

**Black Canyon Hydroelectric Project
FERC Project No. P-14110
Proposed Recreation Resources Study Plan
September 2012**

Prepared for
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Table of Contents

1 INTRODUCTION.....	1
2 STUDY DESCRIPTION AND OBJECTIVES.....	2
3 STUDY AREA.....	2
4 RESOURCE MANAGEMENT GOALS.....	3
5 EXISTING INFORMATION.....	3
6 NEXUS TO PROJECT.....	4
7 METHODS.....	4
7.1 Inventory of Recreation Resources, Facilities, and Activities.....	5
7.2 Quantify Current Use and Future Trends.....	5
7.3 Evaluate Potential Effects of Project Construction and Operation.....	6
7.4 Identify and Evaluate New Recreation Opportunities Created by Project.....	6
7.5 Identify Protection, Mitigation, and Enhancement Measures (PM&E).....	6
7.6 Develop a Resource Management Plan (RMP).....	7
8 PROGRESS REPORTING.....	7
9 SCHEDULE.....	7
10 LEVEL OF EFFORT AND COST.....	8
11 REFERENCES.....	8
12 APPENDIX A: Recreation Study Area.....	9

List of Tables

Table 1. Recreation Resource Study Schedule.....	7
Table 2. Level of Effort and Cost.....	8

1 INTRODUCTION

Black Canyon Hydro, LLC, (BCH) ultimately plans to file an application for an original license for the Black Canyon Hydroelectric Project (Project), FERC Project Number P-14110, and associated facilities on the North Fork Snoqualmie River (North Fork), approximately 4 miles northeast of North Bend in King County, Washington. The Project has a proposed generation capacity of 25 megawatts (MW) and would be located entirely on private lands.

The Project would consist of the following new facilities: 1) a 8-foot-high, 162.4-foot-long inflatable rubber diversion with associated fish passage and intake structures; (2) a variable pooling area behind the diversion with a normal water surface elevation of 971 feet above mean sea level and a maximum pooling of 2.83 acres; (3) a power conduit tunnel consisting of an approximately 450-foot-deep vertical tunnel into an approximately 8,300-foot-long, 12-foot-diameter horizontal tunnel and penstock connecting to; (4) a 60-foot-long, 100-foot-wide metal powerhouse with two Francis turbine units, one rated at 16 MW and the other rated at 9 MW; (5) a 200-foot-long, 24-foot-wide tailrace; (6) a 4.2-mile-long, 115-kilovolt overhead transmission line that transmits project power to the regional grid (transmission line would be an overbuild of an existing transmission line with only approximately 0.65 miles of new transmission); (7) a 0.75-mile-long and a 0.5-mile-long extension of two existing logging roads that lead to the project facilities; and (8) appurtenant facilities (switchyard, maintenance building, etc.).

The project would operate in run-of-river mode. The combined maximum hydraulic capacity of the two project turbines would be 900 cubic feet per second (cfs). The project would divert water from a 2.6-mile-section of the North Fork Snoqualmie River.

BCH filed a Notice of Intent (NOI) and the associated Pre-Application Document (PAD) to commence the FERC Integrated Licensing Process on March 27, 2012. In response to the subsequent study requests filed by FERC staff and other stakeholders and as detailed in 18 CFR 5.11, BCH is required to submit relevant resource study plans. This includes a study of recreation near the Project reach which follows the requirements of 18 CFR 5.11(b)-(e).

2 STUDY DESCRIPTION AND OBJECTIVES

In accordance with 18 CFR §5.11(d)(1), this section describes the goals and objectives of the study and the information to be obtained. The goal of this study is to identify recreational resources and activities that may be affected by the construction and operation of the proposed project, as well as measures that could be implemented to mitigate potential projects. The specific objectives of the study are to:

- Compile an inventory of outdoor recreation resources, facilities, and activities that support both the commercial and non-commercial recreation and tourism in the project area;
- Quantify current recreational use, tourism, and future trends based on recent or newly conducted surveys and interviews, consultation with stakeholders, regional and statewide plans, and other available data;
- Evaluate the potential effects of project construction and operation on the resources and activities identified (e.g., access, quality of experience, displacement of users or increased use, recreation-related spending, illegal trespassing, vandalism) in the project vicinity and downstream of the project;
- Identify and evaluate new recreational opportunities that may be created by the project and effects on recreation-related spending in the project vicinity;
- Identify a range of protection, mitigation, and enhancement (PME) measures that could be applied or implemented to mitigate impacts; and
- Develop a detailed RMP to be implemented for this project if a license is issued.

The Recreation Resources Study Plan is primarily based on the comments submitted by FERC staff on July 24, 2012 (FERC, 2012). While other stakeholders mentioned evaluating recreation, these requests were focused on advanced kayaking, which is addressed in its own study plan. While Trout Unlimited and King County both mentioned other forms of recreation (angler use), FERC staff specifically requested an inventory and study of general recreation resources. FERC's study request also met the criteria found in Appendix A of Scoping Document 1 for study requests. Since the FERC staff's study request appears to encompass the other recreation related comments, basing the proposed study plan on this request seems reasonable.

3 STUDY AREA

The proposed study area for this analysis includes lands and waters within and adjacent to the Project area where recreation activities occur. Specifically, the study area consists of those areas from and adjacent to the proposed intake structure (including the maximum upstream extent of any anticipated pooling), the powerhouse and tailrace, as well as the Project river reach (see Appendix A: Recreation Study Area).

4 RESOURCE MANAGEMENT GOALS

In accordance with 18 CFR §5.11(d)(2), this section describes resource management goals of agencies or Indian tribes with jurisdiction over the resources to be studied.

BCH is not aware of any applicable resource management goals of agencies or Indian tribes with jurisdiction over recreation resources within the vicinity of the Project. Additionally, none were indicated by the FERC staff's Recreation Resource Study Request. However, BCH would appreciate any stakeholder input on this subject.

5 EXISTING INFORMATION

In accordance with 18 CFR §5.11(d)(3), this section describes existing information on recreation resources in the Project area, and the need for additional information.

Recreational opportunities in the vicinity of the Project are generally limited because the property is owned by private parties who control access. THR, LLC, who owns the vast majority of the property where the Project is proposed has posted "No Trespassing" signs and is not known to provide property access for recreational uses. Similarly, other property located in the area of the proposed powerhouse is owned by private parties in the residential neighborhood of Ernie's Grove. Homeowners who have participated in Project scoping have indicated that public access has not been granted for recreational users.

Surrounding the general area of the Project to the north and east is 89,500 acres owned by Hancock Forest Management (HFM). HFM does sell a limited number of access permits to motorized and non-motorized recreational users. A permit is required for all access, including entry by bicycle, horseback, and foot. Motorized permits are limited to 1,000 permits, while non-motorized permits are unlimited in number. Camping permits are also available to allow overnight camping at designated areas. HFM collects user sign-in cards from visitors at authorized access points (HFM 2012).

Existing sources of generally applicable information and study approaches include:

- Various published or publicly available maps and geographic information systems (GIS) data;
- RCO's "2006 Recreation Survey Final Report" (RCO 2007);
- The Salmon Recovery Funding Board's (SRFB, a subsidiary board to RCO) "Estimates of Future Participation in Outdoor Recreation in Washington State" (SRFB 2003).

Additional information needs for recreation resources include the following:

- Identifying relevant policy documents and available existing data from public agencies and other stakeholder groups;

- Determining whether HFM has and is willing to share their recreational access permit data (coordinated with Recreational Boating and River Access Study); and
- User data, to be collected as proposed in the “Methods” section below, and gathered in conjunction with the Recreational Boating and River Access study.

6 NEXUS TO PROJECT

In accordance with 18 CFR §5.11(d)(4), this section describes any nexus between Project operations and effects on recreation resources.

Construction and operation of the proposed project could affect recreational resources in the study area through disruption or displacement of activities, changes to the recreational experience, increased use, limitations and expansion of public access, recreational user and property owner conflicts, increases in illegal dumping and shooting, changes in the types of recreation activities in the area, and other means.

7 METHODS

In accordance with 18 CFR §5.11(d)(1) and §5.11(d)(5), this section provides a detailed description of the proposed study methodology, including data collection and analysis techniques, or objectively quantified information, sampling strategy, and a schedule including data collection and analysis techniques, or objectively quantified information, sampling strategy, and a schedule including appropriate field season(s) and the duration (see “Schedule” heading below for schedule).

Recreational resources in the study area will be identified, inventoried, and evaluated through a desktop analysis based on GIS-based and hard-copy resource maps; public agency and private service provider information; agency and tourism websites; and other appropriate data sources. The study will also identify the recreational opportunities provided by these resources and how they vary seasonally. Given the remote nature of the study area, BCH proposes to focus on site surveys at known points of access and use.

The recreation resource study methods involve the four subtasks described below and first identified in the “Study Description and Objectives” section:

- Compile an inventory of outdoor recreation resources, facilities, and activities that support both the commercial and non-commercial recreation and tourism in the project area;
- Quantify current recreational use, tourism, and future trends based on recent or newly conducted surveys and interviews, consultation with stakeholders, regional and statewide plans, and other available data;
- Evaluate the potential effects of project construction and operation on the resources and activities identified (e.g., access, quality of experience, displacement of users or increased use, recreation-related spending, illegal trespassing, vandalism) in the project vicinity and downstream of the project;

- Identify and evaluate new recreational opportunities that may be created by the project and effects on recreation-related spending in the project vicinity;
- Identify a range of protection, mitigation, and enhancement (PME) measures that could be applied or implemented to mitigate impacts; and
- Develop a detailed RMP to be implemented for this project if a license is issued.

7.1 Inventory of Recreation Resources, Facilities, and Activities

- Review existing plans, maps, reports, and other data.
- Consult area land managers (including the private property owners).
- Consult WDFW, USFS, recreational fishing and hunting guides, or other experts to determine existing levels of recreational fishing and hunting in the project area and the potential effects of project construction and operation on those activities.
 - If localized data are unavailable, broader regional data will be interpolated (to the extent practical) to provide an overview of hunting and fishing activities that occur in the project area.
- Conduct field user surveys (based on accepted protocols, each season, by ground, in conjunction with the Recreational Boating and River Access Study).
- Install trail cameras for counting user numbers at entry points.

Recreational activities to be assessed include, but are not limited to, fishing, hunting, foraging, guiding, camping, hiking, wildlife viewing, sightseeing, bicycling, off-road vehicle use, and winter recreation. The seasonality of each activity would be described, and mapped locations of existing or planned facilities and use areas, including dispersed recreational use, provided.

7.2 Quantify Current Use and Future Trends

The information gathered during Inventory of Recreation Resources, Facilities, and Activities will be used to quantify and describe current and future use and participation levels in outdoor recreational activities for both commercial (i.e., outfitter/ guide) and non-commercial uses. This analysis will include numbers and types of users (e.g., age group, resident/visitor, guided/independent, activity type, etc.), means of access, time and duration of visit (i.e., weekend/weekday, months, seasons), and preferences for any new recreational opportunities that could be made available through the development of this project. Recreational use will be categorized by activity and quantified on a monthly basis.

Future recreation demand analysis will use demographic trends to estimate future recreation demand within the project area annually in 10-year increments, over the course of the anticipated 50-year license. Survey data with respect to opinions of future use in the post-construction environment will provide additional information that can be used to estimate the Project's potential effect on projected recreational use growth.

7.3 Evaluate Potential Effects of Project Construction and Operation

Relevant studies addressing river flows and geomorphology will be integrated into the recreation study to define how project-related changes in flows may affect non-boating recreational resources along the river corridor.

Through the various count methods and the survey administration listed above, the study will evaluate:

- Potential impacts of the proposed project on the recreational experience and recreational use patterns due to light, noise, increased human use during construction, and visual disturbances;
- The anticipated impact of the construction phase of the Project as a deterrent to or attractant for recreational use in the project area;
- The anticipated impact of the permanent presence of project facilities as a deterrent to or attractant for recreational use in the project area;
- Effects of access road extensions and other changes in land use and ownership on public access and recreation (e.g., increased use, illegal trespassing, and vandalism) in the project vicinity.
- Effects of project construction and operation on recreation-related spending in the project vicinity.
- Potential impacts to other resources, such as changes to wildlife and fish populations, that could affect the recreation experience.

The potential project impact analysis will depend primarily upon data from surveys, follow-up interviews (as needed), and available data from existing sources.

7.4 Identify and Evaluate New Recreation Opportunities Created by Project

Recreational needs will be kept in mind during design and development of the facility's operational regime. Based on the project design and management parameters, any new recreational opportunities that may be created by the project will be identified and evaluated.

7.5 Identify Protection, Mitigation, and Enhancement Measures (PM&E)

If potential negative impacts on recreational resources are identified, PME measures will be identified to reduce project impacts on recreational users. These strategies may include avoidance, detour, minimization of scale, revisions in project timing, measures to offset the loss of recreational opportunities, and development of alternative use opportunities for use during both the construction phase and the operating life of the Project.

7.6 Develop a Resource Management Plan (RMP)

- An RMP will be prepared based on the results of this Recreational Resource Study after licensing.
- The RMP will address potential project effects as well as future recreational needs and opportunities.
- The RMP will cover the recreational opportunities evaluated both under this study and under the Recreational Boating and River Access Study.

8 PROGRESS REPORTING

In accordance with 18 CFR §5.11(b)(3), this section describes provisions for periodic progress reports, including the manner and extent to which information will be shared; and the time allotted for technical review of the analysis and results.

Study reports will be submitted as required by the FERC Integrated Licensing Process (ILP). The most recent schedule, issued by FERC in Appendix B of Scoping Document 1, includes a number of opportunities for progress reports, exchange of analysis and results between stakeholders, and information sharing. After proposed study plans are filed with FERC there will be a study plan meeting and comment period before a revised study plan is filed and a comment period passes. Once studies begin, the ILP also has deadlines for an Initial Study Report to be submitted, an Initial Study Report Meeting, and an Initial Study Report Meeting Summary. However, this schedule is subject to change by FERC staff and should not necessarily be relied upon. It is BCH's understanding that any changes to the ILP plan and schedule will be noticed by FERC staff.

9 SCHEDULE

In accordance with 18 CFR §5.11(b)(2), the schedule for conducting the study is provided in Table 1 below.

Table 1. Recreation Resource Study Schedule

Component	Completion Date*
Proposed Study Plan Meeting	October 4, 2012
Proposed Study Plan Comments Due	December 6, 2012
File Revised Study Plan	January 7, 2013
Revised Study Plan Comments Due	January 22, 2013
Inventory Known Recreation Resources	Throughout 2013
Quantify Current Use	Winter 2013
Evaluate Potential Effects and New Recreation Opportunities	Winter 2013
Identify PM&E Measures	Winter 2013

Initial Study Report filed with FERC	February 6, 2014
Initial Study Report Meeting	February 21, 2014
Initial Study Report Meeting Summary	March 10, 2014

*Dates based on schedule created and presented by FERC in Scoping Document 1 and subject to change.

10 LEVEL OF EFFORT AND COST

In accordance with 18 CFR §5.11(d)(6), the anticipated level of effort and cost are provided in Table 2 below.

The estimated cost of this work is approximately \$72,230, depending upon the level of information that might be obtained from existing sources. One senior planner would supervise and direct two or three technicians, who would be expected to review existing data sources, survey sites in the field, develop the inventory, evaluate current and future use and the need for additional facilities, evaluate potential effects of the project on area recreation resources, and draft and finalize maps and reports.

Table 2. Level of Effort and Cost

Task	Labor & Expenses
Inventory recreation resources, facilities, and activities	\$ 13,438
Quantify current and future recreational trends	\$ 18,885
Evaluate potential effects	\$ 6,848
Identify and evaluate new recreation opportunities	\$ 3,265
Identify PME measures	\$ 2,919
Develop a Recreation Study	\$ 11,929
Prepare a Recreation Management Plan	\$ 14,946
Total	\$ 72,230

11 REFERENCES

Federal Energy Regulatory Commission, 2012. Letter to Chris Spens with request for studies, additional information, and study requests in response to the Notice of Intent to File, Pre-Application Document (PAD) and Scoping Document. July 24, 2012. Federal Energy Regulatory Commission. Washington, D.C.

HFM (Hancock Forest Management). 2012. "Snoqualmie." <http://hancockrecreationnw.com/snoqualmie/about/about-snoqualmie>. Accessed August 2, 2012.

RCO (Washington State Recreation and Conservation Office). 2007. "2006 Recreation Survey Final Report." August 1, 2007. http://www.rco.wa.gov/doc_pages/other_pubs.shtml. Accessed July 31, 2012.

