodology. The data collection methods and how the data is provided to City Light is beyond the control of City Light.

**Table 4.2-4. Study area recreation facilities where use and occupancy will be estimated via study observation surveys and use counts.**

Resource Area	Land Management	Facility Type	Project or Non-Project Facility	Project Recreation Facility	Use Estimate	Facility Occupancy
Ross Lake	Federal (NPS)	Day use	Non-Project	Hozomeen Boat Launch	X	X (parking area)
	Federal (NPS)	Day use	Non-Project	Winnebago Flats Boat Launch	X	X (parking area)
	Federal (NPS)	Day use	Non-Project	Ross Dam Trailhead	X	X (parking area)
	Federal (NPS)	Day use	Non-Project	East Bank Trailhead	X	X (parking area)
Diablo Lake	Federal (NPS)	Day use	Project	Skagit Tour Dock	X <sup>1</sup>	X (parking area)
	Federal (NPS)	Day use	Project	West Ferry Landing	X	X (parking area)
	Federal (NPS)	Day use <sup>2</sup>	Project	North Cascades Environmental Learning Center (ELC) / Diablo Lake Trailhead	X	X (parking area)
	Federal (NPS)	Day use	Non-Project	Colonial Creek Boat Launch and Fishing Pier	X	X (parking area)
	Federal (NPS)	Day use	Non-Project	Diablo Overlook	X	X (parking area)
	Federal (NPS)	Day use	Project	Diablo Dam Parking Area	X	X (parking area)
Gorge Lake	City Light	Day use	Project	Ross Lodge Picnic Shelter	X	X (picnic site)
	City Light	Day use	Project	Gorge Lake Boat Launch	X	X (parking area)
	Federal (NPS)	Day use	Non-Project	Gorge Overlook	X	X (parking area)
Newhalem	Federal (NPS)	Day use	Project	Gorge Powerhouse / Ladder Creek Falls Trail and Gardens	X	X (parking area)
	Federal (NPS)	Day use	Project	Trail of the Cedars	X	Not applicable
	City Light	Day use	Project	Newhalem Parking Areas	X	X (parking area)
Skagit River	Federal (NPS)	Day use	Non-Project	Goodell Creek Boat Launch	X	X (parking area)
	Federal (USFS)	Day use	Non-Project	Marblemount Boat Launch	X	X (parking area)

<sup>1</sup> The use estimate will be based on City Light's Skagit Tour records.

<sup>2</sup> The North Cascades Environmental Learning Center (ELC) also provides some overnight programs.

**Table 4.2-5. Study area recreation facilities where use data will be collected via non-study methods (as available).**

Resource Area	Land Management	Facility Type	Project or Non-Project Facility	Recreation Facility	Use Data Source
Ross Lake	Federal (NPS)	Overnight	Non-Project	Hozomeen and Winnebago Flats Campgrounds, Boat-in Campsites (19 sites)	NPS
	Federal (NPS)	Overnight	Non-Project	Ross Lake Resort	Ross Lake Resort
Diablo Lake	Federal (NPS)	Day use	Project	Skagit Tour Dock	City Light
	Federal (NPS)	Day use	Project	Ferry Landings	City Light
	Federal (NPS)	Day use <sup>1</sup>	Project	North Cascades Environmental Learning Center (ELC)	North Cascades Institute (NCI) (overnight/program use)
	Federal (NPS)	Overnight	Non-Project	Colonial Creek Campground	NPS
	Federal (NPS)	Overnight	Non-Project	Thunder Point, Hidden Cove, and Buster Brown Boat-in Campsites	NPS
	Federal (NPS)	Day use	Non-Project	Diablo Overlook	NPS
	Federal (NPS)	Overnight	Non-Project	Gorge Campground	NPS
Newhalem	City Light	Day use	Project	Skagit Information Center	City Light

<sup>1</sup> The North Cascades Environmental Learning Center (ELC) also provides some overnight programs.

## **4.4 Identify Future Use and Demand Opportunities**

City Light will identify the future use and demand opportunities from three perspectives: (1) assessing the existing unmet demand; (2) assessing future recreation demand; and (3) assessing the regional recreational uniqueness and significance of the Project. Each of these perspectives is described in detail below.

### **4.4.1 Existing Unmet Demand Assessment**

Existing recreation use does not always represent the total existing recreation demand because there may be constraints that limit participation. While there are many potential constraints on recreation use (e.g., lack of free time, cost, geographic distance, lack of skills or equipment), a subset of participation constraints may be closely associated with site-specific management (e.g., limited access to lands or water, use limits or full occupancies at facilities, project operations that eliminate or diminish the quality of experiences and opportunities, or the lack of information about available recreation opportunities). To assess the general level of unmet demand for recreation opportunities within the study area, City Light will perform the three tasks described below.

#### **Assess Statewide and Regional Unmet Recreation Demand Information**

City Light will review and summarize relevant information from the 2018-2022 Recreation and Conservation Plan for Washington State (Recreation and Conservation Office 2017). City Light will review other sources of demand from the region, if readily available, including the RLNRA General Management Plan (NPS 2012) and NPS Comprehensive Survey of the American Public (NPS 2001). The focus of this assessment will be to identify possible recreation activities with substantial unmet demand with a qualitative discussion of participation constraints and whether these constraints are likely affected by Project operations.

#### **Collect Unmet Recreation Demand Information**

City Light will collect additional unmet recreation demand information from study area visitors in City Light's visitor surveys.

#### **Identify Potential Activities with High Unmet Demand**

City Light will identify potential activities with high unmet demand within and adjacent to the Project Boundary based on the review of unmet demand information derived from NPS, the visitor survey, monitoring data, and any other regional unmet demand sources (if any). Analysis will also attempt to identify likely barriers or constraints on participation, and whether those are related to Project operations.

### **4.4.2 Future Recreation Demand Assessment**

This element of the study will provide information regarding the projected future recreation use within the study area over the estimated period of the new license. For this assessment, City Light will assume a new license term of 50 years. Obviously, projecting the future is a speculative activity, especially over a 50-year period. These projections, though, can be useful for general planning purposes to identify potential management issues that may occur in the future. This approach will include four steps.

### **Review Existing Recreation Use Trends**

Since past use often helps predict future use, City Light will review trends of recent study area recreation use. Likely sources of use data will be: North Cascades Institute (NCI) data on ELC visitation, the RLNRA General Management Plan, NPS RLNRA use data, Washington tourism data, fishing license sales, boating vessel registrations (for the counties where the majority of Project visitors originate from), local recreation resources, and recreation equipment sales, where available.

### **Review Existing Population and Recreation Activity Participation Projections**

City Light will summarize existing information on existing and future population rates from the State of Washington Office of Financial Management Department of Finance website (<https://www.ofm.wa.gov/washington-data-research>) for the counties where the majority of the study area visitors originate from. The population growth rates will be used to project the overall study area recreation use estimate over the term of a new license period (i.e., 30 to 50 years).

City Light will also research outdoor recreation activity projections from available sources such as Outdoor Recreation Trends and Futures (Cordell 2012) and other appropriate sources on future projections (as available and applicable). These projection indices will be used to project recreation facility occupancy at study area recreation facilities (refer to Table 4.2-4) over the term of the new license.

### **Review Reasonably Foreseeable Events that May Influence Future Use**

Reasonably foreseeable events in the watershed may reasonably be expected to influence recreation use in the study area over the new license period. If an event is determined to be reasonably foreseeable, City Light will make a qualitative assessment of its potential effect on future recreation use, if feasible.

### **Estimate Future Recreation Use over the New License Period**

Based on historical trends, future growth projections, and likely foreseeable events in the watershed, City Light will use professional judgment to estimate study area recreation use and facility utilization over the expected term of the new license. For this assessment, City Light will assume a license term of 50 years. These estimates must be considered very speculative and will only provide a general indication of how recreation use is expected to change over the new license period.

For the recreation use estimate, City Light will project the use based on population growth rates where the majority of study area visitors reside as identified in the visitor survey element of the study (see Section 4.2.2).

For the recreation facility utilization projections (e.g., day use areas, boat launches, and trails), City Light will rely on the activity participation indices in Outdoor Recreation Trends and Futures (Cordell 2012) unless other applicable sources on future projections are available.

### 4.4.3 Regional Uniqueness and Significance Assessment

This component of the study will assess the regional uniqueness of the study area's primary recreation opportunities in three steps.

#### Review Results of Visitor Surveys

City Light will review the results of the visitor survey that address regional uniqueness and significance. In addition, City Light will identify the primary activities and opportunities of visitors surveyed to help in assessing the overall regional uniqueness in comparison to other regional recreation facilities and opportunities.

#### Identify Regional Recreation Opportunities

City Light will identify the geographic draw of the study area's primary recreation opportunities identified during the review of the visitor survey results above. City Light will assess the geographic extent of visitors' origins and location of the alternative recreation resource areas where visitors participate in their primary recreation activities. City Light will identify regional alternatives for comparable facilities or areas from sources such as guidebooks, on-line resources, state and national parks, USFS, and county or regional tourism sources.

#### Assess the Uniqueness and Significance of the Recreation Opportunities

First, City Light will analyze the visitor responses to a typical survey question that asks visitors to rate the relative uniqueness of the project reservoir or resources area they visited. The question has pre-set responses using a 5-point scale, with a rating of 1 meaning the reservoir or area provided an "extremely common" opportunity and a rating of 5 meaning the reservoir or area provided an "extremely unique" opportunity. Based on the average responses, City Light will categorize the relative uniqueness of the study area using six categories, as shown in Table 4.4-1.

**Table 4.4-1. Regional uniqueness categories and rating system.**

Regional Uniqueness Rating System and Categories					
1.0	1.1 to 2.0	2.1 to 3.0	3.1 to 4.0	4.1 to 4.9	5.0
Extremely Common	Common	Somewhat Common	Somewhat Unique	Unique	Extremely Unique

Second, for the study area's most popular primary recreation activities, City Light will identify if these recreation opportunities are of local, regional, or state significance. City Light will determine the level of significance based on the county (United States) where visitors reside based on the following designations.

- **Local Significance:** visitors from counties where the Project resides (i.e., Skagit, Whatcom, and Snohomish counties).
- **Regional Significance:** visitors from the counties surrounding the counties where the Project resides, including San Juan, Island, Kitsap, King, Chelan, and Okanogan counties.
- **State-Wide Significance:** visitors from all other areas outside of the local and regional areas in Washington.

In addition, text will describe what is unique and special about the most popular recreation opportunities based on the comments provided by the visitors on the visitor survey.

#### **4.5 Data Analysis and Report Preparation**

Following data collection, City Light will enter the raw data into a statistical database program (e.g., IBM SPSS software) that will allow visitor survey responses to be analyzed. Survey responses will be coded, edited, and entered for analysis. City Light will subject all visitor and observation survey data to QA/QC procedures including, but not limited to: (1) spot-checking visitor/observation surveys to be sure errors were not made during data entry; and (2) reviewing the visitor and observation survey databases for completeness/anomalous data. City Light will conduct these QA/QC procedures both manually (by City Light staff) and electronically (using the statistical analysis program, which has the ability to sort through large quantities of data). If any datum seems inconsistent during the QA/QC procedure, City Light will investigate the problem by going back to the source questionnaire or data form. Values that are determined to be anomalous will be removed from the database if the reason for the values cannot be identified.

The survey responses should provide a rich source of information about visitor use patterns, characteristics, preferences, and perceptions. Following data entry and comprehensive QA/QC procedures, City Light will address the study objectives and issues through analysis of the responses to questionnaires and observation data. Descriptive statistics will be employed to explain visitor responses to each of the survey questions, including number of responses and percentage of responses for each survey question as well as averages for select questions (e.g., scale-response questions, general trip characteristics, and some socio-demographic questions). Survey data will be analyzed and reported by recreation resource facility or grouping of proximate similar facilities (e.g., town of Newhalem study sites). City Light will code or categorize the survey data to allow for the additional survey analyses (e.g., seasonality, primary recreation activity, type of site access). Within the analysis, City Light will check for non-response bias through demographics and visitor behavior variables. Observation use data will address the types and frequency of use occurring within each recreation resource area. City Light will provide the raw data to LPs in the statistical program format used (e.g., IBM SPSS software) as well as Microsoft Excel format.

City Light will synthesize the data collected and analyzed into a study report at the conclusion of the study, which will include summary data in tables, attachments and/or appendices; and be further summarized in narrative form. Specifically, the report will include the following sections: (1) Study Goals and Objectives; (2) Methods; (3) Results; (4) Discussion; and (5) Description of Variances from the FERC-approved study plan, if any.

## **5.0 PRELIMINARY RESULTS**

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This section summarizes the preliminary results from the physical inventory of the Recreation Assessment study sites conducted in September 2021 as described in Section 4.1 of this study report. The results are organized by reservoir/resource area and divided into Project and non-Project recreation facility subsections.

This section provides results for data collected in 2021. Representative photographs of the facilities taken during the physical inventory are provided in Attachment B of this study report.

### **5.1 Ross Lake**

City Light evaluated the recreation facilities at Ross Lake as shown in Table 4.1-1. Refer to Section 4.1.4 of this study report for the specific types of evaluations required at each study site.

Notably, in 2020 and 2021 vehicle access was not permitted to the Hozomeen and Winnebago Flats campgrounds and boat launches at Ross Lake due to Covid-related closures of the international border crossing. Vehicle access to the site occurs via Canada on the Silver-Skagit Road and the U.S.-Canadian border was closed to non-essential travel in 2020 and 2021. However, access to the facilities was still possible by trail and boat, but the recreational use at these facilities was minimal as a result.

#### **5.1.1 Project Recreation Facilities**

There are no Project recreation facility study sites in the Ross Lake study area.

#### **5.1.2 Non-Project Recreation Facilities**

All the study facilities at Ross Lake are non-Project recreation facilities operated and maintained by NPS. In general, the Recreation Assessment evaluation methods at these study sites included only the accessibility and/or use impact elements shown in Table 4.1-1.

##### **5.1.2.1 Winnebago Flats Boat Launch**

The Winnebago Flats Boat Launch facility consists of a concrete launch ramp, floating courtesy dock, gravel parking area, and information kiosk. Overall, the facility is “inaccessible” with few/limited accessible components, as detailed in Table 5.1-1. The recreation use impact evaluation for the facility was “low” without notable signs of use impacts.

**Table 5.1-1. Accessibility evaluation summary at Winnebago Flats Boat Launch.**

Site Amenity	Accessibility Rating	Comments
Launch ramp	N/A	Launch ramps are excluded from accessibility standards.
Courtesy dock	Accessible	The dock is designed to meet accessibility standards. When water levels drop, the slope of the gangway may fall outside the running slope standards.
Parking area	Inaccessible	The gravel parking area has a loose surface, no striping or accessible space markings, and no signage. The slopes generally fall within the guidelines.
Information kiosk	Inaccessible	The loose gravel surfacing of the access route and clear space do not meet the standards.
<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

#### 5.1.2.2 Winnebago Flats Campground

The Winnebago Flats Campground facility consists of campsites, two vault-restroom buildings, and an information kiosk. Overall, the facility is “inaccessible” with only the restroom buildings meeting the standards detailed in Table 5.1-2. The recreation use impact evaluation for the facility was “low” without notable signs of use impacts.

**Table 5.1-2. Accessibility evaluation summary at Winnebago Flats Campground.**

Site Amenity	Accessibility Rating	Comments
Campsites	Inaccessible	Nearly all the campsite amenities (table, fire ring, tent pads, lockers, water hydrants) and the clear space, surfacing, and outdoor recreation access routes (ORAR) do not meet the standards. In general, the slopes at the campsites and throughout the overall site meet the standards.
Restrooms	Partially accessible	The restroom buildings are designed to accessible standards; however, the access routes do not meet the standards (i.e., loose, inconsistent, and grass surfacing).
Information kiosk	Inaccessible	The loose gravel surfacing of the access route and clear space do not meet the standards.
<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

#### 5.1.2.3 Hozomeen Boat Launch

The Hozomeen Boat Launch facility consists of a concrete launch ramp, floating courtesy dock, gravel parking area, restroom building, and information kiosk. Overall, the facility is “inaccessible” with few/limited accessible components, as detailed in Table 5.1-3. The recreation use impact evaluation for the facility was “low” without notable signs of use impacts.

**Table 5.1-3. Accessibility evaluation summary at Hozomeen Boat Launch.**

Site Amenity	Accessibility Rating	Comments
Launch ramp	N/A	Launch ramps are excluded from accessibility standards.
Courtesy dock	Accessible	The dock is designed to meet accessibility standards. When water levels drop, the slope of the gangway may fall outside the running slope standards.
Parking area	Inaccessible	The gravel parking area has a loose surface, no striping or accessible space markings, no signage; and is overgrown with grass and weeds leading to an inconsistent/uneven surface.
Restroom	Partially accessible	The single unit restroom building is designed to accessible standards; however, the access route does not meet the standards (loose, inconsistent, and grassy surfacing).
Information kiosk	Inaccessible	The gravel surfacing for the access route and clear space do not meet the standards.
<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

#### 5.1.2.4 Hozomeen Campground

The Hozomeen Campground facility consists of 75 campsites, vault restroom buildings, and an information kiosk. Overall, the facility is “inaccessible” with only the restroom buildings meeting the standards detailed in Table 5.1-4. The recreation use impact evaluation for the facility was “low” without notable signs of use impacts. The predominant sign of use impact is the moderate to large areas of bare ground at campsites, but this condition is expected at a developed campground facility.

**Table 5.1-4. Accessibility evaluation summary at Hozomeen Campground.**

Site Amenity	Accessibility Rating	Comments
Campsites	Inaccessible	All the campsite amenities (i.e., tables, fire rings, tent pads, lockers, water hydrants, and parking spurs), clear space, surfacing, and ORARs generally do not meet the standards. Most campsites have substantial tread obstacles between campsite living space and the gravel parking spur, neither of which is clearly delineated.
Restrooms	Inaccessible	The restroom buildings are designed to accessible standards; however, the ORARs do not meet the standards (loose, inconsistent, and varied surfacing).
<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

#### 5.1.2.5 Hozomeen Lake Trailhead

The Hozomeen Lake Trailhead is located in the Hozomeen Campground and provides trail access to the East Bank Trail and Hozomeen Lake Trail. The facility provides a small, unmarked gravel parking area and a single-panel information kiosk. City Light evaluated the trailhead for accessibility and use impacts (refer to Section 4.1.4 of this study report).

Overall, the trailhead facility is “inaccessible” with few/limited accessible components, as detailed in Table 5.1-5. The recreation use impact evaluation for the facility was “low” without notable

signs of use impacts. The trailhead does not have a trail conditions sign that describes the level of difficulty, trail conditions, and general accessibility constraints or obstacles.

**Table 5.1-5. Accessibility evaluation summary at Hozomeen Lake Trailhead.**

Site Amenity	Accessibility Rating	Comments
Parking area	Inaccessible	The gravel parking area does not meet the standards for surfacing (i.e., not firm/stable/compacted), slope, and signage/markings.
Information kiosk	Inaccessible	The kiosk does not meet the standards for the clear space and approach (i.e., surfacing is not firm/stable/compacted).
<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

#### 5.1.2.6 Boat-in Campsites

There are 19 boat-in access campsites on Ross Lake, all managed and maintained by NPS. Amenities available at the boat-in campsites include picnic tables, fire-rings, vault toilets, and bear-resistant food lockers. Additionally, 12 of the boat-in campsites have floating docks. The sites without docks include Roland Point, Ten Mile Island, Dry Creek, Ponderosa, Lodgepole, Lightning Creek Stock Camp, and Boundary Bay. The results of the accessibility and use impact evaluations conducted at each of the 19 boat-in campsites are summarized as a whole in Table 5.1-6. City Light visited and evaluated each of the 19 boat-in access campsites, however the results are summarized as a whole because the site amenities and terrain conditions related to the accessibility evaluations were consistent among all the campsites.

The campsite tables, fire rings, food lockers, tent pads, docks (where provided), and restroom buildings were similar in design. The general site terrain conditions detailed in Table 5.1-6 were consistent among all the campsites, including very similar access route and/or ORAR accessibility constraints such as pervasive tread obstacles, steep slopes (running and cross slopes), loose or stepped/tiered surfacing between the site amenities (i.e., dock to campsite living space, campsite living space to restroom).

The recreation use impact ratings at these boat-in campsites was “low” across all campsites. City Light observed very few signs of use impact with infrequent signs of trash and tree cutting at campsites. The other predominant sign of use impact are moderate areas of bare ground at campsites, but this condition is expected at developed campsites. Further, most of the travel between satellite areas within the sites and to shoreline areas was generally confined to well-worn or delineated paths/routes. City Light did not observe excessive user-created trails at the boat-in campsites.

**Table 5.1-6. Accessibility evaluation summary at Ross Lake boat-in campsites.**

Site Amenity	Accessibility Rating	Comments
Campsites	Inaccessible	All the campsite amenities (i.e., table, fire ring, tent pads, lockers), clear space, and surfacing do not meet the standards. Many campsites are situated in steep terrain or in areas with substantial vertical distance between the boat dock access on the shoreline and where the campsite living space is situated.
Courtesy dock (where provided)	Accessible	The docks are designed to meet accessibility standards. When water levels drop, the slope of the gangway may fall outside the running slope standards.
Restrooms	Inaccessible	The restroom buildings are not designed to accessible standards.
Access Routes/ORARs	Inaccessible	The campsites have pervasive tread obstacles, steep slopes (running and cross slopes), loose or stepped/tiered surfacing between the elements at each site (dock to campsite living space, campsite living space to restroom).
<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

#### 5.1.2.7 Ross Dam Trail and Trailhead

The 1-mile-long Ross Dam Trail is located off SR 20 and provides access to Ross Lake, Dam, and Powerhouse, as well as the upper end of Diablo Lake at the East Ferry Landing. The trail descends from SR 20 approximately 700 vertical ft to the Ross Dam area. The trailhead facility consists of a paved/gravel parking area, restroom building, information kiosk, and trash facilities.

#### Trailhead

Overall, the trailhead facility is “inaccessible” with few/limited accessible components, as detailed in Table 5.1-7. The recreation use impact evaluation for the facility was “low” without notable signs of use impacts. The trailhead does not have a trail conditions sign that describes the level of difficulty, trail conditions, and general accessibility constraints or obstacles.

**Table 5.1-7. Accessibility evaluation summary at Ross Dam Trailhead.**

Site Amenity	Accessibility Rating	Comments
Parking area	Inaccessible	The paved portion of the parking area lacked striped spaces (faded/worn), signage, and the slopes (running and cross slopes) do not meet the standards. The gravel parking areas on the periphery of the lot lack striping, space markers (e.g., wheel-stops), and signage with some areas with tread obstacles between the gravel and paved portions of the lot inhibiting the access route to the other amenities on-site.
Restroom	Partially accessible	The vault restroom building is designed to accessible standards; however, the access route does not fully meet the standards (i.e., loose surfacing, debris on access route, and areas of slopes outside standards).
Information kiosk	Inaccessible	The kiosk is located approximately 50 ft from the parking area along and upslope of the trail surface with numerous rock/vertical obstacles impeding the access route and clear space/approach.
Trash receptacle	Inaccessible	The receptacle lacks accessible operable parts to access/use the openings/doors.
<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

## Trail

Overall, the Ross Dam Trail has a substantial change in elevation (approximately 700 vertical ft) from the trailhead along SR 20 to its terminus at Ross Dam. As such, the primary constraint to accessibility is the steep descent overall, which is markedly outside the running slope standards for trail accessibility. Additional constraints include generally rocky and inconsistent tread and surfacing, significant tread obstacles (4 to 8 inches high) including rocks and roots, and numerous areas with excessive cross slopes (5 to 10 percent). Overall, the steep vertical descent and the other constraints noted above are pervasive.

### 5.1.2.8 East Bank Trailhead

The East Bank Trailhead is located off SR 20 along the Ruby Creek arm of Ross Lake. The facility consists of a gravel parking area, restroom building, information kiosk, and trash facilities. City Light evaluated the trailhead for accessibility only (refer to Section 4.1.4 of this study report).

Overall, the trailhead facility is “inaccessible” with few/limited accessible components, as detailed in Table 5.1-8. The recreation use impact evaluation for the facility was “low” without notable signs of use impacts. The trailhead does not have a trail conditions sign that describes the level of difficulty, trail conditions, and general accessibility constraints or obstacles.

**Table 5.1-8. Accessibility evaluation summary at East Bank Trailhead.**

Site Amenity	Accessibility Rating	Comments
Parking area	Inaccessible	The gravel parking area lacked marked/designated spaces, signage, and the slopes (running slopes) do not meet the standards as the lot slopes downhill from SR 20 towards the kiosk and trash facilities.
Restroom	Partially accessible	The vault restroom building is designed to accessible standards; however, the access route does not meet the standards (i.e., excessive running slope and loose gravel surfacing).
Information kiosk	Partially accessible	Portions of the kiosk meet standards including clear space; however, the access route to the kiosk from the parking area does not meet the standards due to the loose gravel surface and slopes from some portions of the parking area.
Trash receptacle	Inaccessible	The receptacle lacks accessible operable parts to access and use the openings/doors.
<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

#### 5.1.2.9 Happy Panther Trail

The 6.2-mile-long Happy Panther Trail connects the East Bank Trailhead to the upstream side of Ross Dam and meanders through the forest between Ross Lake and SR 20. City Light conducted a qualitative trail accessibility assessment (refer to Section 4.1.4 of this study report).

Overall, the trail width is narrow-ranging primarily between 18 and 24 inches wide with short segments as narrow as 12 inches wide. City Light observed substantial accessibility constraints at the start of the trail near Ross Dam, including steep running slopes, cross slope, tread obstacles (e.g., rocks, roots), and loose and rocky trail surface. Beyond the initial 300 to 500 ft, City Light observed constraints intermittently with steep running slopes between 50 and 250 ft in length, numerous drainage crossings with loose rocks/boulders resulting in uneven tread width, and trail segments with uneven and loose boulder/large gravel trail surface. The trail does not have trail conditions signs that describe the level of difficulty and trail conditions/accessibility constraints at either end of the trail.

## 5.2 Diablo Lake

City Light evaluated the recreation facilities at Diablo Lake as shown in Table 4.1-1. Refer to Section 4.1.4 of this study report for the specific types of evaluations required at each study site.

### 5.2.1 Project Recreation Facilities

In general, the study evaluation methods at these Project recreation facility study sites included an inventory, condition, accessibility, and use impact evaluation (Table 4.1-1).

#### 5.2.1.1 Skagit Tour Dock

The Skagit Tour Dock is located on Diablo Lake near Diablo Dam. The facility consists of a parking area, staging area, and boat dock. City Light conducted an inventory as well as condition, accessibility, and use impact assessment at this facility (refer to Section 4.1.4 of this study report).

Overall, the facility is “partially accessible” with some accessible amenities and is in “good” overall condition (Table 5.2-1). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts.

**Table 5.2-1. Inventory, condition, and accessibility evaluation summary at Skagit Tour Dock.**

Site Amenities	Evaluations			Comments
	Inventory	Condition	Accessibility	
Parking	3 spaces (paved, striped); unmarked roadside (gravel, no markings)	Good	Inaccessible	Lacks requisite accessible signage and markings, width, and running slope.
Boat dock	24 ft by 48 ft dock with 40 ft gangway with handrail	Excellent	Accessible	All elements of the dock appear to meet the standards.
Staging area	24 ft by 48 ft shelter; 8 benches; 2 information boards	Good	Partially accessible	Access route and surfacing meets standards; bench seating and signage lack the requisite clearance/approach; and the benches are not accessible models.
<b>Overall</b>	<b>N/A</b>	<b>Good</b>	<b>Partially accessible</b>	

#### 5.2.1.2 Diablo Dam Parking Area

The Diablo Dam Parking Area is located on the north side of Diablo Dam. The facility consists of a parking area and flush restrooms. City Light conducted an inventory as well as condition, accessibility, and use impact assessments at this facility (refer to Section 4.1.4 of this study report).

Overall, the facility is “inaccessible” with few accessible amenities and is in “good” overall condition (Table 5.2-2). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts.

**Table 5.2-2. Inventory, condition, and accessibility evaluation summary at Diablo Dam parking area.**

Site Amenities	Evaluations			Comments
	Inventory	Condition	Accessibility	
Parking	3 spaces (paved, striped)	Fair	Inaccessible	Lacks requisite accessible signage and markings, width, and running slope; pavement is cracked and striping is faded.
Restroom	4-unit flush restroom	Good	Inaccessible	The exterior access route meets the standards, but the interior lacks the appropriate stall clearances.
<b>Overall</b>	<b>N/A</b>	<b>Good</b>	<b>Inaccessible</b>	

#### 5.2.1.3 West Ferry Landing

The West Ferry Landing is located on Diablo Lake along Diablo Dam Road, where City Light provides a ferry service between the West and East Ferry Landings. The facility consists of a

parking area and boat dock. City Light conducted an inventory as well as condition, accessibility, and use impact assessments at this facility (refer to Section 4.1.4 of this study report).

Overall, the facility is “partially accessible” with some accessible amenities and is in “good” overall condition (Table 5.2-3). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts.

**Table 5.2-3. Inventory, condition, and accessibility evaluation summary at West Ferry Landing.**

Site Amenities	Evaluations			Comments
	Inventory	Condition	Accessibility	
Parking	32 spaces (paved, striped)	Good	Inaccessible	Lacks designated spaces with requisite width and accessible signage, markings, and access aisle.
Boat dock	24 ft by 48 ft dock with 40 ft gangway with handrail	Good	Partially accessible	The dock meets the standards, but the access route is inaccessible (concrete steps).
Signs	2 parking signs; 1 information board	Good	Inaccessible	Information board lacks requisite clear space/approach.
<b>Overall</b>	<b>N/A</b>	<b>Good</b>	<b>Inaccessible</b>	<b>A few accessible components, but the steps limit accessibility.</b>

#### 5.2.1.4 East Ferry Landing

The East Ferry Landing is located at the upstream end of Diablo Lake and is accessible only by boat or trail. The facility consists of a boat dock. City Light conducted an inventory as well as condition, accessibility, and use impact assessments at this facility (refer to Section 4.1.4 of this study report).

Overall, the facility is in “good” overall condition and is “partially accessible” with a few accessible amenities (Table 5.2-4). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts.

**Table 5.2-4. Inventory, condition, and accessibility evaluation summary at East Ferry Landing.**

Site Amenities	Evaluations			Comments
	Inventory	Condition	Accessibility	
Boat dock	32 ft by 60 ft dock with 30 ft gangway with handrail	Good	Accessible	The dock meets the standards. At lower water levels, the slope of the gangway may exceed the requisite slopes. Facility will include a new accessible kayak dock with slips (not yet installed at time of evaluation).
Signs	1 information board	Good	Inaccessible	Information board lacks requisite clear space/approach.
<b>Overall</b>	<b>N/A</b>	<b>Good</b>	<b>Partially accessible</b>	<b>Some accessible components.</b>

### 5.2.1.5 North Cascades Environmental Learning Center Parking Area

The ELC parking area is located at the end of Diablo Dam Road at the entrance to the ELC campus. City Light did not inventory or evaluate the ELC campus. Refer to Section 3.4.7 of the Pre-Application Document (PAD) (City Light 2020) for a summary of the ELC campus facilities. The ELC parking area facility consists of two gravel parking areas, portable restrooms,<sup>3</sup> trash facilities, and information board. City Light conducted an inventory as well as condition, accessibility, and use impact assessments at this facility (refer to Section 4.1.4 of this study report).

Overall, the facility is in “good” overall condition and is “partially accessible” with some accessible amenities (Table 5.2-5). The recreation use impact evaluation for the parking area was “low” without notable signs of use impacts. City Light also evaluated the use impact along the shoreline areas abutting the parking areas, which was also “low” without signs of use impacts.

**Table 5.2-5. Inventory, condition, and accessibility evaluation summary at the ELC parking area.**

Site Amenities	Evaluations			Comments
	Inventory	Condition	Accessibility	
Parking	2 unmarked gravel lots	Good	Inaccessible	The unmarked lots lack requisite striping, signage, and access aisle markings. There are two accessible parking signs, but the spaces do not fully comply with the standards and one space is blocked by a dumpster.
Restroom	2 portable units	Good	Accessible	The portable restroom buildings appear to meet accessible standards.
Trash	2 dumpsters	Good	Accessible	The dumpsters both have the requisite clear space/approach. The dumpsters are excluded from current accessible standards.
Signs	1 information board	Good	Inaccessible	Information board lacks requisite clear space/approach and access route (i.e., set back amid boulders and uneven terrain).
<b>Overall</b>	<b>N/A</b>	<b>Good</b>	<b>Partially accessible</b>	<b>Some accessible components.</b>

### 5.2.2 Non-Project Recreation Facilities

The study evaluation methods at the non-Project recreation facility study sites at Diablo Lake included only an accessibility and use impact evaluation, as shown in Table 4.1-1.

<sup>3</sup> City Light installed the portable restrooms in 2020 and 2021 due to the pandemic because the ELC facilities were closed, where existing restrooms are typically located for visitors to this area.

### 5.2.2.1 Diablo Overlook

The Diablo Overlook is located along SR 20 and provides parking, vault restrooms, picnic facilities, interpretive displays, and expansive views of Diablo Lake and the surrounding mountain peaks.

Overall, the facility is “partially accessible” with some accessible amenities (Table 5.2-6). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts as the site is a fully developed and hardened site with sanitation facilities and paved parking and pathways.

**Table 5.2-6. Accessibility evaluation summary at Diablo Overlook.**

Site Amenity	Accessibility Rating	Comments
Parking area	Accessible	The parking area provides accessible parking spaces in the paved and striped parking lot including accessible parking signage/markings.
Restrooms	Accessible	The vault restroom buildings are designed to accessible standards with access routes from the accessible parking spaces and other site amenities (e.g., interpretive displays and picnic tables).
Interpretive displays	Partially accessible	The interpretive displays are dispersed throughout the overlook facility and connected via a paved pathway around the periphery of the facility. Many of the displays are accessible with clear space/slopes and connecting access routes. However, some of the displays are located along a steep access route exceeding the slopes and lacking requisite clear space at the displays.
Trash receptacles	Inaccessible	The receptacles lack accessible operable parts to access/use the openings/doors and the dumpster lacks the proper clear space approach.
Picnic tables	Partially accessible	Some of the tables are accessible models with proper clearances, but all the tables are free-standing/not anchored, and most are not situated in areas with appropriate access routes. Some of the tables are set amid loose gravel and the slopes do not meet the standards.
Pathways	Partially accessible	The site amenities beyond the parking area are accessed via a paved pathway which has some areas of upheaval and cracking as well as some cross and running slopes that do not meet the standards.
<b>Overall</b>	<b>Partially accessible</b>	<b>Some accessible components but not fully compliant.</b>

### 5.2.2.2 Colonial Creek Campground

Colonial Creek Campground is located on the Thunder Arm of Diablo Lake and is the only campground on Diablo Lake accessible by vehicle. The campground has two loops, including approximately 135 campsites, potable water, an information kiosk, RV dumping station, amphitheater, flush restroom buildings, and trash facilities.

Overall, the facility is “inaccessible” with very few amenities that meet the standards (Table 5.2-7). The recreation use impact evaluation for the facility was “moderate” due to the large areas of bare ground at campsites and satellite areas beyond the campsite living space.

**Table 5.2-7. Accessibility evaluation summary at Colonial Creek Campground.**

Site Amenity	Accessibility Rating	Comments
Campsites	Inaccessible	Nearly all the campsite amenities (table, fire ring, tent pads, lockers, water hydrants) and the clear space, surfacing, and ORAR connecting the parking spurs to the campsite living spaces do not meet the standards. Many campsites are situated upslope or downslope of the parking spurs with substantial vertical rise or drop to the campsite living spaces well beyond ORAR standards. Several campsites are designated as accessible, however the slopes, clearances, and ORARs connecting the parking and living space do not fully meet the standards.
Restrooms	Inaccessible	The restroom buildings do not fully comply with the accessible standards, primarily interior clearances and turning spaces; some of the access routes to the buildings do not meet the standards due to steep slopes, surfacing, rock/root tread obstacles, etc.
Trash receptacles	Inaccessible	The receptacles lack accessible operable parts to access/use the openings/doors, but the dumpsters generally have adequate clear space/approach (dumpster operable parts are excepted from standards).
Amphitheater	Inaccessible	The amphitheater access routes and seating are situated in downhill/sloped terrain and do not meet the slope, clear width, and clearance standards. Overall, the facility is in disrepair with organic material debris atop the access routes and pathways between and amid the seating.
Fish cleaning station	Inaccessible	The fish cleaning station does not have adequate clearances around the station and lacks an access route from the parking area.
<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

### 5.2.2.3 Colonial Creek Boat Launch and Fishing Pier

The Colonial Creek Boat Launch facility provides the only public launch site for trailered boats on Diablo Lake. The facility consists of a concrete ramp, floating courtesy dock, parking area, and restroom buildings (shared with the campground). In addition, the facility includes a fishing pier and picnic site located adjacent to the launch ramp.

Overall, the facility is “partially accessible” with some accessible components (Table 5.2-8). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts as the site is a hardened, highly developed facility.

**Table 5.2-8. Accessibility evaluation summary at Colonial Creek Boat Launch and Fishing Pier.**

Site Amenity	Accessibility Rating	Comments
Launch ramp	N/A	Launch ramps are excluded from accessibility standards.
Courtesy dock	Accessible	The dock is designed to meet accessibility standards. When water levels drop, the slope of the gangway may fall outside the running slope standards.
Parking area	Partially accessible	The parking area includes two accessible parking spaces with accompanying signage/markings, but three spaces are required to meet the standards for 67 total spaces. The running slope at the accessible spaces exceeds the standards. The access route to the top/start of the ramp from the parking area does not meet the requisite standards.
Restrooms	Inaccessible	The restroom buildings do not fully comply with the accessible standards—primarily interior stall clearances and turning spaces; the running slope of the access route from the parking area to the building does not meet the standards.
Fish cleaning station	Inaccessible	The fish cleaning station lacks the requisite clearances around the station, access route from the parking area, and operable parts.
Trash receptacles	Partially accessible	The receptacles and dumpsters have adequate clear space/approaches, but the operable parts do not meet the standards on all the receptacles. Note that the dumpster operable parts are excluded from standards.
Picnic site	Accessible	The picnic table meets accessible standards and has the requisite access route. The table is not fixed/anchored, which may result in clearances around the table not being met if the table is moved. The site has adequate level living space to provide adequate clearances if anchored/fixed amid the space.
Fishing pier	Partially accessible	The pier meets all the applicable standards except for edge protection. The access route to the fishing pier from the parking area does not meet the requisite standards.
<b>Overall</b>	<b>Partially accessible</b>	<b>Some accessible components but not fully compliant.</b>

#### 5.2.2.4 Boat-in Campsites

There are three boat-in access campsites on Diablo Lake—all managed and maintained by NPS. Amenities available at the boat-in campsites include picnic tables, fire-rings, vault toilets, bear-resistant food lockers, and floating docks. Overall, the three boat-in campsites are “inaccessible” with only a few/limited accessible amenities. A summary of the accessibility evaluations at each boat-in campsite is provided in Table 5.2-9.

The recreation use impact ratings at the Diablo Lake boat-in campsites was “moderate” for each of the three campsites, with several signs/evidence of use impact, but not extensive or widespread impacts. City Light observed some limited signs of trash and tree cutting, and each site had short, narrow, user-created trails leading to shoreline areas or satellite areas. The other predominant sign of use impact was the moderate areas of bare ground at campsites, but considering the facilities are developed campsites, this impact is inherent to the design and function.

**Table 5.2-9. Accessibility evaluation summary at Diablo Lake boat-in campsites.**

<b>Campsite</b>	<b>Site Amenity</b>	<b>Accessibility Rating</b>	<b>Comments</b>
Thunder Point (3 sites)	Campsites	Inaccessible	The campsite amenities (table, fire ring, tent pads, lockers), clear space, and surfacing do not meet the standards. Two of the campsites are situated up a steep slope/trail (10-20 percent slopes).
	Courtesy dock	Accessible	The dock is designed to meet accessibility standards. When water levels drop, the slope of the gangway may fall outside the running slope standards.
	Restroom building	Partially accessible	The restroom building is designed to accessible standards, but the access routes and exterior clearances do not meet the standards.
	<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>
Hidden Cove (1 site)	Campsite	Inaccessible	The campsite amenities (table, fire ring, tent pads, lockers), clear space, and surfacing do not meet the standards. The site is situated in uneven, terrain with extensive obstacles (rocks, roots) and impediments to access routes between amenities and the transition from the dock to the campsite.
	Courtesy dock	Accessible	The dock is designed to meet accessibility standards. When water levels drop, the slope of the gangway may fall outside the running slope standards.
	Restroom building	Inaccessible	The restroom building, access route, clearances, and surfacing do not meet accessible standards.
	<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>
Buster Brown (3 sites)	Campsites	Inaccessible	The campsite amenities (table, fire ring, tent pads, lockers, water) at all three campsites, clear space, and surfacing do not meet the standards. Most of the campsites are situated in steep terrain with multiple tiered areas within each campsite. ORARs are very steep, narrow with tread obstacles and uneven surfacing.
	Courtesy dock	Accessible	The dock is designed to meet accessibility standards. When water levels drop, the slope of the gangway may fall outside the running slope standards.
	Restroom building	Partially accessible	The restroom building is designed to accessible standards, but the access routes, exterior clearances, and surfacing do not meet the standards.
	<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

#### 5.2.2.5 Thunder Knob Trail and Trailhead

The out-and-back, 1.8-mile-long Thunder Knob Trail starts in the north loop of Colonial Creek Campground, ascends approximately 425 ft, and terminates at an overlook of Diablo Lake. The trailhead consists of a dirt-surfaced lot and single-panel information kiosk on the shoulder of SR 20 at the entrance to the north loop of Colonial Creek Campground. Trail users must walk along the Colonial Creek Campground circulation roads to access the start of the trail approximately 0.5-miles from the trailhead parking along SR 20.

## Trailhead

Overall, the trailhead facility is “inaccessible” with few/limited accessible components (Table 5.2-10). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts. The trailhead does not have a trail conditions sign that describes the level of difficulty, trail conditions, and general accessibility constraints or obstacles.

**Table 5.2-10. Accessibility evaluation summary at Thunder Knob Trailhead.**

Site Amenity	Accessibility Rating	Comments
Parking area	Inaccessible	The SR 20 parking area has some running and cross slopes exceeding the standards and lacks designated spaces and accessible signage/markings.
Information kiosk	Inaccessible	The kiosk is located approximately 50 ft from the parking area several feet above the trail surface with numerous rock/vertical obstacles impeding the access route and clear space.
<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

## Trail

Overall, the Thunder Knob Trail ascends approximately 425 vertical ft from the trailhead to the terminus of the trail at the overlook of Diablo Lake. The initial 0.1-mile of the trail has been re-routed recently due to flooding and overall has extensive accessibility constraints. These include narrow tread width ranging from 24 to 36 inches wide; inconsistent/uneven surfacing with mostly loose, rocky, and uneven tread with small stretches of sandy/small gravel surfacing; extensive tread obstacles (i.e., large rocks); and a very narrow, temporary bridge crossing. Beyond this point, the trail widens (36 to 60 inches wide) with more consistent slopes and surfacing, much of which falls within or approaches accessible standards, but with numerous, intermittent segments (25 to 150 ft in length) with large tread obstacles and steep running slopes.

### 5.2.2.6 Thunder Creek Trail and Trailhead

The 19.6-mile-long Thunder Creek Trail starts in the south loop of Colonial Campground and provides access to destinations and trail networks in North Cascades National Park and the Stephen Mather Wilderness Area. The trailhead consists of a paved parking area (18 single spaces with one accessible space) and a single-panel information kiosk. A restroom associated with the campground is located adjacent to the trailhead. For purposes of the Recreation Assessment, City Light is evaluating the initial 1.6 miles of the trail from Colonial Creek Campground to the junction with the Fourth of July Trail.

## Trailhead

Overall, the trailhead facility is “accessible” with the parking area and information kiosk meeting the applicable standards (Table 5.2-11). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts. The trailhead does not have a trail conditions sign that describes the level of difficulty, trail conditions, and general accessibility constraints or obstacles.

**Table 5.2-11. Accessibility evaluation summary at Thunder Creek Trailhead.**

Site Amenity	Accessibility Rating	Comments
Parking area	Accessible	The paved parking area includes 1 accessible parking space (single vehicle with markings/signage) meeting the standard for 18 total spaces; access route provided to the information kiosk/start of the trail.
Information kiosk	Accessible	The kiosk includes an access route from the accessible parking space (adjacent to the kiosk/start of the trail) and clear space at the kiosk.
<b>Overall</b>	<b>Accessible</b>	<b>Facilities appear fully consistent with current ABA standards.</b>

## Trail

Overall, the Thunder Creek Trail winds through the forest along Thunder Creek before crossing the creek (bridge) and connecting to the Fourth of July Trail. Overall, the trail ascends approximately 125 ft over the course of the 1.6-mile-segment evaluated, with mostly rolling terrain with moderate grades/slopes (i.e., 3 to 8 percent), and several short, steep sections with excessive slopes (i.e., 10 to 15 percent). The first half of the evaluated trail section has modest tread widths between 36 and 48 inches, which narrows (24 to 36 inches) along much of the second half of the trail leading to the bridge, with increasing instances of encroaching vegetation and obstacles resulting in narrow tread widths. The most common accessibility constraints are significant tread obstacles (4 to 8 inches high) including rocks and roots and areas of excessive cross slope (5 to 10 percent). There are also several locations where the tread width is impacted by downslope erosion that reduces the tread width. Overall, despite the rolling terrain and nominal overall rise of the 1.6-mile-long trail segment, the constraints noted above are pervasive.

### 5.2.2.7 Diablo Lake Trail

The 3.8-mile-long Diablo Lake Trail starts at the ELC parking area and provides access to the upstream end of Diablo Lake and Ross Lake in the Ross Powerhouse and Ross Dam area. The trailhead parking area is part of the ELC parking areas (see Section 5.2.1.5 of this study report). Since the trail does not have a stand-alone trailhead facility, City Light only conducted the qualitative trail accessibility assessment.

Overall, the Diablo Lake Trail ascends approximately 1,400 ft in the first 2.5 miles to a ridge that overlooks Diablo Lake before descending steeply in the final mile to the bridge over Diablo Lake that connects to Ross Powerhouse, as well as trails to Ross Lake/Dam. Overall, the steep running slope on the trail is the primary accessibility constraint, which is pervasive and substantial. Beyond the steep running slope, much of the start of the trail from the ELC parking area is on a varied, inconsistent trail surface with frequent sections with significant tread obstacles (3 to 12 inches high), including loose rocks and gravel, large, embedded rocks, and roots, most of which span the majority of (if not the entirety of) the tread width. Several narrow wooden bridge crossings are also found on the initial ascent to the ridgetop.

The tread width varies along the entirety of the trail from 18 inches in some locations to 24 to 36 inches for much of the trail. The descent from the ridgetop to the bridge over Diablo Lake has some of the steepest running slopes between 10 and 20 percent with the steepest sections in the final 0.5-mile segment. This portion of the trail also has numerous natural stepped trail surface

sections and several major creek/drainage crossings consisting of large, loose rocks and boulders. Only the short, approximately 0.25-mile-long segment along the ridge/outcrop (where excellent vistas exist) is in moderate terrain with lesser slopes, more consistent trail surfacing, and fewer tread obstacles.

Overall, the accessibility constraints on this trail are substantial and pervasive throughout the trail, primarily on the segments leading to/from the ELC and the bridge over Diablo Lake. The trailhead does not have a trail conditions sign that describes the level of difficulty, trail conditions, and general accessibility constraints or obstacles.

#### 5.2.2.8 Diablo Lake to Ross Lake Portage Route

FERC recommended in its SPD that City Light assess the Diablo Lake to Ross Lake portage route. The portage route is not a Project facility, but rather utilizes a combination of Project and non-Project facilities and services to bring visitors between Diablo Lake and Ross Lake. The overall route is the same throughout, except at Diablo Lake where two alternatives for starting the route exist, including either: (1) the West Ferry Landing when visitors utilize City Light's ferry service; or (2) Colonial Creek Boat Launch when visitors paddle/motor across Diablo Lake. Both alternatives lead to the East Ferry Landing area, where from this point forward, there is a single route with alternative features or services provided to traverse the remainder of the route. The full portage route in order from the west (Diablo Lake) to the east (Ross Lake) includes the features and alternatives identified in Table 5.2-12.

**Table 5.2-12. Diablo Lake to Ross Lake portage route features and services (east-to-west).**

<b>Step 1 (Diablo Lake)</b>	<b>Step 2 (Diablo Lake)</b>	<b>Step 3 (transition between lakes)</b>	<b>Step 4 (Ross Lake)</b>
A-West Ferry Landing (ferry service) or B-Colonial Creek Boat Launch (paddle/motor)	A-East Ferry Landing or B-NPS Portage Dock	A-Ross Dam Haul Road (hike) or B-Ross Lake Resort shuttle (vehicle)	Ross Lake Resort Dock

Overall, the portage route is “inaccessible” with a few accessible amenities, but numerous limiting factors as detailed in Table 5.2-13.

**Table 5.2-13. Summary of the Diablo Lake to Ross Lake portage route accessibility evaluation.**

<b>Portage Route Feature</b>	<b>Type of Facility</b>	<b>Accessibility Rating</b>	<b>Comments</b>
1A-West Ferry Landing/City Light Ferry (Alice Ross IV)	Project	Partially accessible	The West Ferry Landing dock is accessible, but the parking area and access route (steps) to the boat dock do not meet the requisite standards. The current ferry boat (Cascadian) was built in 1973 and does not meet current accessible standards.
1B-Colonial Creek Boat Launch	Non-Project	Partially Accessible	The floating courtesy dock is designed to meet accessibility standards. When water levels drop, the slope of the gangway may fall outside the running slope standards. Notably, launch ramps are excluded from accessibility standards, but the access route to the top of

Portage Route Feature	Type of Facility	Accessibility Rating	Comments
			the ramp from the parking area does not meet the requisite standards.
2A-East Ferry Landing	Project	Partially accessible	The transition from the ferry boat to the dock is accessible and the landing structure is accessible including the gangway to the start of the Ross Dam Haul Road.
2B-NPS Portage Dock	Non-Project	Inaccessible	The NPS portage dock is an alternative to the East Ferry Landing used by visitors not utilizing the City Light ferry service. The boat dock is inaccessible as the dock surface is uneven and the access route from the dock to the Ross Dam Haul Road utilizes steps and does not meet the standards. Notably, City Light will be installing a new accessible kayak dock with slips at the East Ferry Landing (planned for 2022), which would provide an alternative to the NPS portage dock.
3A-Ross Dam Haul Road	Project	Inaccessible	The Ross Dam Haul Road is used by visitors to hike/portage from the East Ferry Landing to Ross Lake near Ross Dam. The roadway is very steep in sections, including the immediate ramp from the East Ferry Landing.
3B-Ross Lake Resort Shuttle	Non-Project	Inaccessible	As an alternative to hiking/walking the Ross Dam Haul Road, visitors may hire (fee) the non-Project Ross Lake Resort to pick up visitors disembarking at the East Ferry Landing. Currently, the vehicle used to transport visitors (truck) does not provide accessible vehicle accommodations.
4-Ross Lake Resort dock	Non-Project	Inaccessible	The non-Project Ross Lake Resort dock at the end of the Ross Dam Haul Road is not an accessible design and the fluctuating reservoir levels make meeting accessible standards (i.e., access route slopes and surfacing) challenging at this location.
<b>Overall</b>		<b>Inaccessible</b>	<b>Only a few components meet accessible standards and overall, the portage route has numerous limiting factors.</b>

### 5.3 Gorge Lake

City Light evaluated the recreation facilities at Gorge Lake as shown in Table 4.1-1. Refer to Section 4.1.4 of this study report for the specific types of evaluations required at each study site.

#### 5.3.1 Project Recreation Facilities

##### 5.3.1.1 Ross Lodge Picnic Shelter

The Ross Lodge Picnic Shelter is located in the Hollywood section of the Diablo townsite adjacent to Ross Lodge. The facility consists of roadside parking and a picnic shelter with picnic tables. City Light conducted an inventory as well as condition, accessibility, and use impact assessments at this facility (refer to Section 4.1.4 of this study report).

Overall, the facility is “partially accessible” with some accessible amenities (Table 5.3-1). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts.

**Table 5.3-1. Inventory, condition, and accessibility evaluation summary at Ross Lodge Picnic Shelter.**

Site Amenities	Evaluations			Comments
	Inventory	Condition	Accessibility	
Parking	Roadside parallel parking (paved, spaces not marked)	Good	Inaccessible	Lacks requisite accessible signage, markings, width, and access aisle.
Picnic shelter	Open-sided wood shelter with concrete floor; 3 picnic tables	Good	Partially accessible	The shelter floor area meets the surfacing/slope standards, but the picnic tables are not accessible models. The access route (5 ft-wide concrete path) meets the standards except for the transition from the parking area, which has a tread obstacle (4-inch vertical curb).
<b>Overall</b>	<b>N/A</b>	<b>Good</b>	<b>Partially accessible</b>	

#### 5.3.1.2 Gorge Lake Boat Launch

The Gorge Lake Boat Launch facility is located adjacent to Gorge Lake Campground. The facility consists of a single-lane concrete boat launch ramp, floating courtesy dock, gravel parking area, and an information kiosk. City Light conducted an inventory as well as condition, accessibility, and use impact assessments at this facility (refer to Section 4.1.4 of this study report).

Overall, the facility is in “good” overall condition and is “inaccessible” with few/limited accessible components (Table 5.3-2). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts.

**Table 5.3-2. Inventory, condition, and accessibility evaluation summary at Gorge Lake Boat Launch.**

Site Amenities	Evaluations			Comments
	Inventory	Condition	Accessibility	
Launch ramp	12 ft-wide concrete ramp	Good	N/A	Launch ramps are excluded from accessibility standards.
Courtesy dock	8 ft by 20 ft dock; 20 ft long gangway with railings	Good	Partially accessible	The dock is designed to meet accessibility standards; however, at lower water levels, the slope of the gangway may fall outside the running slope standards; and eventually the dock is out of the water and non-functioning as was observed during this evaluation.
Parking area	Unmarked gravel lot	Good	Inaccessible	The gravel parking area has a firm/stable surface, but lacks designated parking spaces (no striping, signage or access aisle).

Site Amenities	Evaluations			Comments
	Inventory	Condition	Accessibility	
Information kiosk	1 information board	Good	Inaccessible	The kiosk does not have the requisite clear space/approach.
<b>Overall</b>	<b>N/A</b>	<b>Good</b>	Inaccessible	Few/limited accessible components overall.

### 5.3.2 Non-Project Recreation Facilities

#### 5.3.2.1 Gorge Lake Campground

The Gorge Lake Campground is located near the town of Diablo, just downstream of the mouth of Stetattle Creek. The facility consists of eight camp sites, and a two-unit vault restroom. Each campsite has a picnic table, fire ring, food locker, and vehicle parking spur. Water is not provided at this facility.

Overall, the facility is “inaccessible” with only the restroom buildings meeting the standards (Table 5.3-3). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts.

**Table 5.3-3. Accessibility evaluation summary at Gorge Lake Campground.**

Site Amenity	Accessibility Rating	Comments
Campsites	Inaccessible	Nearly all the campsite amenities (table, fire ring, and lockers) did not meet the standards and/or clear space around the amenities. The campsites are densely packed into a small area creating spacing constraints within nearly all the sites, whereby the clear space and ORARs are restricted. While the site terrain is largely level throughout, the surfacing is varied and not firm/compact throughout (i.e., combination of small, loose gravel and pine needle debris). The vehicle parking spurs are not clearly defined and appear too narrow to meet the standards. Accessibility at this site could be achieved with minor improvements and possibly the reduction in total number of sites.
Restroom	Partially accessible	The restroom building is designed to accessible standards; however, the access route does not meet the standards due to varied and inconsistent surfacing (i.e., combination of loose gravel and grass).
<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

#### 5.3.2.2 Diablo Dam Trail and Trailhead

The 0.5-mile-long Diablo Dam Trail originates in the Reflector Bar section of the Diablo townsite and was originally constructed to provide a means of reaching Diablo Dam if other access (i.e., road and helicopter) was unavailable. Currently, this trail appears to receive very little use and in recent years has been used mostly by NCI staff who lived in Diablo and worked at the ELC, or by City Light staff (City Light 2020). The trail does not have a formal trailhead and informal parking occurs along the road shoulder. A single, metal trail sign indicates the start of the trail off Diablo Street. City Light evaluated the trailhead for accessibility and use impacts and the trail for the qualitative trail accessibility assessment (refer to Section 4.1.4 of this study report).

Overall, the informal trailhead parking area is “inaccessible” with no accessible components (Table 5.3-4). The recreation use impact evaluation for the informal roadside parking area was “low” without notable signs of use impacts. The start of the trail/roadside parking area is generally overgrown with vegetation and the initial 100 ft of trail is not clearly defined.

**Table 5.3-4. Accessibility evaluation summary at Diablo Dam Trailhead.**

Site Amenity	Accessibility Rating	Comments
Parking area	Inaccessible	The informal roadside parking is not defined, marked, or signed.
<b>Overall</b>	<b>Inaccessible</b>	<b>No accessible components.</b>

Overall, the Diablo Dam Trail ascends steeply approximately 350 vertical ft from the informal parking area to the terminus of the trail at the paved road leading to Diablo Dam. The primary accessibility constraints are the steep running slope of the trail that is continuous for the majority of the trail and the varied, inconsistent trail surface that is predominantly loose rock with significant tread obstacles (3 to 18 inches high). In addition, the trail tread width is narrow (12 to 24 inches) with prevalent excessive cross slopes combined with eroding tread width on the downhill side of the trail. Overall, the accessibility constraints on this trail are substantial and pervasive throughout the trail. The trail does not have a trail conditions sign that describes the level of difficulty, trail conditions, and general accessibility constraints or obstacles.

#### 5.3.2.3 Sourdough Mountain Trailhead

The Sourdough Mountain Trailhead is located on City Light property in the Hollywood section of the Diablo townsite. The trail leads steeply away from the Project/Gorge Lake area to the Sourdough Mountain lookout and into North Cascades National Park. The informal trailhead facility consists of paved roadside parking, a single-panel information kiosk, and a trail marker. City Light evaluated the trailhead for accessibility and use impacts (refer to Section 4.1.4 of this study report).

Overall, the trailhead facility is “inaccessible” with few/limited accessible components (Table 5.3-5). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts. The trail does not have a trail conditions sign that describes the level of difficulty, trail conditions, and general accessibility constraints or obstacles.

**Table 5.3-5. Accessibility evaluation summary at Sourdough Mountain Trailhead.**

Site Amenity	Accessibility Rating	Comments
Parking area	Inaccessible	The informal, unmarked roadside parking area is paved and mostly level, but does not have marked spaces or accessible signage/markings and requires users to cross the street to access the start of the trail.
Information kiosk	Inaccessible	The kiosk is located approximately 75 ft from the parking area along the trail and does not meet the standards for the clear space (i.e., surfacing is not firm/stable/compacted) or the access route. The start of the trail is across a grass field without a discernable trail surface.
<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

#### 5.3.2.4 Stetattle Creek Trailhead

The Stetattle Creek Trailhead is located on City Light property in the Hollywood section of the Diablo townsite at the mouth of Stetattle Creek. The trail leads away from the Project/Gorge Lake area along Stetattle Creek and north into North Cascades National Park. The informal trailhead facility consists of an unmarked gravel roadside parking area and a trail marker. City Light evaluated the trailhead for accessibility and use impacts (refer to Section 4.1.4 of this study report).

Overall, the trailhead facility is “inaccessible” with few/limited accessible components (Table 5.3-6). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts. The trail does not have a trail conditions sign that describes the level of difficulty, trail conditions, and general accessibility constraints or obstacles.

**Table 5.3-6. Accessibility evaluation summary at Stetattle Creek Trailhead.**

Site Amenity	Accessibility Rating	Comments
Parking area	Inaccessible	The informal, unmarked roadside parking area is a gravel surface and mostly level but does not have marked spaces or accessible signage/markings and requires users to cross the street to access the start of the trail.
<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

#### 5.3.2.5 Gorge Creek Overlook

The Gorge Creek Overlook is located along SR 20 where Gorge Creek flows into Gorge Lake. The facility consists of two paved parking areas on either side of Gorge Creek, a vault restroom building, and an interpretive trail. The parking areas are connected via a bridge on SR 20 with protected pedestrian walkways, which allows visitors to view Gorge Creek Falls from either parking area. City Light conducted accessibility and use impact assessments at this facility (refer to Section 4.1.4 of this study report).

Overall, the facility is “partially accessible” with some accessible amenities, namely the restroom building and the interpretive trail and displays (Table 5.3-7). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts as the site is a fully developed and hardened site with sanitation facilities. Some trash was observed in the parking area immediately outside the dumpster, but this appeared to be the result of wildlife interaction and not visitor behavior.

**Table 5.3-7. Accessibility evaluation summary at Gorge Creek Overlook.**

Site Amenity	Accessibility Rating	Comments
Parking area	Partially accessible	The main parking area provides 2 accessible parking spaces (24 total spaces) in the paved and striped parking lot including accessible parking signage/markings. The number of accessible spaces meets the requirement. The secondary RV and trailer parking area is located across the SR 20 bridge and lacks striped spaces and accessible parking signage/markings. An accessible route from the secondary parking area to the main parking area and other facilities does not exist.
Restrooms	Accessible	The vault restroom buildings are designed to accessible standards with associated access routes from the parking area.
Interpretive displays	Accessible	The interpretive displays are dispersed throughout the overlook trail and meet the standards. The displays are accessible with clear space/slopes and connecting access routes.
Trash receptacles	Partially accessible	The receptacles lack accessible access routes and operable parts; the dumpster has the proper clear space/approach (note: dumpster containers are exempt from the operable parts requirements).
Overlook trail	Partially accessible	The first half of the trail (approximately 1,200 ft) is paved asphalt and designed to accessible standards with a trail conditions sign at the start of the trail. The second half of the trail (approximately 1,800 ft) is gravel surfaced trail that loops back to the parking area, but does not meet trail accessibility standards (i.e., steep running slopes, areas of loose gravel surfacing, minimal tread width, lack of resting interval, root tread obstacles). However, the gravel trail segment does have a trail conditions sign at each end of the segment identifying the level of difficulty.
<b>Overall</b>	<b>Partially accessible</b>	<b>Some accessible components, but not fully compliant.</b>

## Trail

As detailed in Table 5.3-7, the interpretive trail is divided into two distinct segments. The first 1,200-ft-long segment is a paved asphalt trail designed to meet accessible standards, including accessible access to the interpretive displays along the route. While the trail is designed to accessible standards, there are several locations where trail conditions have changed since its initial construction that have resulted in short segments that do not meet the standards. These include two areas where tree root upheaval has created inconsistent surfacing with cross slopes beyond the 5 percent standard. In addition, one of these areas also has some drainage issues where trailside debris (i.e., loose rocks and dirt) has encroached on the tread width creating an uneven and loose trail surface.

The second 1,800-ft-long segment is a narrower, gravel surface trail that loops back to the main parking/restroom area. This segment does not meet accessible standards due to steep running slopes, areas of loose gravel surfacing, a narrow tread width lacking resting intervals/passing spaces, and occasional tread obstacles (roots).

Overall, the trail provides an accessible interpretive trail opportunity for the initial segment of the trail with two inaccessible areas due to changing site conditions. The facility also provides an unpaved, inaccessible trail segment on the second half of the loop, but with trail conditions signs

allowing visitors to determine if the trail is navigable based on the difficulty rating and noted conditions.

## 5.4 Newhalem

City Light evaluated the recreation facilities in Newhalem as shown in Table 4.1-1. Refer to Section 4.1.4 of this study report for the specific types of evaluations required at each study site. All the recreation study sites in Newhalem are Project facilities.

### 5.4.1 Project Recreation Facilities

#### 5.4.1.1 Gorge Powerhouse Parking Area

The Gorge Powerhouse parking area is located at the east end of Newhalem along the Skagit River. The facility consists of a gravel parking area and interpretive displays. City Light conducted an inventory as well as condition, accessibility, and use impact assessments at this facility (refer to Section 4.1.4 of this study report).

Overall, the facility is in “good” overall condition and is “inaccessible” with few/limited accessible amenities (Table 5.4-1). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts.

**Table 5.4-1. Inventory, condition, and accessibility evaluation summary at Gorge Powerhouse parking area.**

Site Amenities	Evaluations			Comments
	Inventory	Condition	Accessibility	
Parking area	Gravel parking lot with wheel-stops	Good	Inaccessible	The gravel parking area has a firm/stable surface, but lacks designated parking spaces (no striping, signage, or access aisle). One of the spaces has an accessible sign, but the space does not meet the standards.
Interpretive displays	6 interpretive panels about the hydroelectric facilities	Good	Partially accessible	Some of the panels do not have the requisite clear space/approach; the panel heights and access route meet the standards.
Information kiosk	1-panel information board about the Skagit River Project	Good	Inaccessible	The kiosk does not have the requisite clear space/approach.
<b>Overall</b>	<b>N/A</b>	<b>Good</b>	Inaccessible	Few/limited accessible components overall

#### 5.4.1.2 Gorge Powerhouse Visitor Gallery

The visitor gallery in Gorge Powerhouse is located on the upper floor of the Gorge Powerhouse. City Light inventoried the visitor gallery exhibits (refer to Section 4.1.4 of this study report).

The visitor gallery sits above the Powerhouse floor with large glass windows that provide visitors with a view of the generators and other equipment on the generator floor below. Interpretive

exhibits installed in 2016 provide information around four themes, including how hydroelectricity is generated, the history of the Project, Project operations, and environmental programs included in the current Project license.

#### 5.4.1.3 Skagit Information Center

The Skagit Information Center is located on Main Street in Newhalem. City Light inventoried the visitor gallery exhibits (refer to Section 4.1.4 of this study report). The facility consists of restrooms, a breezeway with map cases, a large room with interpretive exhibits on Project history and information on the natural and cultural resources of the North Cascades, and a retail store. The information desk in the center is staffed by employees from City Light, NPS, and NCI.

#### 5.4.1.4 Gorge Inn Museum

The Gorge Inn Museum is located inside the Gorge Inn on the south end of Main Street in Newhalem. City Light inventoried the visitor gallery exhibits (refer to Section 4.1.4 of this study report).

The Gorge Inn houses a small museum that presents a social history of the Upper Skagit River Valley and the Project, including Indian Tribe use of the area; Newhalem town life over the years; and J.D. Ross, the long-time superintendent and “Father of City Light” who conceived of and drove the construction of the Project (City Light 2020).

#### 5.4.1.5 Newhalem Townsite General Recreation Amenities

Beyond the site-specific recreation facilities described above, the Newhalem townsite also provides a variety of other general recreational amenities dispersed throughout the townsite, including parking areas, picnic sites, interpretive displays, and a playground. City Light conducted an inventory as well as condition, accessibility, and use impact assessments of these additional recreation amenities (refer to Section 4.1.4 of this study report).

Overall, the general recreation and interpretive amenities are in “good” condition overall and are “partially accessible” with some accessible amenities (Table 5.4-2). The recreation use impact evaluation for these general Newhalem townsite amenities was “low” without notable signs of use impacts.

**Table 5.4-2. Inventory, condition, and accessibility evaluation summary at Newhalem Townsite general recreation amenities.**

Site Amenities	Evaluations			Comments
	Inventory	Condition	Accessibility	
Parking areas	<u>Main Street Lot:</u> Paved/striped lot with curbing; 24 parking spaces (three accessible)  <u>SR 20 Lot:</u> Gravel lot with wheel-stop; 30 parking spaces (two accessible); overflow RV and trailer parking area (no striping); dumpsters; electric vehicle charging station	Good	Partially accessible	The Main Street paved parking area meets the requisite standards, except for the signage at the space near the Gorge Inn. The SR 20 gravel parking area appears to meet the standards including concrete surfacing at the accessible spaces, but the space striping and marking are faded. The dumpsters meet the clear space and approach standards.
Picnic sites	17 picnic sites, each with a picnic table	Good	Partially accessible	Some of the picnic sites are connected to a parking area (namely SR 20 area) via an access route that meets accessible standards, but the rest do not. None of the tables are accessible models and nearly all lack the requisite clearance requirements.
Interpretive displays	Seven interpretive displays: The Iron Horse of the Skagit; Automobiles Come to the Skagit; The Meaning of Place; Newhalem Company Town; Spinning Waterwheel; Temple of Power; and Chinook Redd	Good	Partially accessible	Some of the displays have the requisite access routes, clear space, or panel heights at the displays. Some do not meet one or more of the access route, clear space, or panel height standards. Some displays have access routes across uneven, grass/lawn areas.
Playground	Multiple play structures and equipment; one accessible parking space with 5 ft-wide concrete pathway	Good	Partially accessible	The play equipment area surfacing does not meet the standards. An access route (5 ft wide concrete pathway) from a designated accessible parking space provides access to the playground area and meets the access route standards, but the transition from the access route to the playground equipment does not meet the standards (i.e., curbing).
<b>Overall</b>	<b>N/A</b>	<b>Good</b>	Partially accessible	Some accessible components.

#### 5.4.1.6 Ladder Creek Falls Trail and Gardens

The 0.3-mile-long Ladder Creek Falls Trail is located adjacent to Gorge Powerhouse along Ladder Creek in Newhalem. A facility-specific trailhead does not exist and utilizes the Gorge Powerhouse parking area for parking (refer to Section 5.4.1.1 of this study report). City Light conducted an inventory and condition evaluation of the amenities associated with the trail (i.e., interpretive panels, benches, and lighting) (refer to Section 4.1.4 of this study report).

The Ladder Creek Falls Trail leads to Ladder Creek Falls, a dramatic series of waterfalls in a slot canyon, and winds along the creek and through a garden developed on the adjacent hillside. The trail includes four interpretive panels, three wooden benches, and colored lighting that illuminates the falls and surrounding features at night. All the facilities are in “good” condition. The trail does not have a trail conditions sign that describes the level of difficulty, trail conditions, and general accessibility constraints or obstacles.

#### 5.4.1.7 Trail of the Cedars

The 0.4-mile-long Trail of the Cedars is located on the south side of Newhalem and the Skagit River. This interpretive trail provides pedestrian access from Newhalem to the Newhalem Creek Powerhouse and links with a NPS trail that leads to Newhalem Creek Campground. The Trail of the Cedars begins at the suspension bridge at the end of Main Street in Newhalem, crosses the Skagit River, and then meanders through the forest along the river. The facility does not have a designated trailhead; instead, visitors utilize the parking areas in Newhalem (refer to Section 5.4.1.5 of this study report). City Light conducted an inventory, condition evaluation of the amenities associated with the trail (i.e., interpretive displays) and a trail accessibility evaluation (refer to Section 4.1.4 of this study report).

The trail is a compacted, gravel surface trail ranging from 3 to 6 ft in width. A total of 28 interpretive displays are dispersed throughout the trail. The displays generally consist of synthetic panels with metal frames on metal posts unless affixed to a structure. The displays are either situated along the edge of the trail or at the Newhalem Creek Powerhouse building. The Newhalem Creek Powerhouse building serves as an interpretive feature at the midpoint of the trail with windows allowing visitors to observe various powerhouse facilities. All the interpretive displays are in “good” condition.

Regarding the qualitative trail accessibility evaluation, the trail has few constraints, and the majority of the trail meets accessibility standards, including surfacing (compacted/firm and stable), clear tread width (mostly 48 to 60 inches wide with short segments 36 inches wide), cross slopes (5 percent or less), and running slopes (largely between 0 and 5 percent with short segments between 8 and 12 percent). However, several locations along the trail had notable constraints, including several steep running slope segments exceeding the 12 percent threshold, a short segment where the cross slope exceeded the 5 percent threshold, and one location where a tree uprooted, and the root-ball impeded the clear tread width. The running slope segments of note included a 60 ft-long segment at the start of the trail between 19 and 22 percent slope, a 30 ft-long segment in the first third of the trail with 12 to 14 percent slope, and 125 ft-long segment in the middle of the trail with 12 to 14 percent slope. Overall, the trail is close to meeting the standards outside of a few notable constraints. The trail does not have a trail conditions sign that describes the level of difficulty, trail conditions, and general accessibility constraints or obstacles.

### 5.4.2 Non-Project Recreation Facilities

There are no non-Project recreation facility study sites in Newhalem.

## 5.5 Skagit River

City Light evaluated the recreation facilities in the Skagit River from Newhalem to Marblemount as shown in Table 4.1-1. Refer to Section 4.1.4 of this study report for the specific types of evaluations required at each study site.

### 5.5.1 Project Recreation Facilities

There are no Project recreation facilities in the Skagit River study area.

### 5.5.2 Non-Project Recreation Facilities

#### 5.5.2.1 Goodell Creek Campground

The Goodell Creek Campground facility is located along the lower reaches of Goodell Creek on the north bank of the Skagit River just downstream from the mouth of the creek. The campground consists of 21 sites (19 standard sites and 2 group sites), a picnic shelter, potable water, vault restroom buildings, trash facilities, and an information kiosk. Each campsite includes a picnic table, fire ring, food locker, and vehicle parking spur. City Light conducted accessibility and use impact assessments at this facility (refer to Section 4.1.4 of this study report).

Overall, the facility is “partially accessible” with some accessible elements including some aspects of the restroom buildings, picnic shelter, trash facilities, and information kiosk, but the campsites are generally inaccessible (Table 5.5-1). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts.

**Table 5.5-1. Accessibility evaluation summary at Goodell Creek Campground.**

Site Amenity	Accessibility Rating	Comments
Campsites	Inaccessible	Nearly all the campsite amenities (table, fire ring, lockers, water hydrants) are not accessible models and most lack adequate clearances/clear space requirements. The campsite slopes and surfacing are varied and inconsistent with impediments to the requisite ORARs. The water hydrants lack the requisite clear space/approach and operable parts (i.e., not paddle-type levers).
Restrooms	Partially accessible	Some of the restroom buildings (2-unit models) are designed to accessible standards; however, the access routes have inconsistent surfacing and widths that do not meet the standards. The smaller, single-unit restrooms do not meet accessible standards.
Picnic shelter	Partially accessible	The picnic tables and pedestal grills are not accessible models and lack the requisite clearances/clear space. The access route to the shelter and the surfacing (concrete) at the shelter meet the standards.
Trash receptacles	Partially accessible	The receptacles and dumpsters have adequate clear space/approaches, but not all the receptacles’ operable parts meet the standards. Dumpster operable parts are excluded from the standards.
Information kiosk	Accessible	The kiosk has the requisite access route and clear space off the main circulation road near the entrance to the campground.
<b>Overall</b>	<b>Partially accessible</b>	<b>Some accessible components.</b>

### 5.5.2.2 Goodell Creek Boat Launch

The Goodell Creek Boat Launch facility is located on the Skagit River adjacent to the Goodell Creek Campground. The site provides opportunities for cartop launching of non-motorized boats into the Skagit River. The facility consists of a dirt and gravel launch ramp, paved parking area, picnic sites, trash facilities, and information kiosk. City Light conducted accessibility and use impact assessments at this facility (refer to Section 4.1.4 of this study report).

Overall, the facility is “inaccessible” with few/limited accessible components (Table 5.5-2). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts.

**Table 5.5-2. Accessibility evaluation summary at Goodell Creek Boat Launch.**

Site Amenity	Accessibility Rating	Comments
Launch ramp	N/A	Note that the ramp itself is excluded from accessibility standards; however, access to the top/start of the boat launch ramp does meet accessible standards.
Parking area	Inaccessible	The parking area is paved but lacks striping and marked/signed accessible spaces. An additional paved and striped parking area (no accessible spaces) is available outside the immediate facility.
Picnic site	Inaccessible	The picnic tables are not accessible models and the site as currently oriented lacks the requisite clearances. The access route to the picnic tables meets the standards (i.e., width, surfacing and slopes).
Trash receptacles	Inaccessible	The receptacles do not meet the requisite clear space/approach and operable parts standards.
Information kiosk	Accessible	The kiosk has the requisite access route from the parking area and clear space at the kiosk.
<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

### 5.5.2.3 Damnation Creek Boat-in Picnic Site

The Damnation Creek Boat-in Picnic Site is located on the Skagit River between the Goodell Creek Boat Launch and Copper Creek Boat Access Site. The site provides riverside opportunities for picnicking and is accessed primarily by boaters on the Skagit River. The facility consists of two picnic sites and a single-unit vault restroom building. City Light conducted accessibility and use impact assessments at this facility (refer to Section 4.1.4 of this study report).

Overall, the facility is “inaccessible” with few/limited accessible components (Table 5.5-3). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts. The site appears to experience very low use with encroaching vegetation and few signs of regular use.

**Table 5.5-3. Accessibility evaluation summary at Damnation Creek Boat-in Picnic Site.**

Site Amenity	Accessibility Rating	Comments
Picnic site	Inaccessible	The two picnic tables are not accessible models and the site as currently oriented lacks the requisite clearances and access routes to the picnic tables.
Restroom	Partially accessible	The single-unit vault restroom building is designed to accessible standards; however, the access route does not meet the standards due to varied/uneven surfacing.
<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

#### 5.5.2.4 Copper Creek Boat Access Site

The Copper Creek Boat Access Site is located on the Skagit River downstream of the Goodell Creek Boat Launch and Damnation Creek Boat-in Picnic Site. The site provides opportunities for cartop launching for non-motorized boats into the Skagit River. The facility consists of a dirt and gravel launch ramp, gravel parking area, and a single-unit vault restroom building. City Light conducted accessibility and use impact assessments at this facility (refer to Section 4.1.4 of this study report).

Overall, the facility is “inaccessible” with few/limited accessible components (Table 5.5-4). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts.

**Table 5.5-4. Accessibility evaluation summary at Copper Creek Boat Access Site.**

Site Amenity	Accessibility Rating	Comments
Launch ramp	N/A	Note that the ramp itself is excluded from accessibility standards; however, access to the top/start of the boat launch ramp does meet accessible standards.
Parking area	Inaccessible	The gravel parking area lacks marked/signed accessible spaces.
Restroom	Partially accessible	The single-unit vault restroom building is designed to accessible standards; however, the access route does not meet the standards due to narrow width and uneven and varied surfacing (grass and concrete).
<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

#### 5.5.2.5 Marblemount Boat Launch

The Marblemount Boat Launch facility is located on the Skagit River, just upstream of the confluence with the Cascade River and about 12 miles downstream from Newhalem. The facility provides an unpaved boat launch, gravel parking area, a portable restroom building, and an information kiosk. City Light conducted accessibility and use impact assessments at this facility (refer to Section 4.1.4 of this study report).

Overall, the facility is “inaccessible” with few/limited accessible components (Table 5.5-5). The recreation use impact evaluation for the facility was “low” without notable signs of use impacts.

**Table 5.5-5. Accessibility evaluation summary at Marblemount Boat Launch.**

Site Amenity	Accessibility Rating	Comments
Launch ramp	N/A	Note that the ramp itself is excluded from accessibility standards; however, access to the top/start of the boat launch ramp does meet accessible standards.
Parking area	Inaccessible	The gravel parking area has a single accessible sign, but the space is not designated, and the lot surfacing is not firm/stable.
Restroom	Inaccessible	The portable restroom building is not designed to accessible standards and the access route and door clearances/approach do not meet the standards.
Information kiosk	Inaccessible	The three-panel covered kiosk does not meet the requisite standards for the access route from the parking area and clear space at the kiosk.
<b>Overall</b>	<b>Inaccessible</b>	<b>Few/limited accessible components overall.</b>

## 5.6 Gorge Lake Boat Launch Ramp Assessment

Based on City Light's as-built drawings for the facility, the Gorge Lake Boat Launch ramp constructed top of the ramp is at 883 ft elevation and the constructed bottom is at 875 ft elevation (North American Vertical Datum 1988 [NAVD 88]). The boat ramp is considered functional from the constructed top of the boat ramp down to 3 ft above the lower end of the constructed ramp. Based on these specifications, the boat ramp functional elevation range is 5 vertical ft from 883 ft down to 878 ft elevation (NAVD 88).

The next step, to identify the usable periods of the Gorge Lake Boat Launch ramp, requires City Light to use the output from the OM-01 Operations Model Study (City Light 2022). The Operations Model Study will provide the daily median reservoir water surface elevations for the period of record and allow a comparison to the 5 ft functional elevation range of the ramp to identify the periods of the recreation season (April through October) that the boat ramp is usable. The results of this task will be included in the study report in the USR.

## **6.0 SUMMARY**

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City Light has completed the first step of the Recreation Assessment, the inventory and evaluations of existing recreation facilities (including condition, accessibility, and use impact evaluations), as well as the initial step in the Gorge Lake Boat Launch ramp assessment. The majority of the study remains, including: (1) identifying recreation uses and visitor attitudes, beliefs, and preferences (i.e., visitor surveys, observation counts, trail use counts); (2) estimating current recreation use at recreation resource areas; (3) identifying future recreation use and demand opportunities; and (4) data analysis and preparation of the study report for the USR. City Light will complete these remaining tasks in 2022, including intensive field data collection for the visitor surveys, observation counts, and trail use counts from May through October 2022. Collection of these additional data and subsequent data analysis are required before City Light may comprehensively discuss the study findings in the study report in the USR.

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

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There are no variances from or proposed modifications to the FERC-approved study plan for the Recreation Assessment.

## 8.0 REFERENCES

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- Cordell, K. H. 2012. Outdoor recreation trends and futures: a technical document supporting the Forest Service 2010 RPA assessment. U.S. Department of Agriculture, Forest Service, Southern Research Station. Asheville, North Carolina.
- Malvestuto, S. P. 1996. Sampling the recreational creel fisheries techniques (Chapter 20), 2nd edition. American Fisheries Society. Bethesda, Maryland.
- National Park Service (NPS). 2001. The National Park Service Comprehensive Survey of the American Public. Technical Report. NPS Social Science Program. June 2001.
- \_\_\_\_\_. 2012. Ross Lake National Recreation Area General Management Plan. Pacific West Region. Seattle, Washington. July 2012.
- Pollock, K. H., C. M. Jones, and T. L. Brown. 1994. Angler survey methods and their applications in fisheries management (Chapter 11). American Fisheries Society. Bethesda, Maryland.
- Recreation and Conservation Office (RCO). 2017. State Recreation and Conservation Plan, 2018-2022.
- Salant, P. and Dillman, D.A. 1994. How to conduct your own survey. John Wiley and Sons, Inc. Hoboken, New Jersey.
- Seattle City Light (City Light). 2020. Pre-Application Document (PAD) for the Skagit River Hydroelectric Project, FERC Project No. 553. April 2020.
- \_\_\_\_\_. 2021. Revised Study Plan (RSP) for the Skagit River Hydroelectric Project, FERC Project No. 553. April 2021.
- \_\_\_\_\_. 2022. OM-01 Operations Model Summary Study, Interim Report for the Skagit River Hydroelectric Project, FERC Project No. 553. Prepared by HDR Engineering, Inc. March 2022.
- United States Access Board (USAB). 2015. Architectural Barriers Act (ABA) standards (2015). Washington, D.C.
- United States Department of Justice (USDOJ). 2010. 2010 Americans with Disabilities Act (ADA) Standards for Accessible Design. Washington, D.C. September 15, 2010.

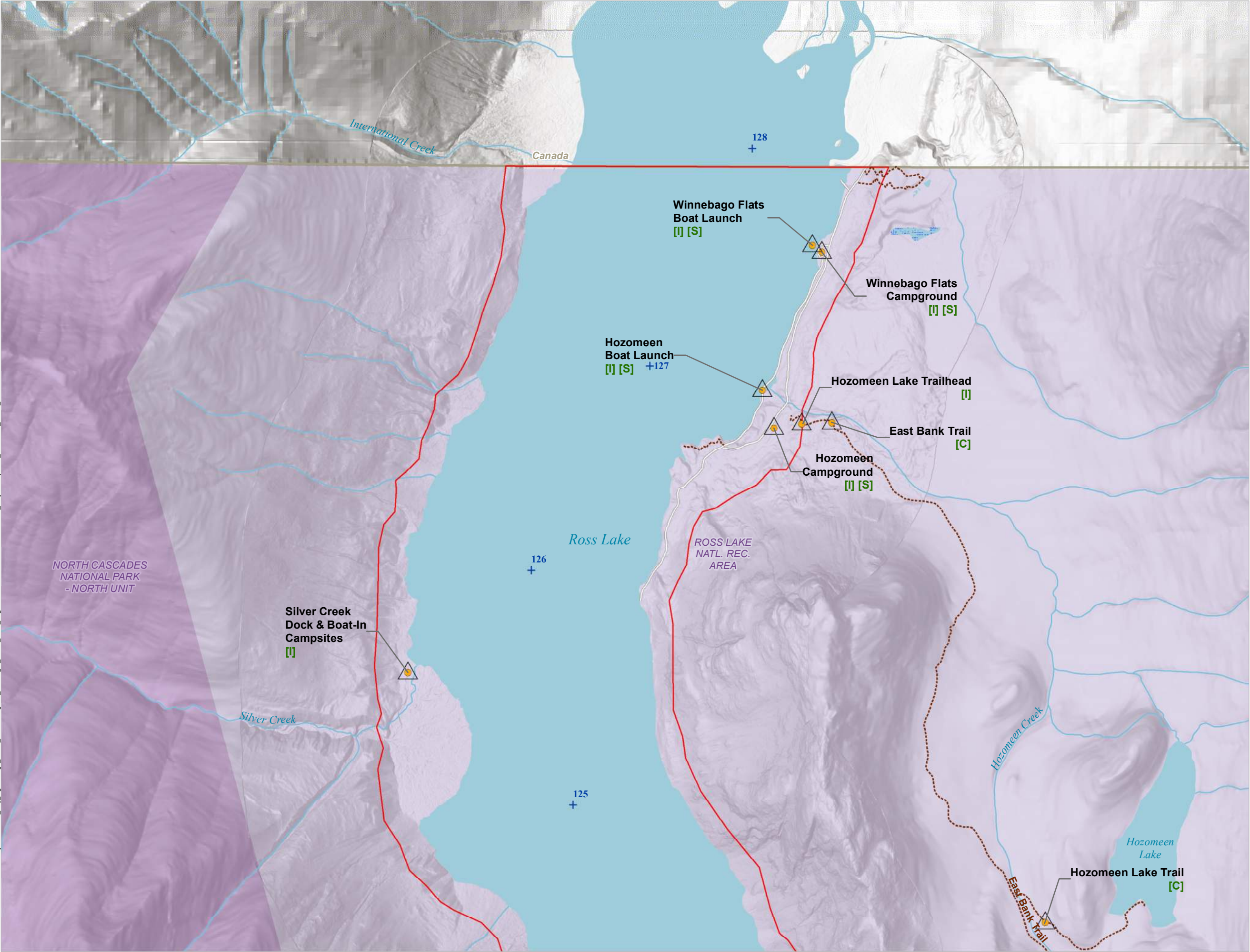
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**RECREATION USE AND FACILITY ASSESSMENT  
INTERIM REPORT**

**ATTACHMENT A**

**STUDY AREA MAPBOOK**

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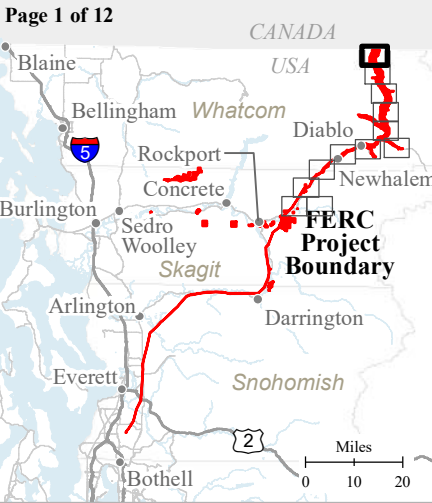
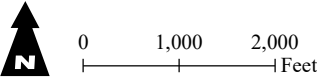


# RA-01 RECREATION USE AND FACILITY ASSESSMENT STUDY SITES

- FERC Project Boundary
- Mitigation Parcel
- Project River Miles (PRM)
- National Park Service
- National Recreation Area (NPS)
- Trail (NPS, non-Project)
- Recreation Facility (NPS/non-Project)
- RA-01 Study Sites

## Specific RA-01 Study Elements (see study for details)

- [I] Inventory, Condition, Accessibility, and Use Impact Evaluations
- [S] Visitor and Observation Surveys
- [A] Trail Accessibility Evaluations
- [C] Trail Counter



Seattle City Light

## SKAGIT RIVER HYDROELECTRIC PROJECT (FERC NO. 553)

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Data Source: Recreation Sites, Campsites - Seattle City Light.  
Campsites, Trails - NPS.

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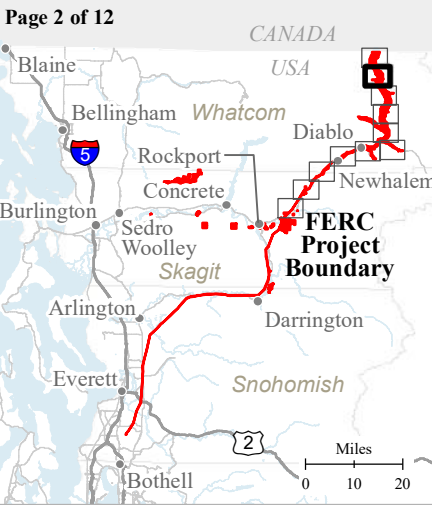
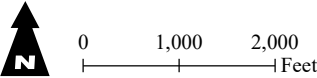


**RA-01 RECREATION USE  
AND FACILITY  
ASSESSMENT STUDY SITES**

- FERC Project Boundary
- Mitigation Parcel
- Project River Miles (PRM)
- National Park Service
- National Recreation Area
- Trail (NPS, non-Project)
- Recreation Facility (NPS/non-Project)
- RA-01 Study Sites

**Specific RA-01 Study Elements  
(see study for details)**

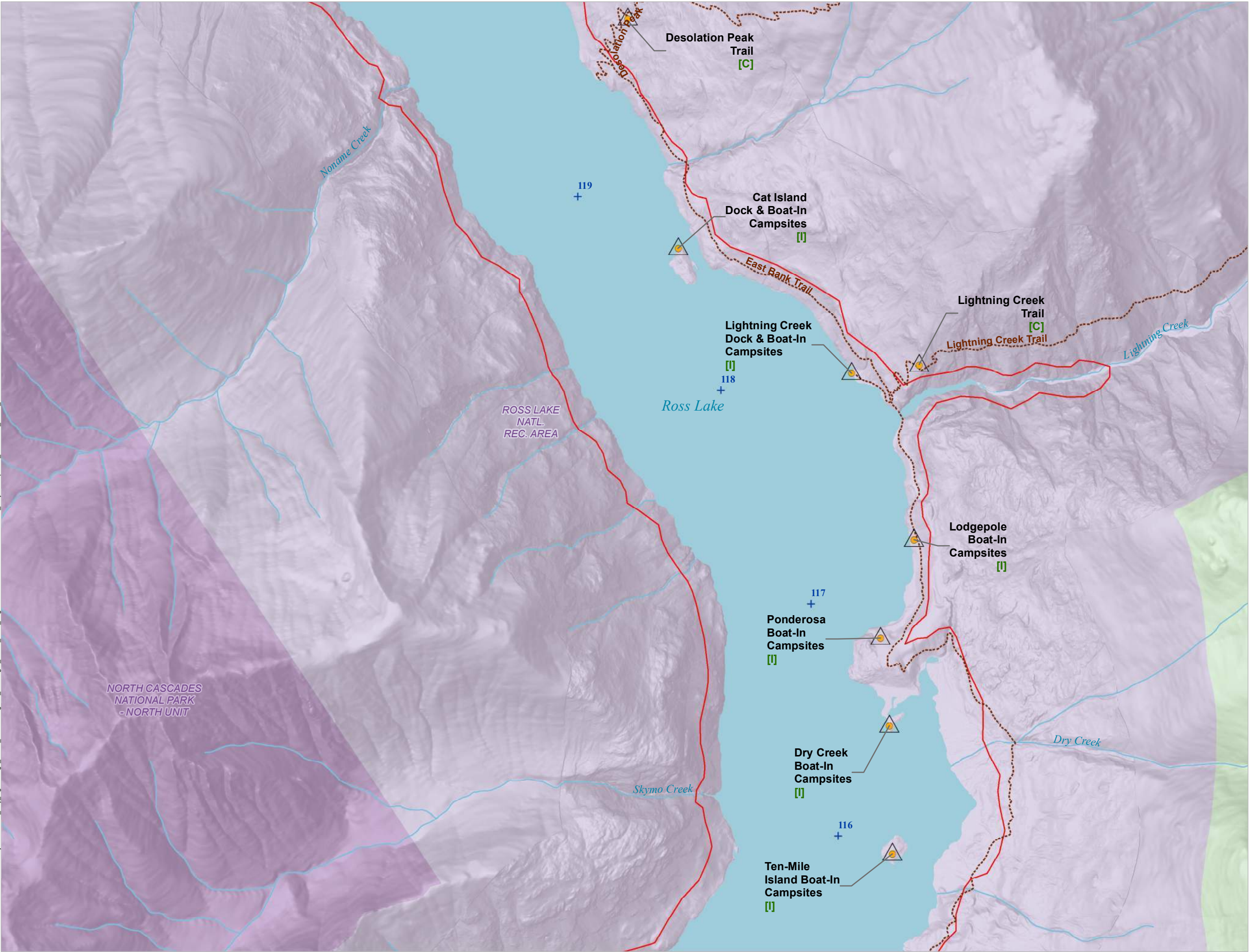
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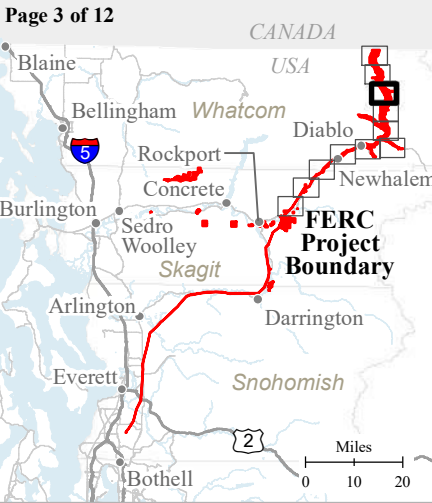
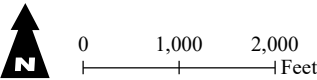


## RA-01 RECREATION USE AND FACILITY ASSESSMENT STUDY SITES

- FERC Project Boundary
- Mitigation Parcel
- Project River Miles (PRM)
- National Park Service
- National Recreation Area
- U.S. Forest Service
- Trail (NPS, non-Project)
- Recreation Facility (NPS/non-Project)
- RA-01 Study Sites

### Specific RA-01 Study Elements (see study for details)

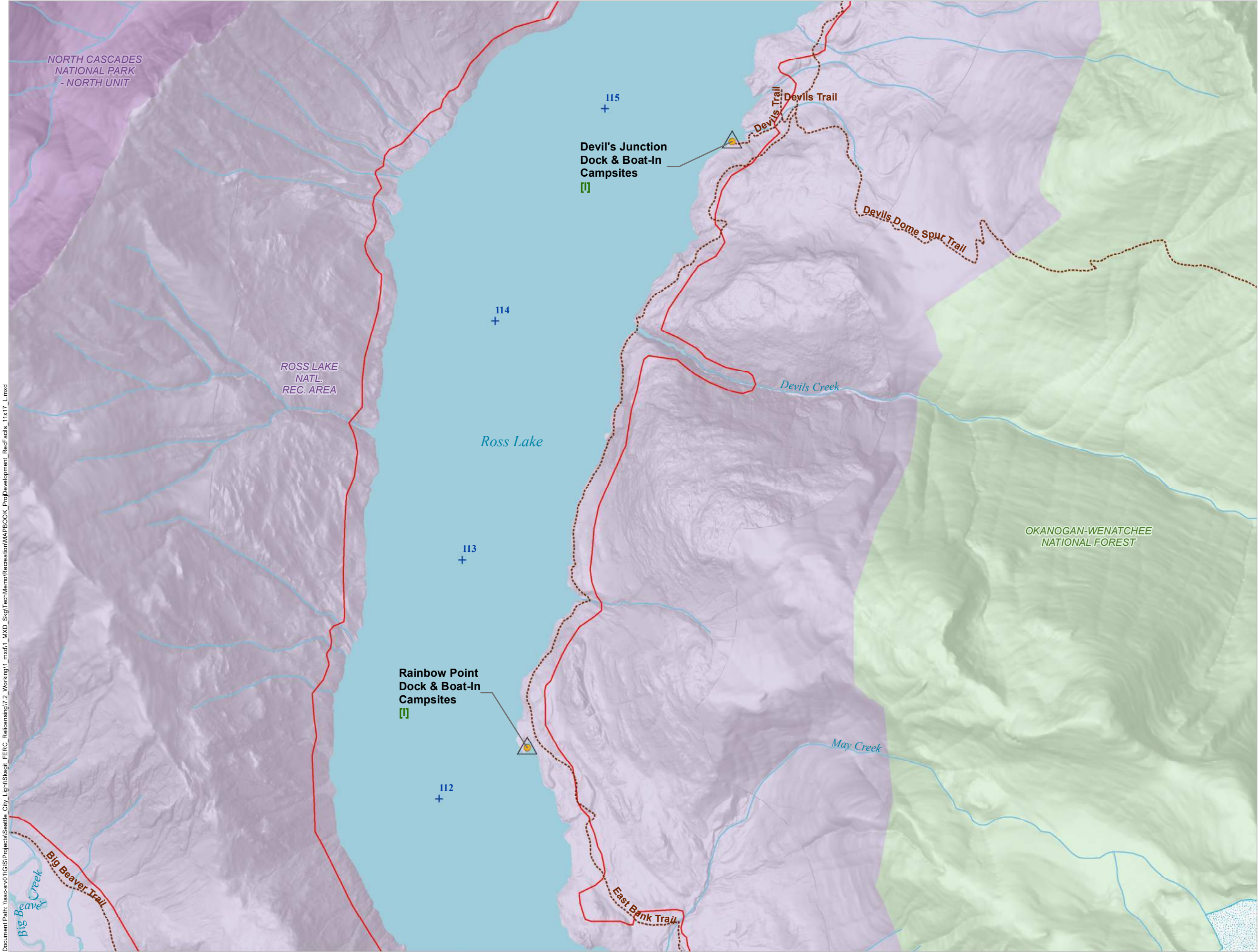
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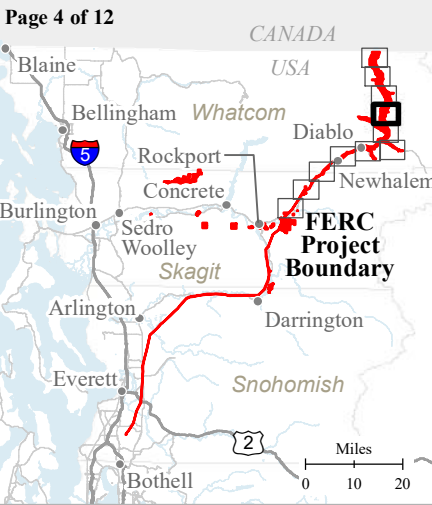
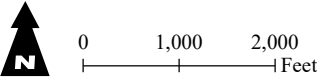


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- Recreation Facility (NPS/non-Project)
- RA-01 Study Sites

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(see study for details)**

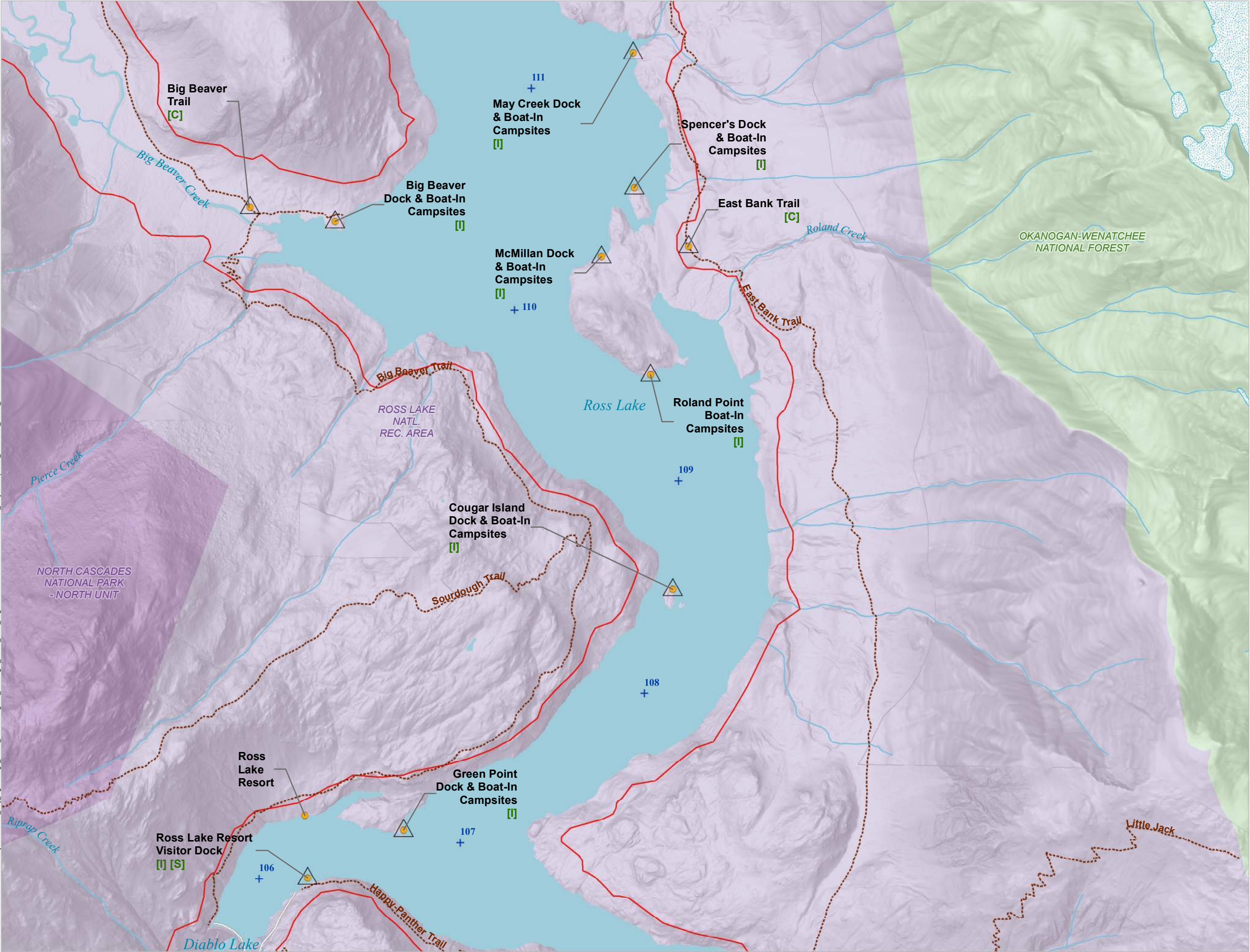
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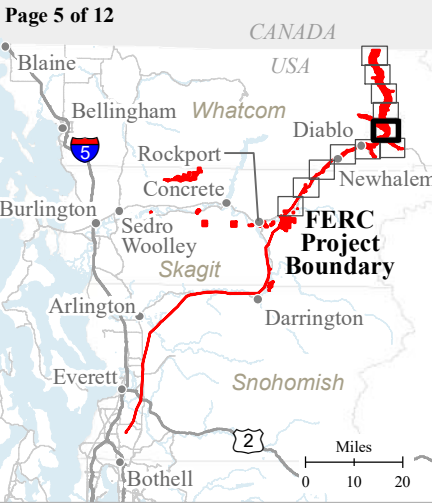
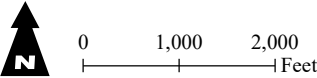


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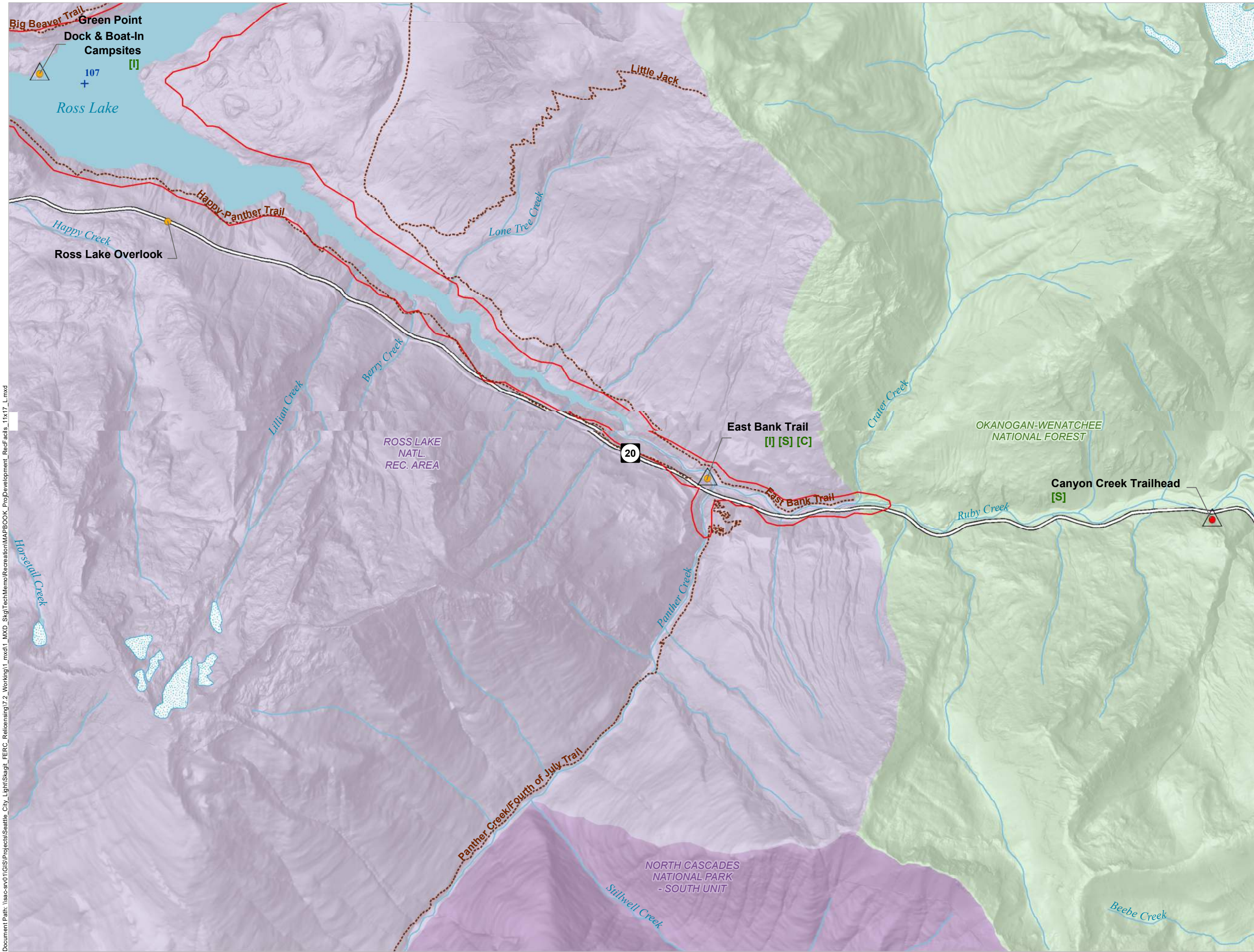
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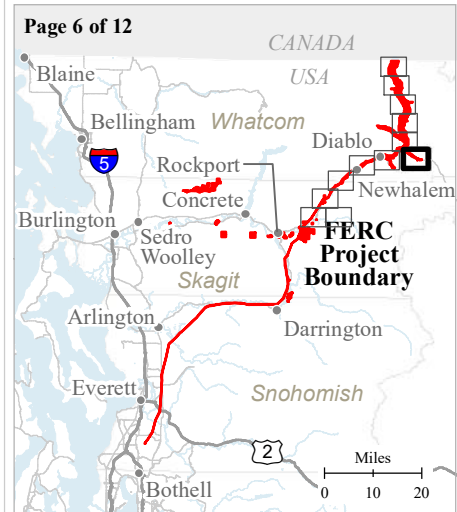
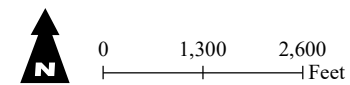


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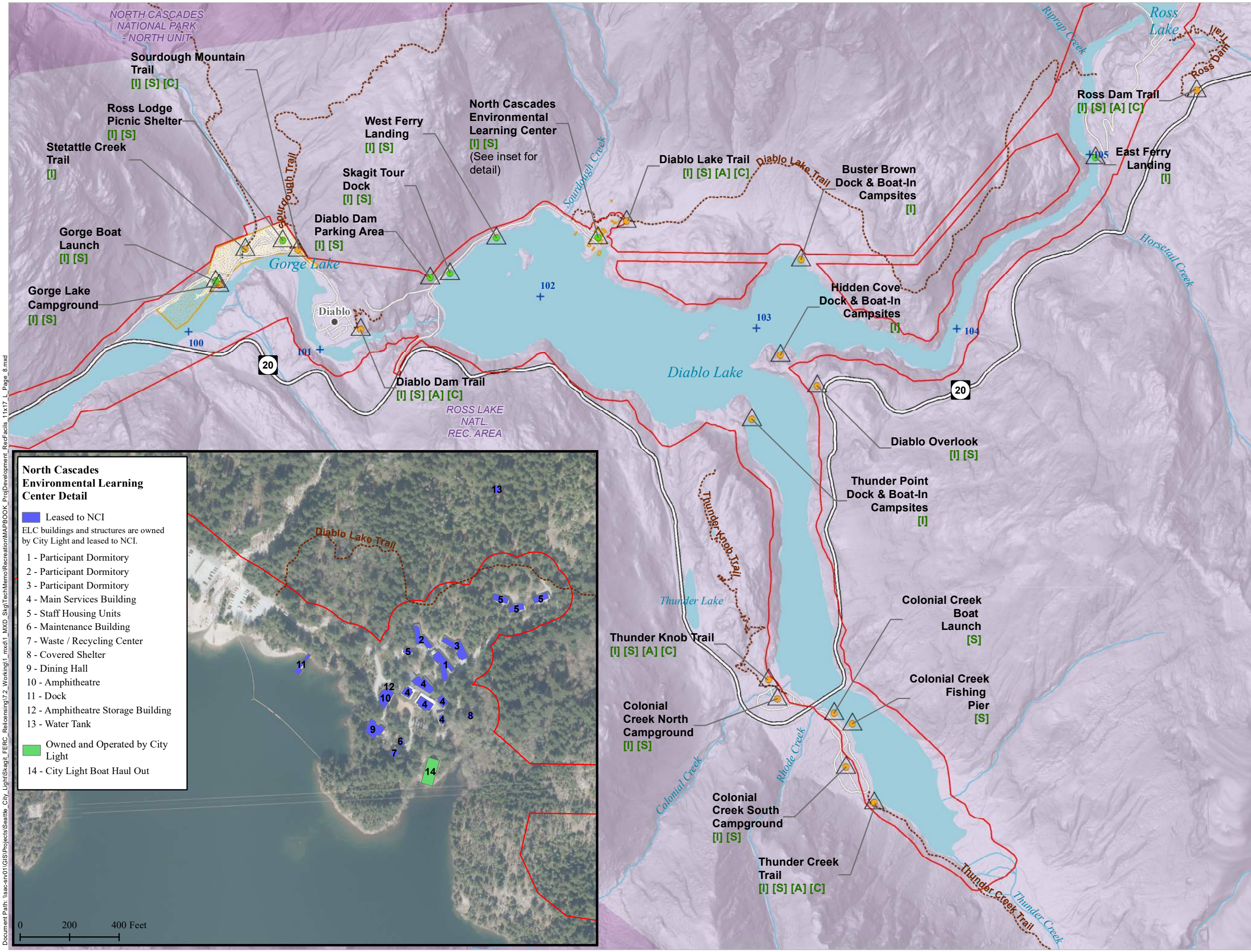
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**North Cascades Environmental Learning Center Detail**

■ Leased to NCI  
ELC buildings and structures are owned by City Light and leased to NCI.

- 1 - Participant Dormitory
- 2 - Participant Dormitory
- 3 - Participant Dormitory
- 4 - Main Services Building
- 5 - Staff Housing Units
- 6 - Maintenance Building
- 7 - Waste / Recycling Center
- 8 - Covered Shelter
- 9 - Dining Hall
- 10 - Amphitheatre
- 11 - Dock
- 12 - Amphitheatre Storage Building
- 13 - Water Tank

■ Owned and Operated by City Light

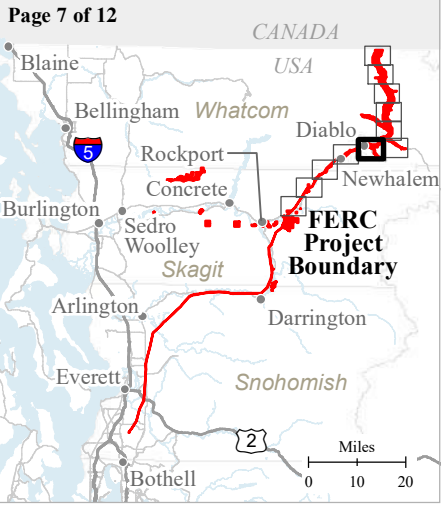
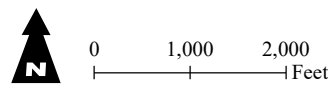
- 14 - City Light Boat Haul Out

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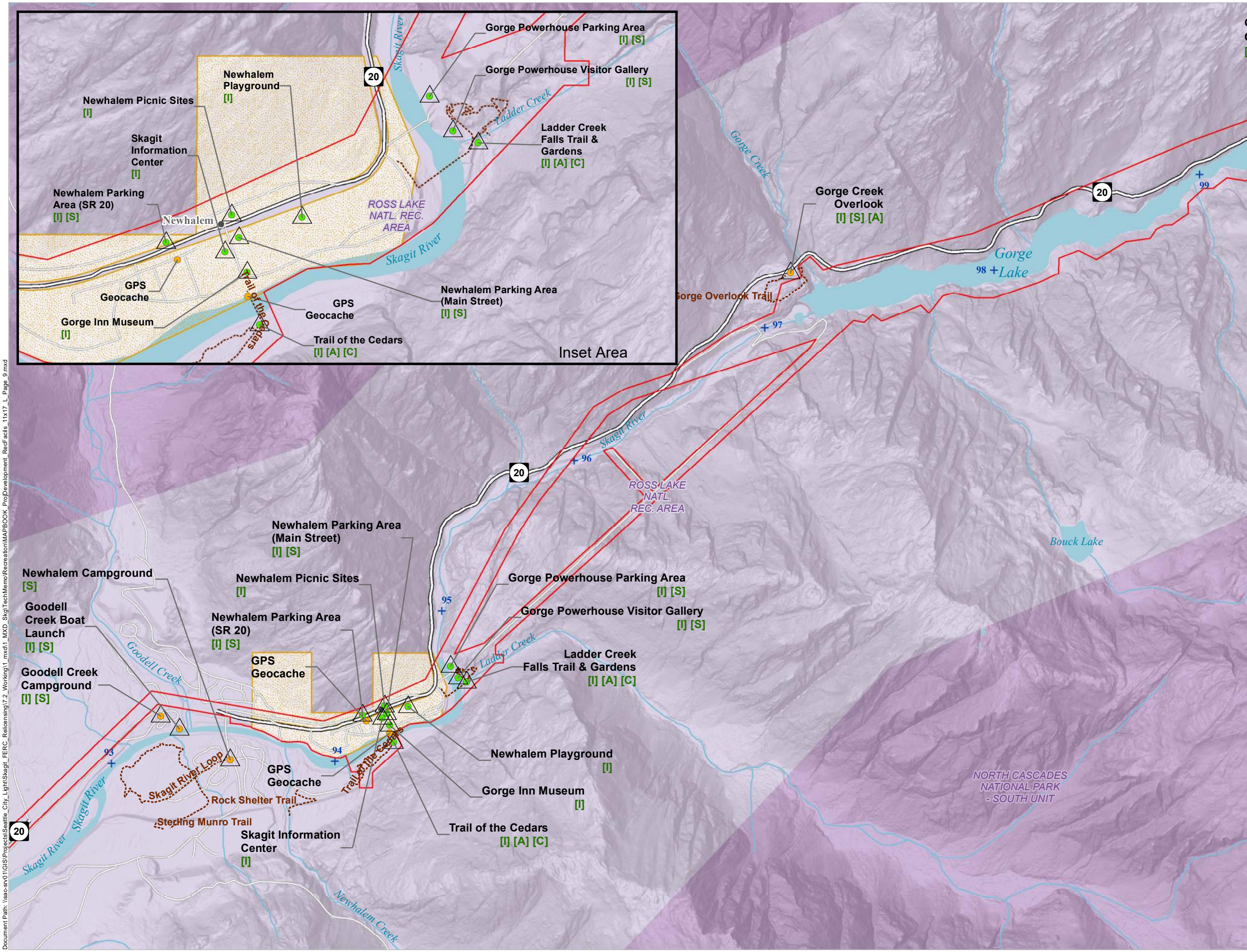
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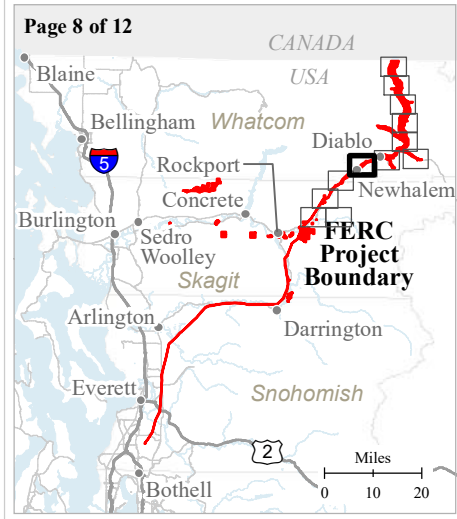
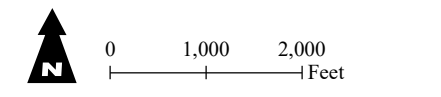


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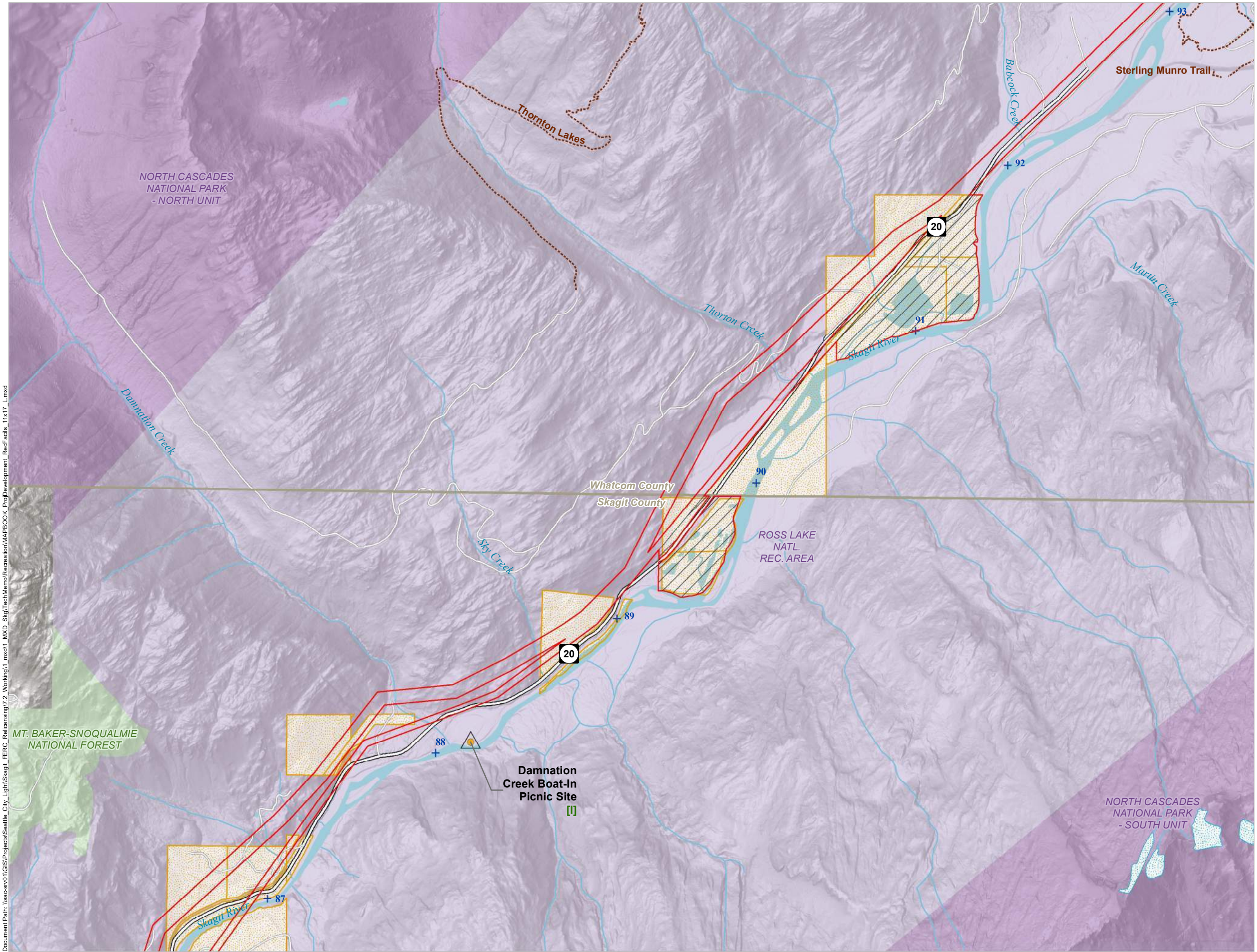
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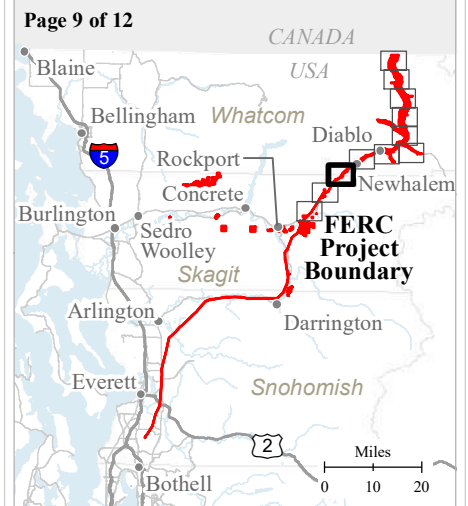
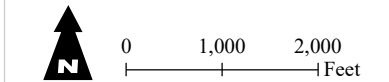


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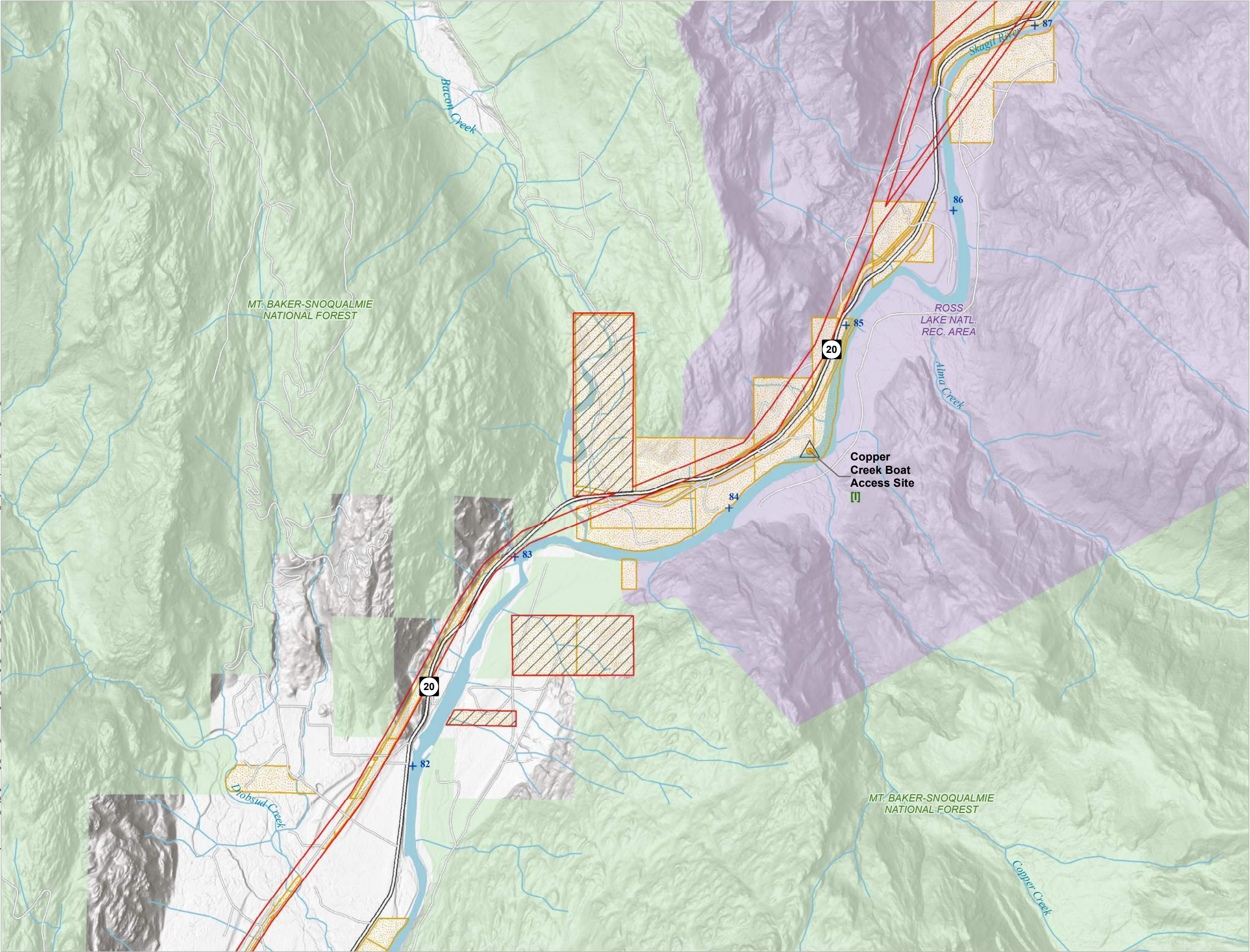
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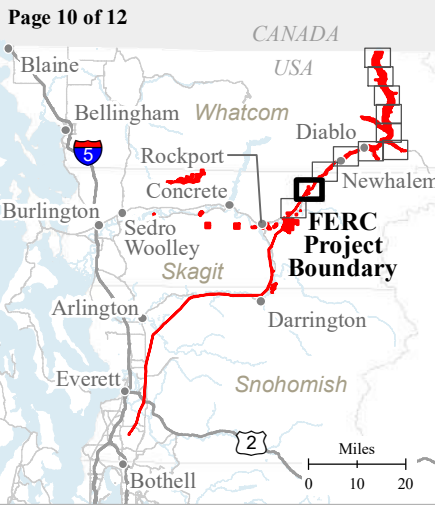
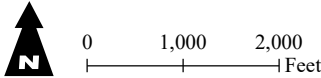


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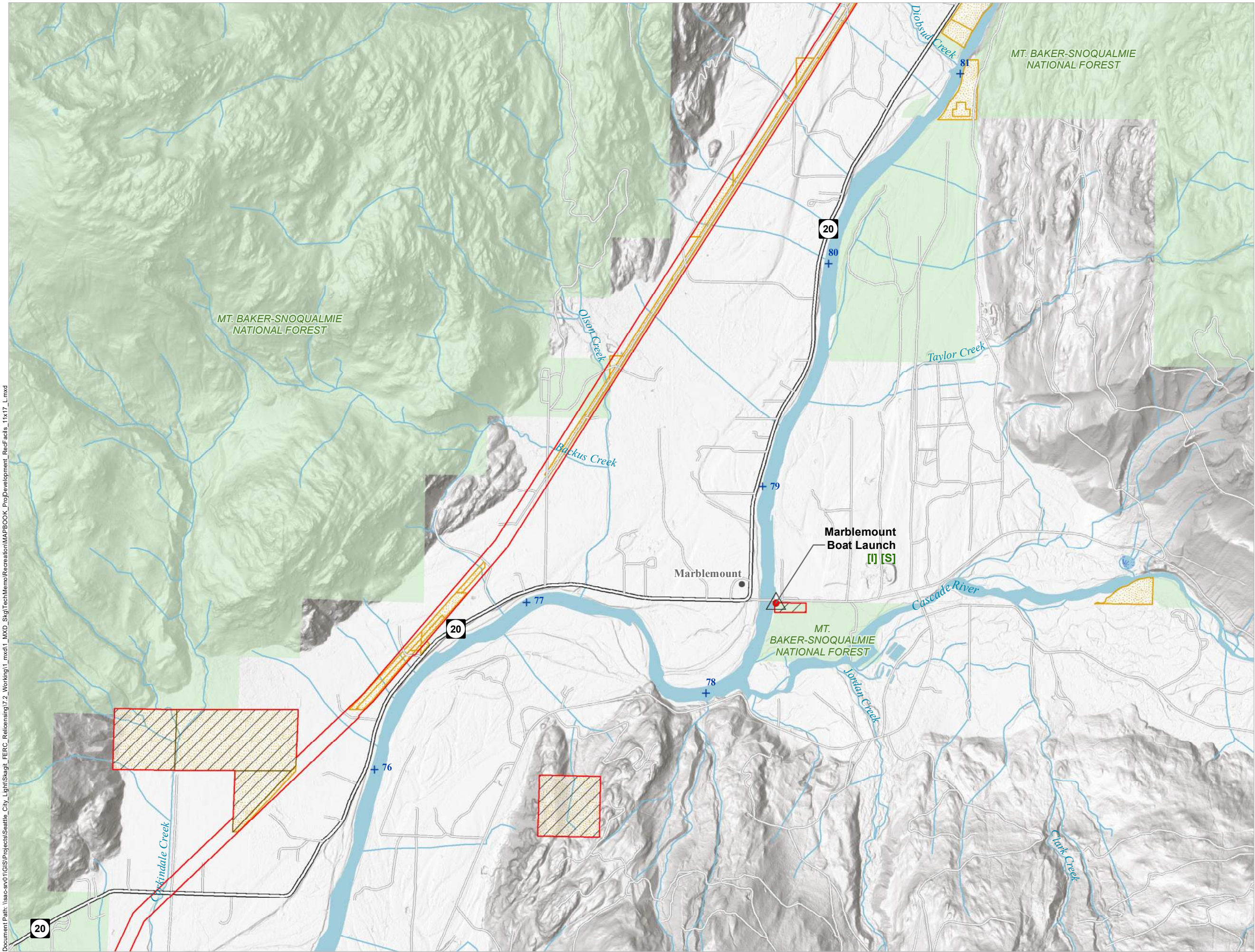
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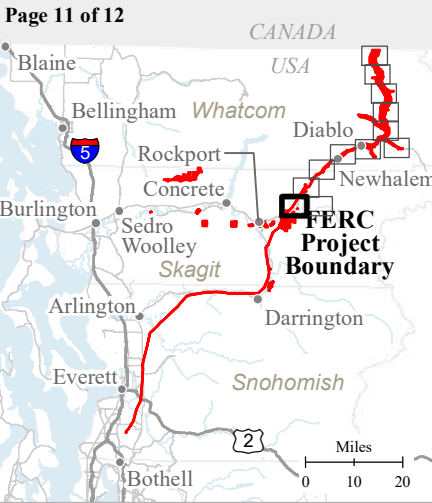
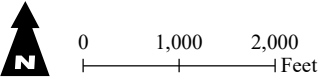


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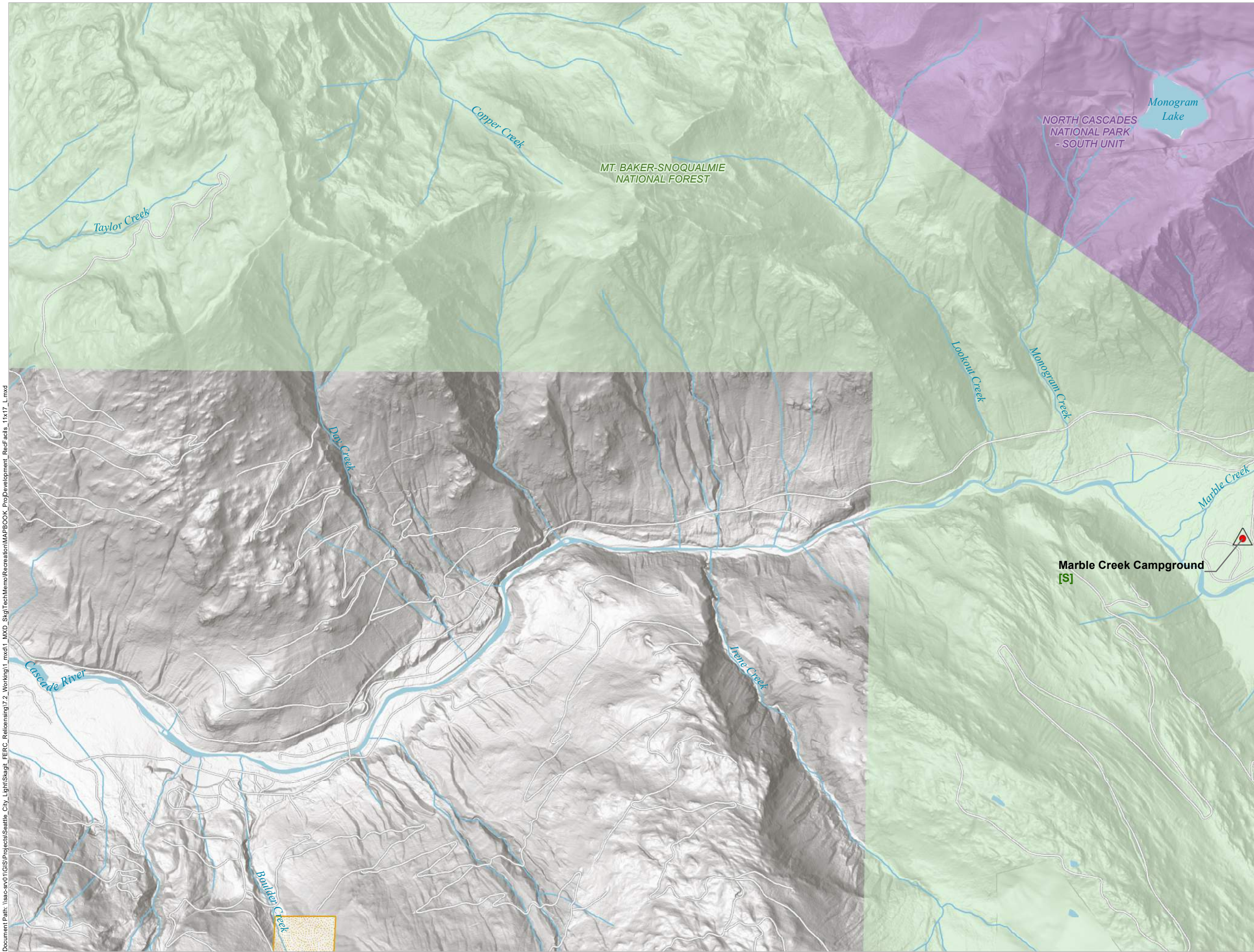
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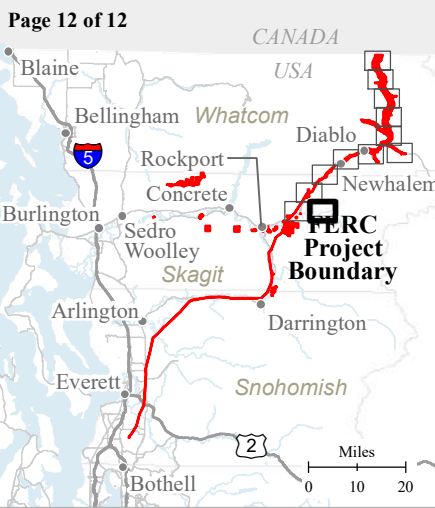
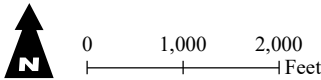


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**RECREATION USE AND FACILITY ASSESSMENT  
INTERIM REPORT**

**ATTACHMENT B**

**REPRESENTATIVE PHOTOGRAPHS OF RECREATION FACILITIES  
TAKEN DURING PHYSICAL INVENTORY IN SEPTEMBER 2021**

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**Figure B-1. Photographs of Winnebago Flats Boat Launch [taken 09/15/21].**



**Figure B-2. Photographs of Winnebago Flats Campground [taken 09/15/21].**



**Figure B-3. Photographs of Hozomeen Boat Launch [taken 09/15/21].**



**Figure B-4. Photographs of Hozomeen Campground [taken 09/15/21].**



**Figure B-5.        Photographs of Hozomeen Lake Trailhead [taken 09/15/21].**



**Cat Island**



**Silver Creek**



**Lodgepole**



**Little Beaver**

**Figure B-6. Representative photographs of Ross Lake boat-in campsites [taken 09/15/21].**



**Figure B-7. Representative photographs of Ross Lake boat-in campsites (continued) [taken 09/15/21 and 09/16/21].**



**Figure B-8.**      **Photographs of Ross Dam Trailhead [taken 09/15/21].**



**Figure B-9. Photographs of East Bank Trailhead [taken 09/16/21].**



**Figure B-10. Photographs of the Happy Panther Trail [taken 09/16/21].**

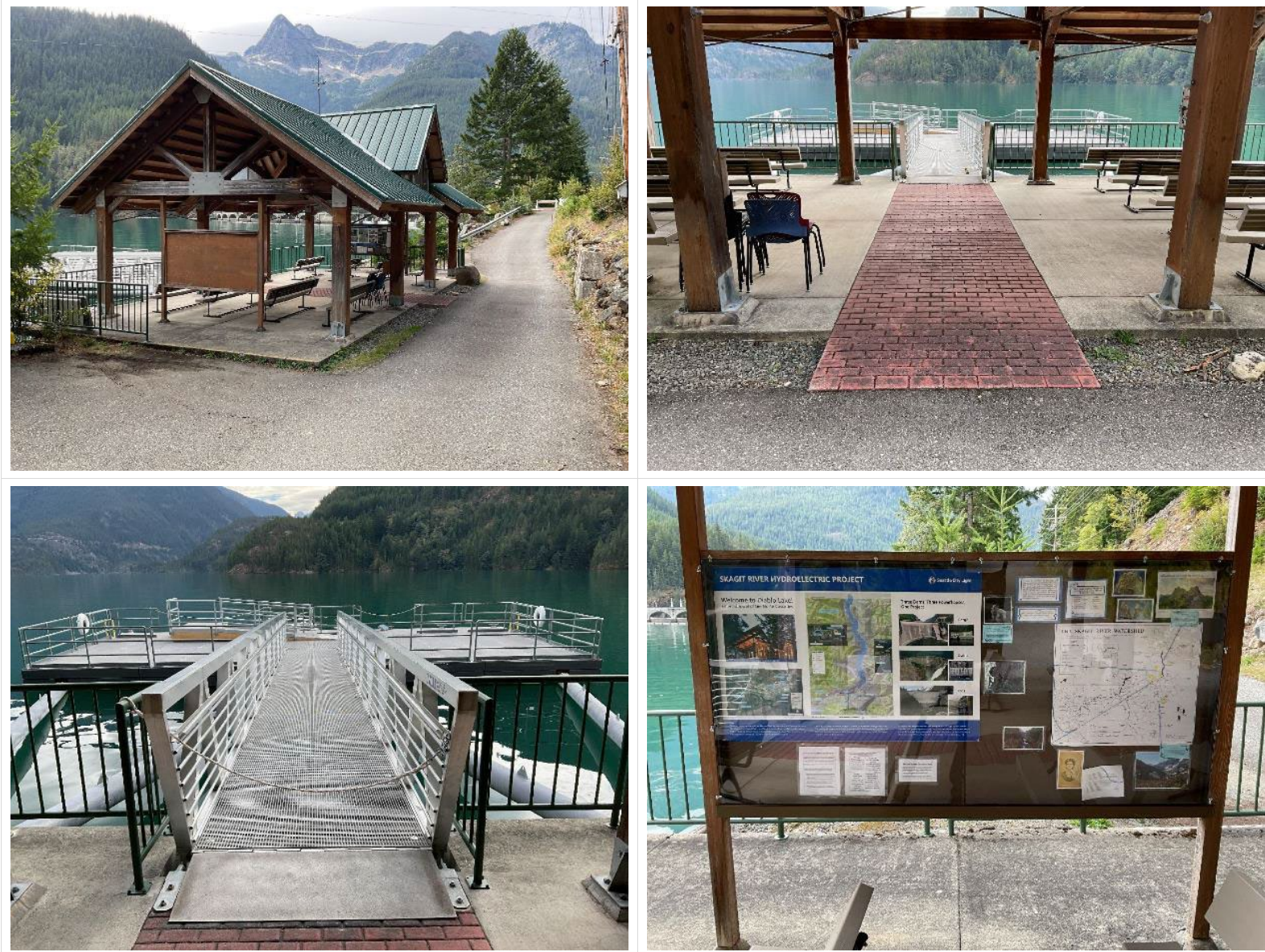
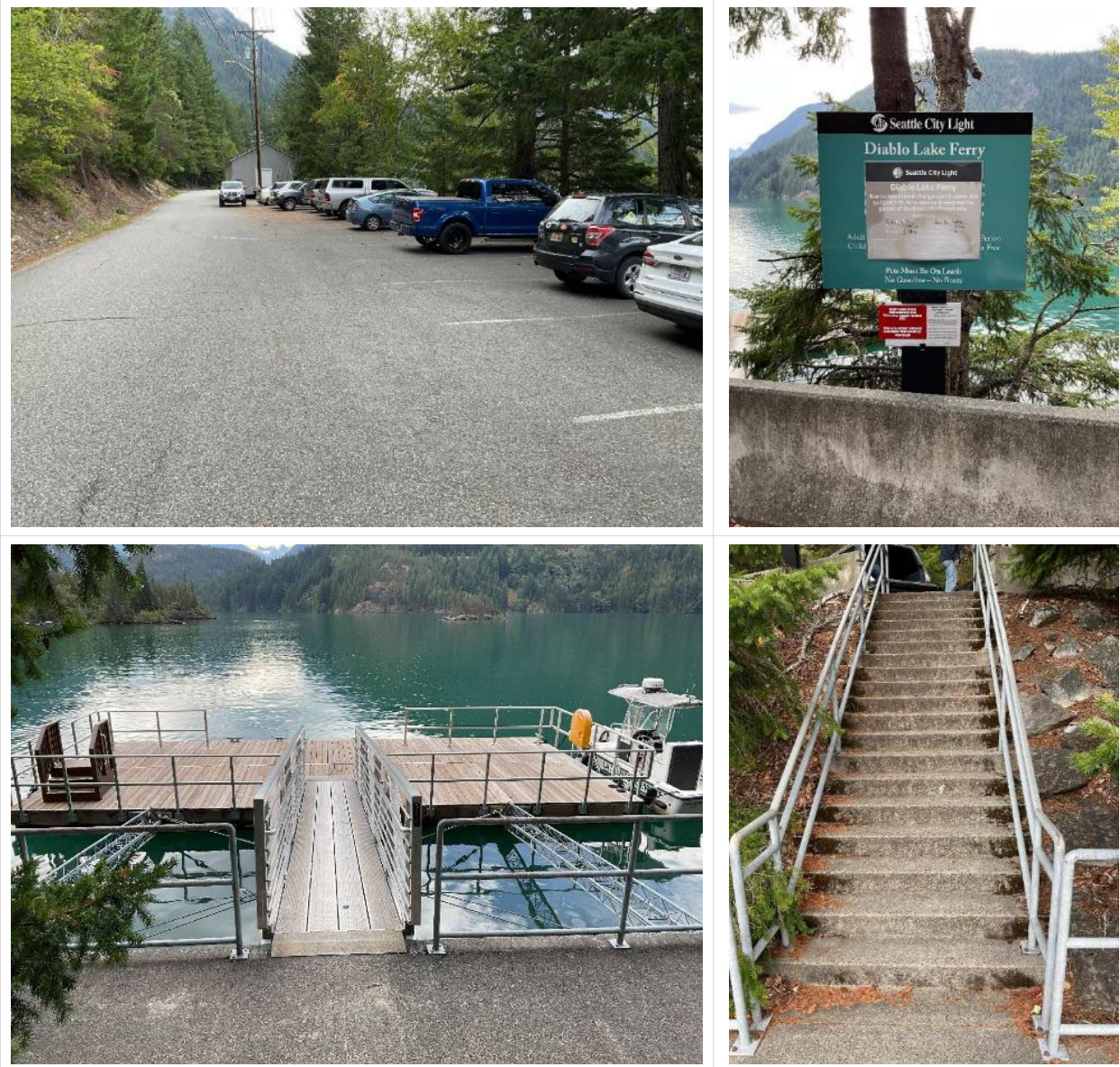


Figure B-11. Photographs of Skagit Tour Dock [taken 09/14/21].



**Figure B-12.** Photographs of Diablo Dam Parking Area [taken 09/14/21].



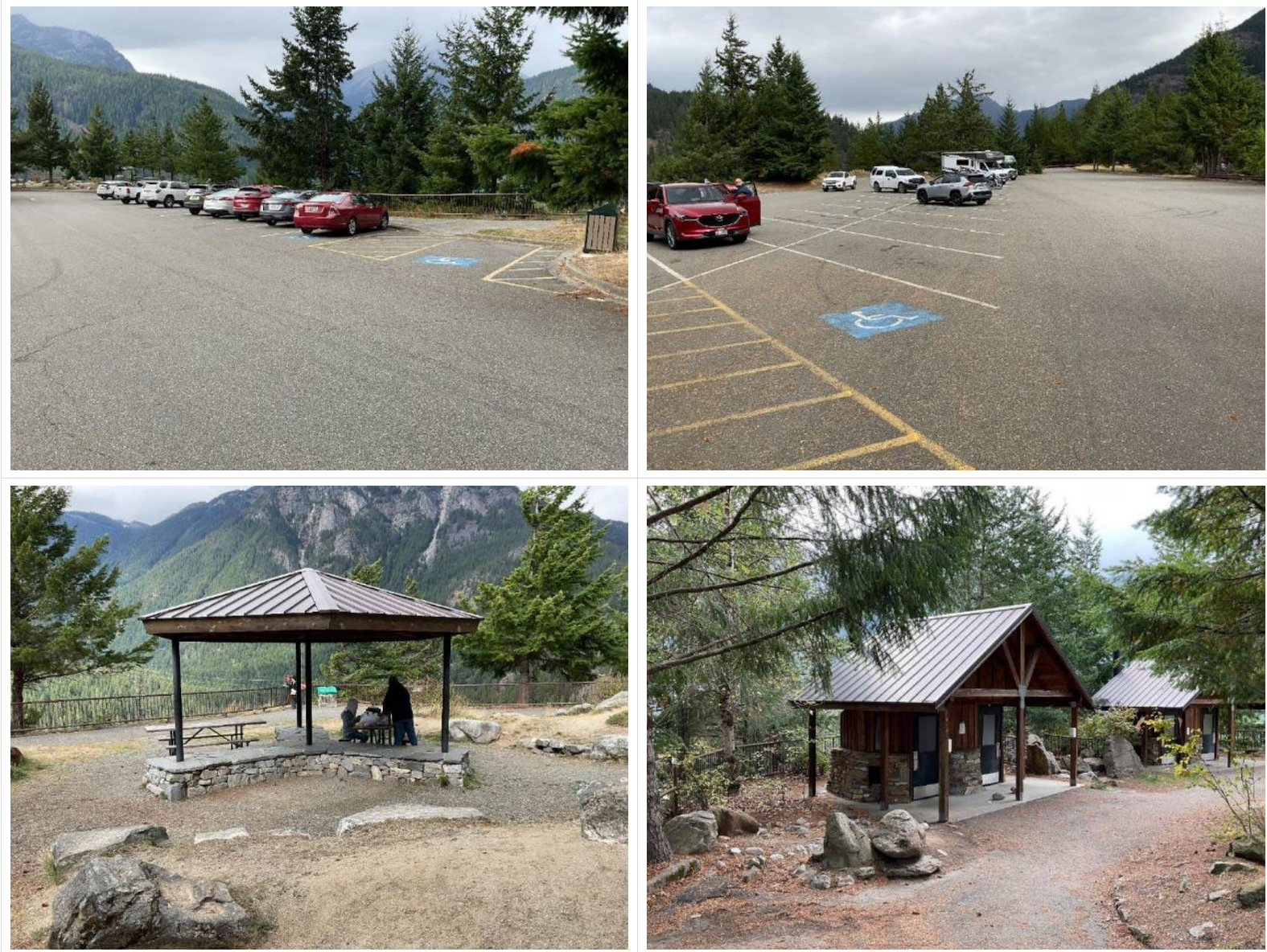
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**Figure B-15.** Photographs of North Cascades ELC parking area [taken 09/14/21].



**Figure B-16. Photographs of Diablo Overlook parking, picnic, and restroom facilities [taken 09/14/21].**



Figure B-17. Photographs of Diablo Overlook interpretive signage [taken 09/14/21].



**Figure B-18.**      **Photographs of Colonial Creek Campground [taken 09/14/21].**



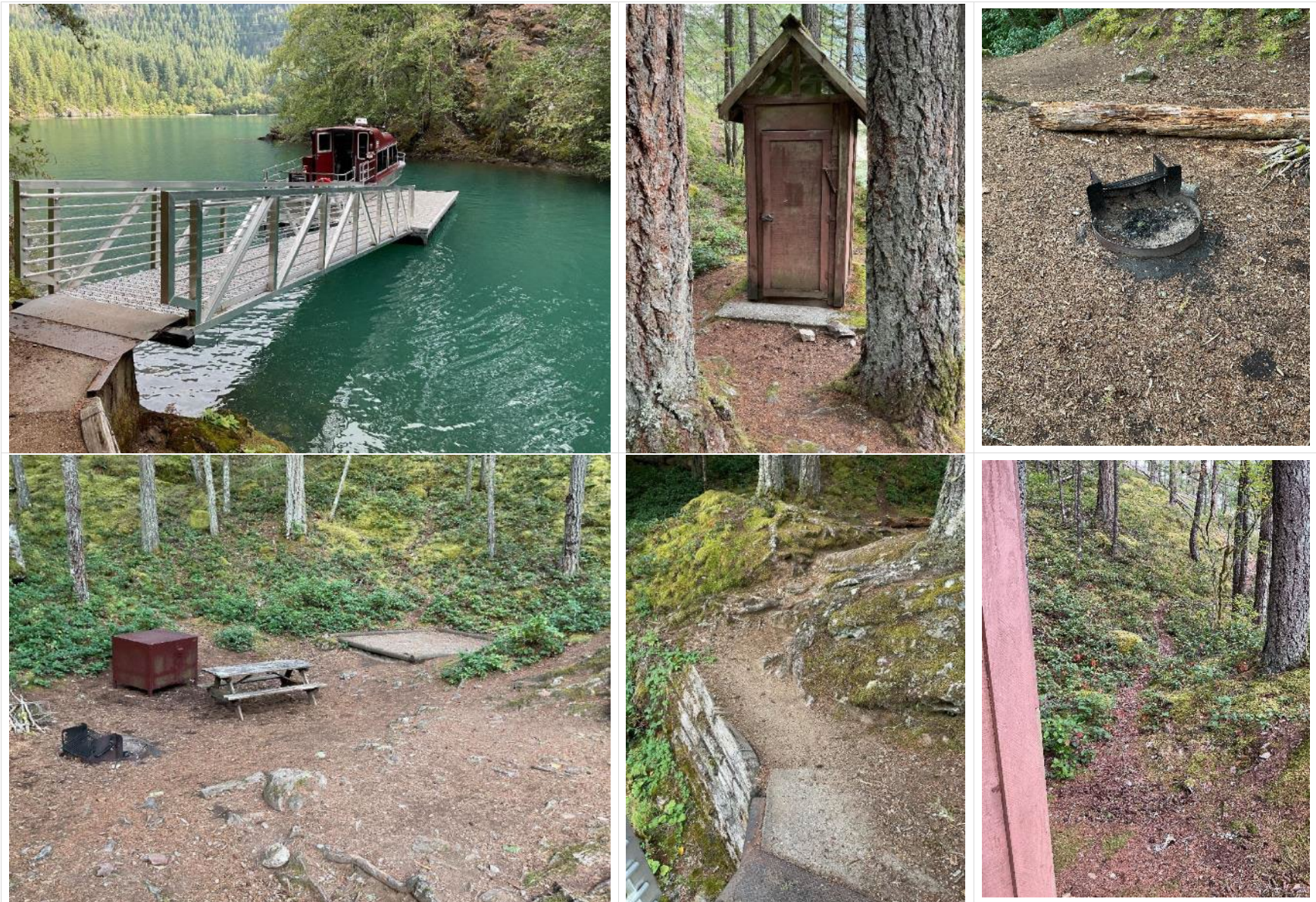
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**Figure B-20.**      **Photographs of Colonial Creek Fishing Pier [taken 09/14/21].**



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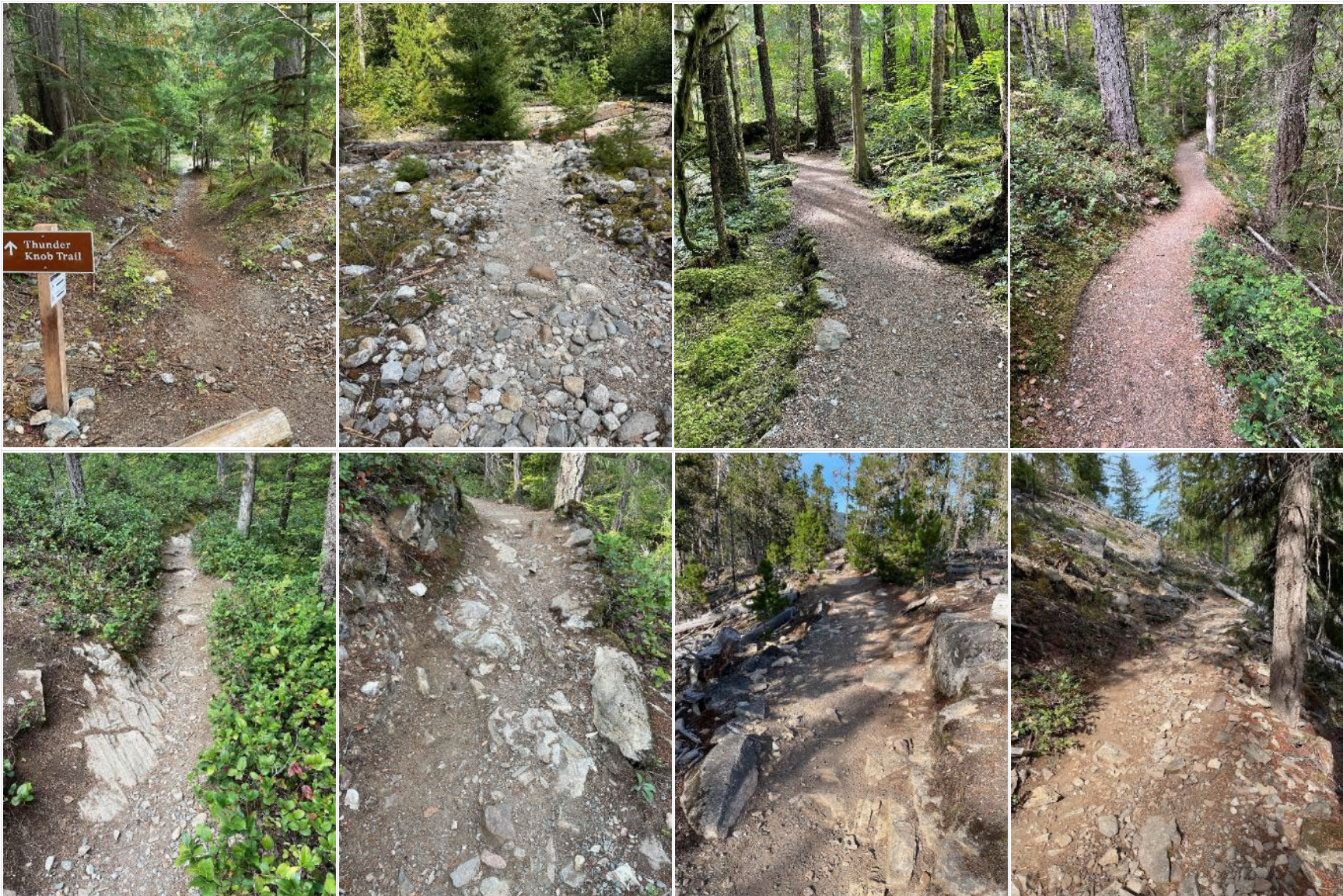
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**Figure B-23. Photographs of Diablo Lake boat-in campsite (Buster Brown) [taken 09/14/21].**



**Figure B-24.** Photographs of Thunder Knob Trailhead [taken 09/15/21].



**Figure B-25.**      **Photographs of Thunder Knob Trail [taken 09/16/21].**



**Figure B-26.** Photographs of Thunder Creek Trailhead [taken 09/16/21].



**Figure B-27.**      **Photographs of Thunder Creek Trail [taken 09/16/21].**



**Figure B-28.** Photographs of Diablo Lake Trail [taken 09/18/21].



**Figure B-29. Photographs of Ross Lodge Picnic Shelter [taken 09/14/21].**



**Figure B-30.**      **Photographs of Gorge Lake Boat Launch [taken 09/16/21].**



**Figure B-31. Photographs of Gorge Lake Campground [taken 09/16/21].**



**Figure B-32.**      **Photographs of Diablo Dam Trail [taken 09/14/21].**



**Figure B-33.** Photographs of Sourdough Mountain (upper) and Stetattle Creek (lower) Trailheads [taken 09/14/21].



**Figure B-34.**      **Photographs of Gorge Creek Overlook [taken 09/14/21].**

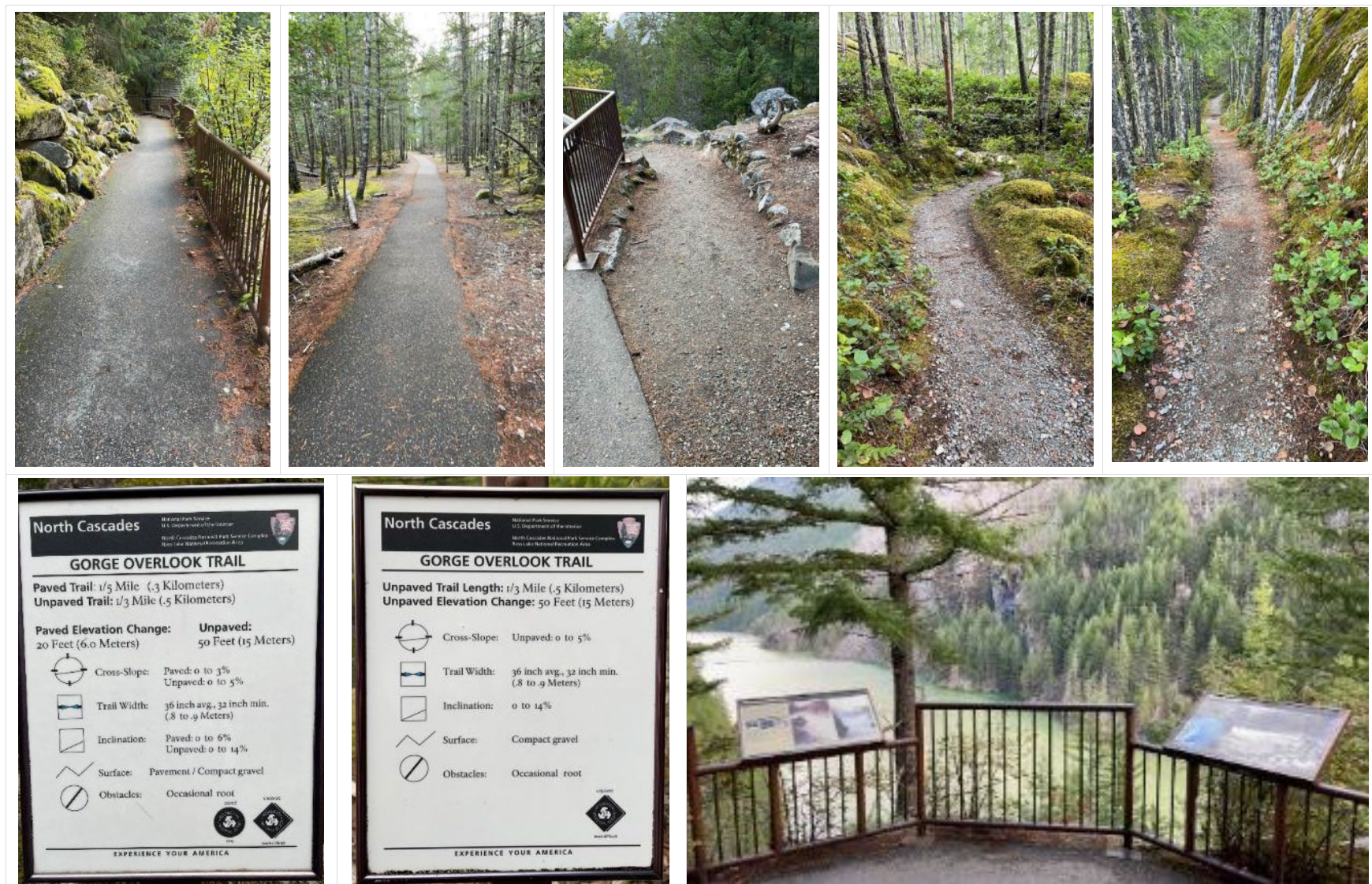


Figure B-35. Photographs of Gorge Creek Overlook Trail [taken 09/18/21].



Figure B-36. Photographs of Gorge Powerhouse Parking Area [taken 09/13/21].



Figure B-37. Photographs of Gorge Powerhouse Visitor Gallery [taken 09/13/21].

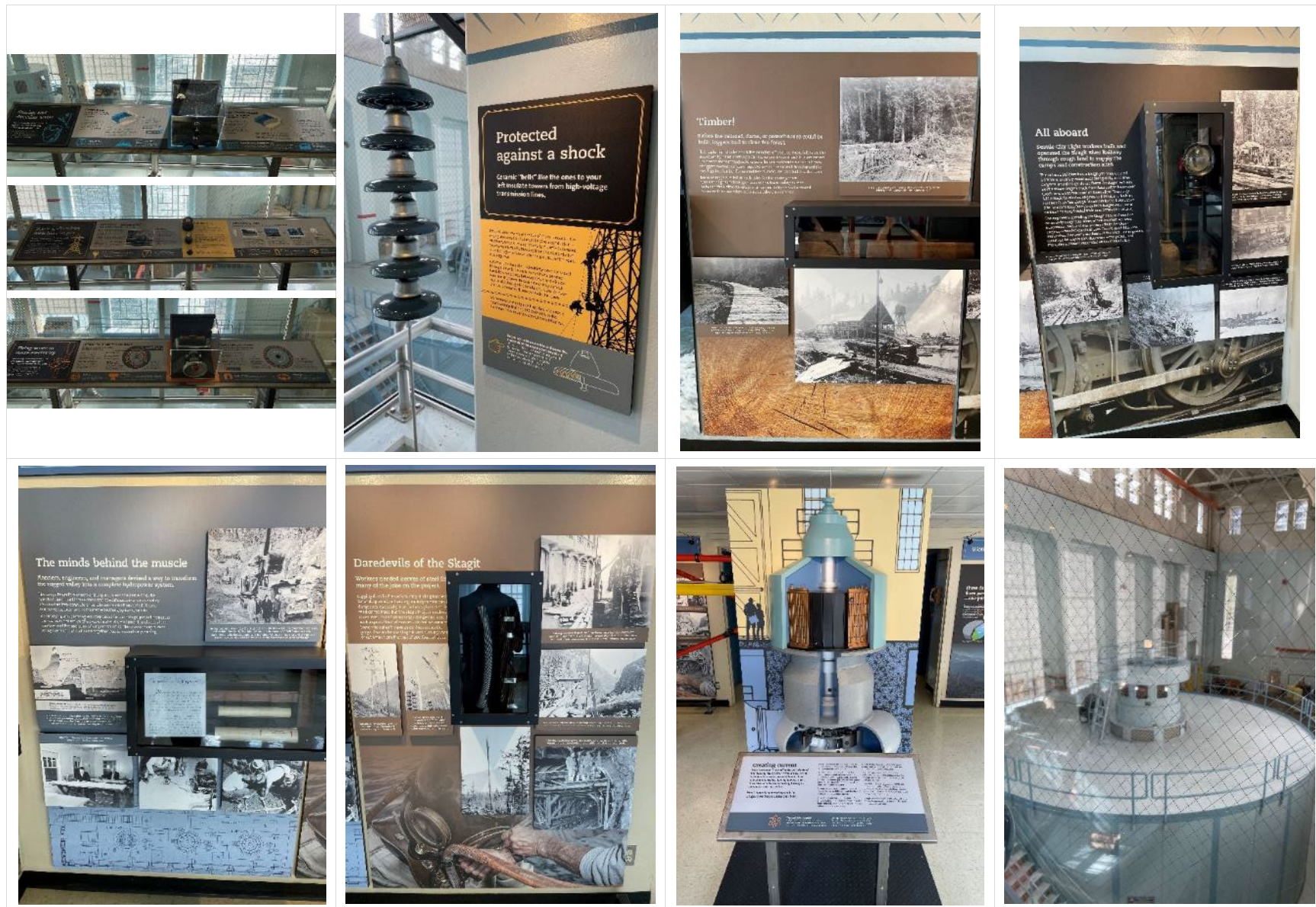


Figure B-38. Photographs of Gorge Powerhouse Visitor Gallery [taken 09/13/21].

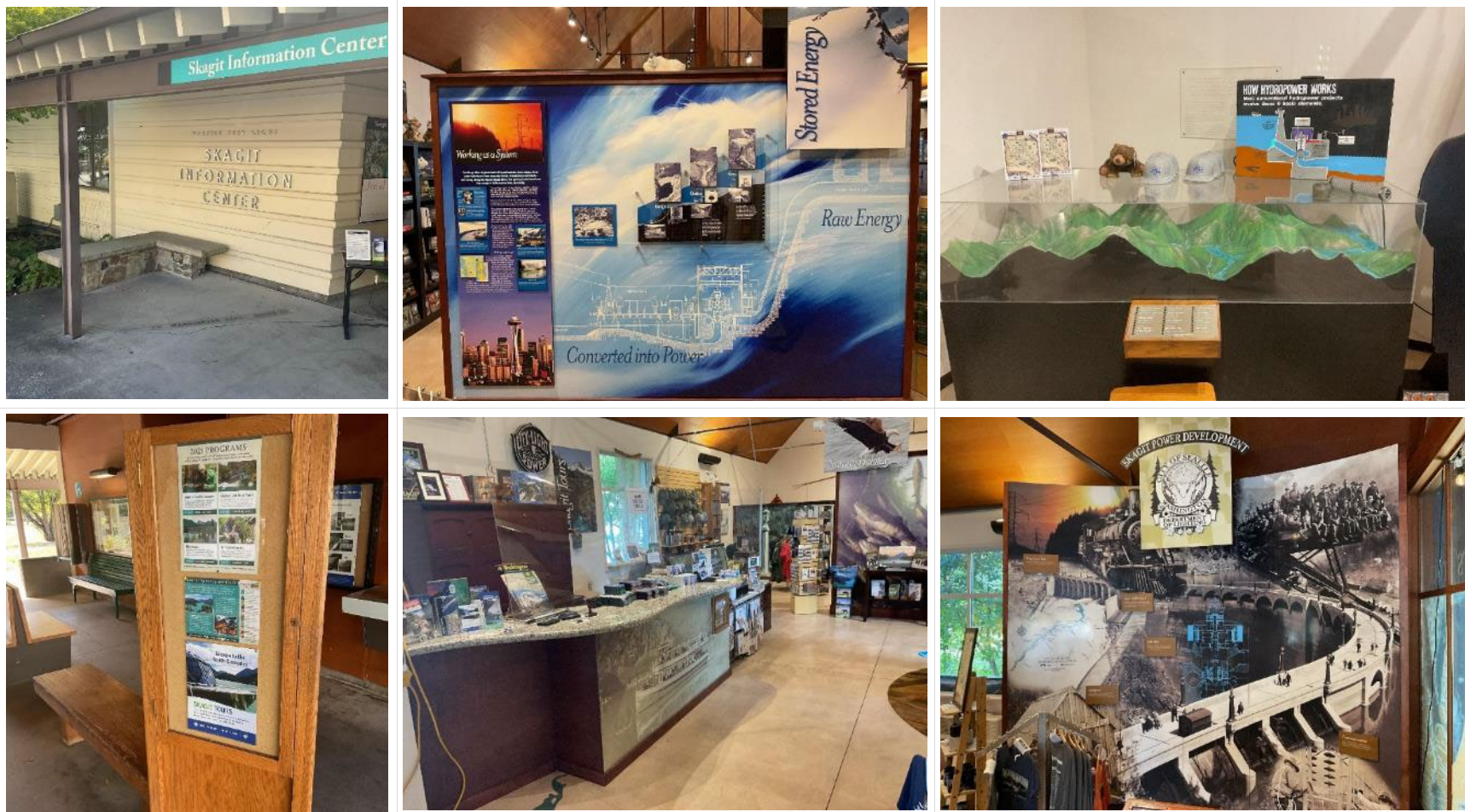


Figure B-39. Photographs of Skagit Information Center [taken 09/13/21].

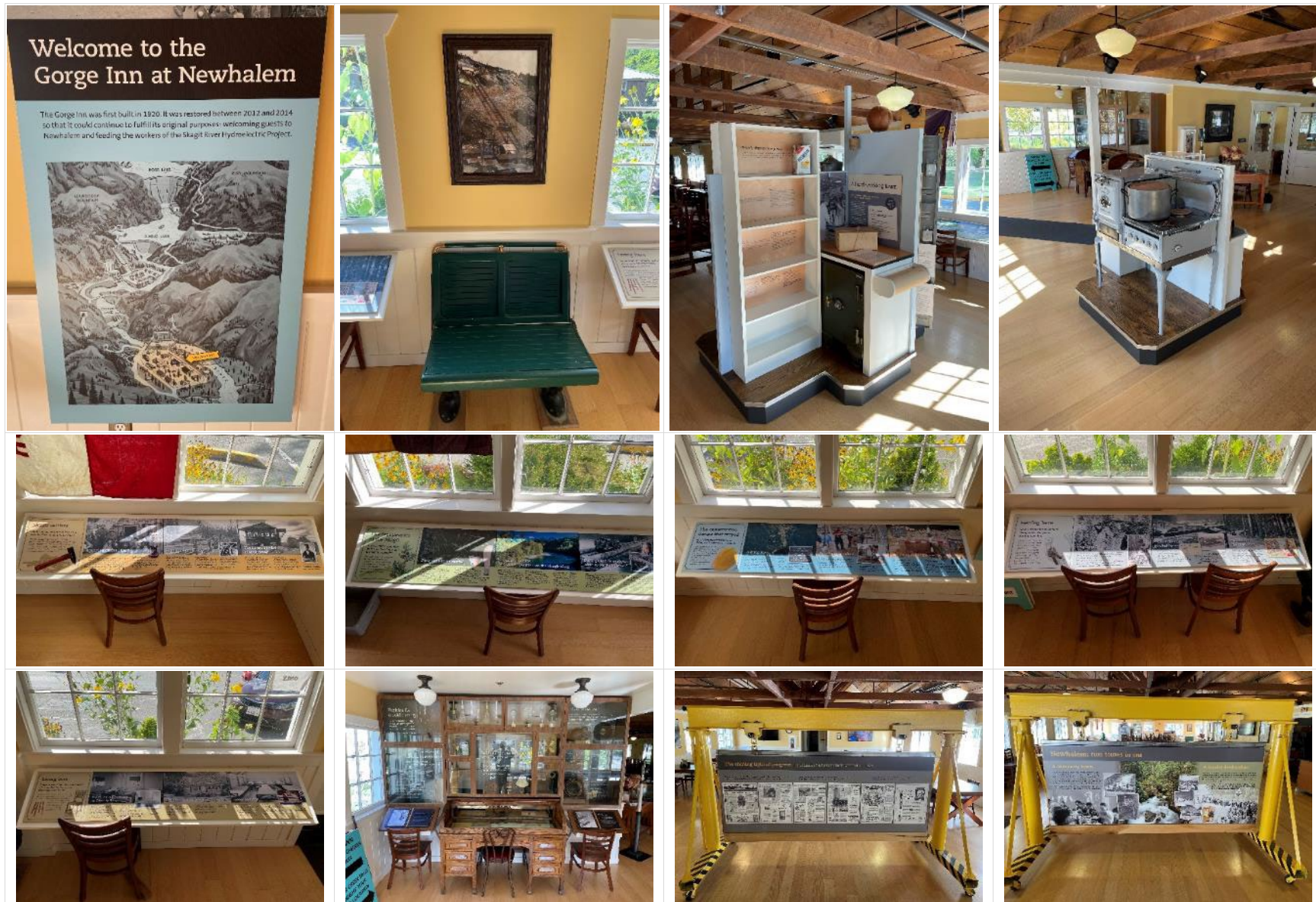


Figure B-40. Photographs of Gorge Inn Museum exhibits [taken 09/13/21].



Figure B-41. Photographs of Gorge Inn Museum [taken 09/13/21].



**Figure B-42.**      **Photographs of Newhalem townsite Main Street (upper) and SR 20 (lower) parking areas [taken 09/13/21].**



**Figure B-43. Photographs of Newhalem townsite picnic sites and playground [taken 09/13/21].**

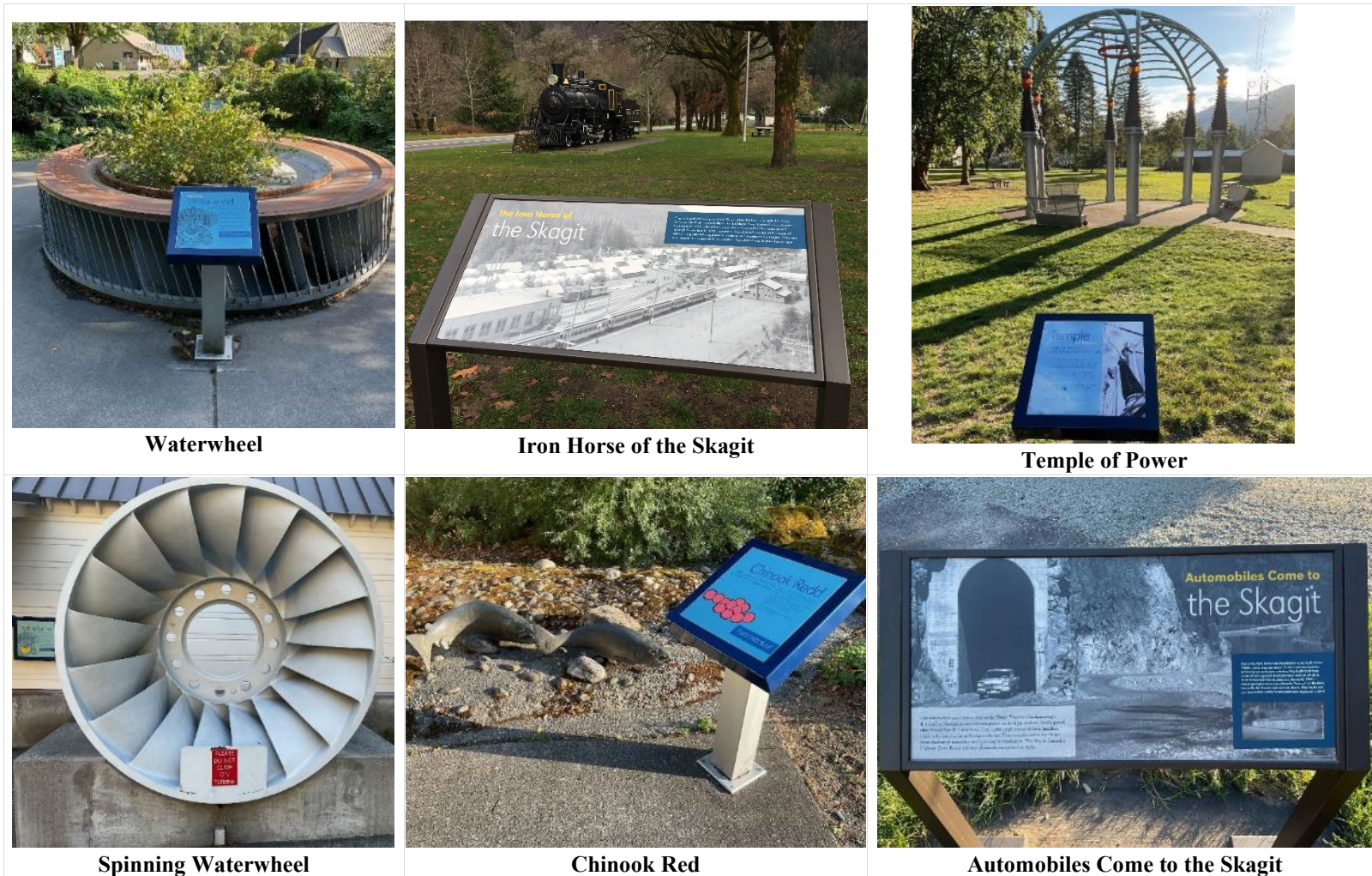


Figure B-44. Photographs of Newhalem townsite interpretive displays [taken 09/13/21].



**Figure B-45.** Photographs of Ladder Creek Falls Trail and Garden [taken 09/18/21].



**Figure B-46.** Photographs of Trail of the Cedars trail conditions [taken 09/18/21].



Figure B-47. Photographs of Trail of the Cedars interpretive displays [taken 09/18/21].



Figure B-48. Photographs of Trail of the Cedars interpretive displays [taken 09/18/21].



**Figure B-49.** Photographs of Trail of the Cedars interpretive displays (Newhalem Creek Powerhouse) [taken 09/18/21].



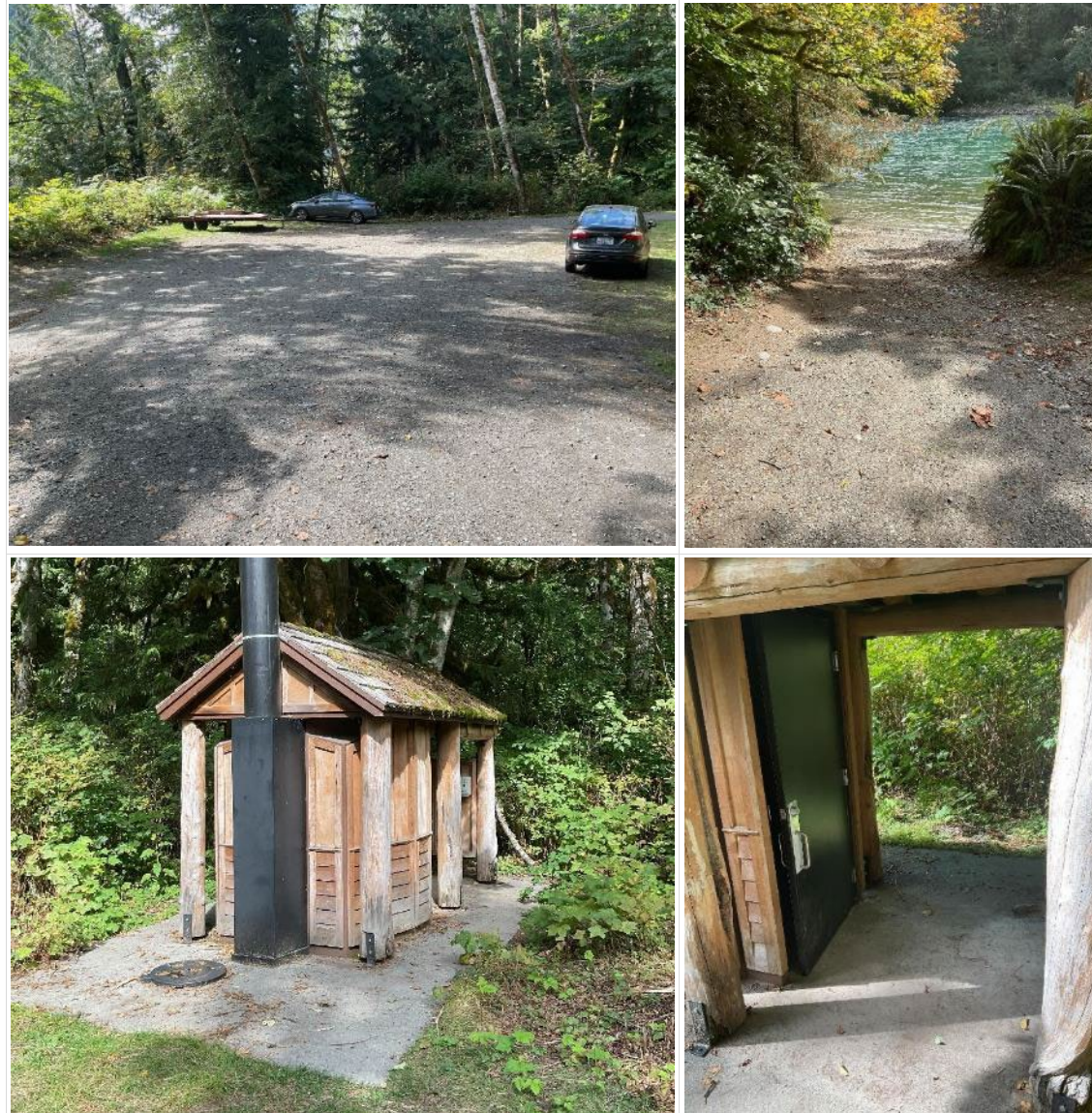
**Figure B-50. Photographs of Goodell Creek Campground [taken 09/13/21].**



**Figure B-51. Photographs of Goodell Creek Boat Launch [taken 09/13/21].**



**Figure B-52.**      **Photographs of Damnation Creek Boat-in Picnic Site [taken 09/13/21].**



**Figure B-53.**      **Photographs of Copper Creek Boat Access Site [taken 09/13/21].**



**Figure B-54.**      **Photographs of Marblemount Boat Launch [taken 09/13/21].**