Boundary Hydroelectric Project (FERC No. 2144)

Fish and Aquatics Management Plan
Annotated Outline

Seattle City Light

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Fish and Aquatics Management Plan
Boundary Hydroelectric Project (FERC No. 2144)

1 INTRODUCTION

This Fish and Aquatics Management Plan (FAMP or plan) has been prepared to comply with articles _____ of the Federal Energy Regulatory Commission License for Seattle City Light's (SCL) Boundary Hydroelectric Project (Project) (FERC No. 2144).

Each of the elements of the plan will be introduced in this section:

- Aquatic habitat
- Connectivity (upstream fish passage)
- Native fish conservation
- Trout stocking in Boundary Reservoir
- Research and monitoring

Additional introductory information will be provided in future drafts of the plan. The plan for control of invasive submerged aquatic macrophytes in Boundary Reservoir is addressed in the Aquatic Invasive Species Control and Prevention Plan (SCL 2009).

2 GOALS

2.1. Aquatic Habitat

This section will describe the goals of the aquatic habitat element of the FAMP. Tentatively these include:

- Improve management of large woody debris (LWD) collected at Boundary Dam
- Improve habitat associated with LWD at tributary deltas and gravel/cobble bars in Boundary Reservoir
- Improve mountain whitefish spawning habitat through gravel augmentation in the Box Canyon tailrace
- Reduce the incidence of fish trapping through channel modifications at the east bank cobble bar near Project river mile (PRM) 30.3
- Improve aquatic habitat, streambank, riparian, and fish passage conditions in tributaries to Boundary Reservoir

2.2. Connectivity

This section will describe the goals of the connectivity element of the FAMP. Tentatively these include:

- Determine the population origin of westslope cutthroat trout (*Oncorhynchus clarki*), redband trout (*O. mykiss*), and bull trout (*Salvelinus confluentus*) in the Boundary Dam tailrace
- Provide fish passage to allow movement of native salmonids upstream past Boundary Dam to access upstream habitats

2.3. Native Fish Conservation

This section will describe the goals of the native fish conservation element of the FAMP. Tentatively this includes:

- Contribute to the conservation of native fish species that inhabit the Project area during any portion of their life history

2.4. Recreational Fishing

This section will describe the goals of the trout stocking element of the FAMP. Tentatively this includes:

- Increase recreational trout fishing opportunities in Boundary Reservoir

2.5. Research and Monitoring

This section will describe the goals of the biological monitoring element of the FAMP. Biological monitoring will be conducted to answer research-type questions. Tentatively this includes:

- Provide federal, state, and tribal agencies with information on species of concern inhabiting the Project area

3 REGULATORY REFERENCE AND DEFINITIONS

3.1.1. Federal Authority and Reference

This section includes all pertinent federal regulatory authority and references to pertinent laws and information needed for implementing the FAMP including:

- USDA Forest Service Special Use Permit
- US Army Corps of Engineers Section 10 and 404 permits
- National Historic Preservation Act Review
- Endangered Species Act Section 7 Review, if specific projects are not covered under the broader Section 7 review conducted as part of Project relicensing

3.1.2. Washington State Authority and Reference

This section includes all pertinent state regulatory requirements for implementing the plan including:

- JARPA/HPA (Washington Department of Fish and Wildlife)
- Aquatic Use Authorization (Department of Natural Resources)
- Critical Area Review and SEPA
- Shoreline Development

3.1.3. Local Authority and Reference

This section includes all pertinent County or City Regulatory requirements for implementing the plan. Examples could be:

- Grading and clearing permits
- Sensitive Area Ordinance

3.1.4. Definitions

This section includes definitions pertinent to implementing the plan. For example, LWD may be defined differently by different agencies. A clear definition is needed to ensure there is no confusion as to what constitutes LWD.

3.1.5. Other Relevant Articles of the License

This will be completed after reviewing final FERC license articles. For example, articles regarding Project operations, aquatic vegetation management, etc., may be pertinent to the FAMP.

4 PLAN DEVELOPMENT PROCESS

This section will describe the processes by which the FAMP has been developed and by which it can be modified in the future.

4.1. Federal, State, and Tribal Coordination

4.2. Provisions for Development and Modification of the FAMP

5 PLAN IMPLEMENTATION

This section will provide details on what is proposed under each element of the plan and its components. Included will be the rationale that led to the specific PM&Es to be implemented as part of the License. A Level-2 subsection will be provided for each element and a Level-3 subsection for each component. Each component will have analogous Level-4 subsections. (Note: The abbreviated content of the Mainstem Large Woody Debris and Tributary Deltas section [Section 5.1.2] of this annotated outline is provided as a partial example of how

subsections in Section 5 will be treated when the plan is developed. Other subsections contain only headings at this time.)

5.1. Aquatic Habitat

5.1.1. Gravel Augmentation below Box Canyon Dam

5.1.1.1. Scope

5.1.1.2. Background Information

5.1.1.3. Procedures

5.1.1.4. Compliance and Effectiveness

5.1.1.5. Reporting and Schedule

5.1.1.6. Consistency with Other Plans

5.1.2. Mainstem Large Woody Debris and Tributary Deltas

5.1.2.1. Scope

This subsection will describe the spatial and/or temporal scope of LWD management activities.

5.1.2.2. Background Information

This subsection will provide background information and rationale supporting this component of the plan. This will be a summary of information from the Updated Study Report (USR), Preliminary Licensing Proposal (PLP), License Application, and/or the Integrated Resource Analysis (IRA).

5.1.2.3. Procedures

This subsection describes SCL's commitment and specific procedures to be followed while managing the resource component. For example, for LWD procedures will likely be identified for:

- Collecting and categorizing LWD
- Identifying how and where to stockpile LWD
- Identifying what information will be maintained about the LWD stockpile
- Determining how LWD in the stockpile will be distributed

5.1.2.4. Compliance and Effectiveness

This subsection will describe compliance and effectiveness monitoring to be implemented as part of managing this resource component and describe the metrics and criteria to be used to determine success.

5.1.2.5. Reporting and Schedule

This subsection will describe the specific information to be reported for this resource component. It will also describe the schedule for implementing this resource component.

5.1.2.6. Consistency with Other Plans

Any constraints or coordination needed to maintain consistency with other plans will be identified in this section.

5.1.3. Offsite Tributary Mitigation

5.1.3.1. Scope

5.1.3.2. Background Information

5.1.3.3. Procedures

5.1.3.4. Compliance and Effectiveness

5.1.3.5. Reporting and Schedule

5.1.3.6. Consistency with Other Plans

5.1.4. Excavation of Mainstem Trapping Pools Channel Modifications

5.1.4.1. Scope

5.1.4.2. Background Information

5.1.4.3. Procedures

5.1.4.4. Compliance and Effectiveness

5.1.4.5. Reporting and Schedule

5.1.4.6. Consistency with Other Plans

5.2. Connectivity

5.2.1. Upstream Fish Passage

5.2.1.1. Scope

5.2.1.2. Background Information

5.2.1.3. Procedures

5.2.1.4. Compliance and Effectiveness

5.2.1.5. Reporting and Schedule

5.2.1.6. Consistency with Other Plans

5.3. Native Fish Conservation

5.3.1. Tributary Non-native Trout Suppression

5.3.1.1. Scope

5.3.1.2. Background Information

5.3.1.3. Procedures

5.3.1.4. Compliance and Effectiveness

5.3.1.5. Reporting and Schedule

5.3.1.6. Consistency with Other Plans

5.3.2. Native Trout Genetic Conservation

5.3.2.1. Scope

5.3.2.2. Background Information

5.3.2.3. Procedures

5.3.2.4. Compliance and Effectiveness

5.3.2.5. Reporting and Schedule

5.3.2.6. Consistency with Other Plans

5.4. Recreational Fishing

5.4.1. Trout Stocking in Boundary Reservoir

5.4.1.1. Scope

5.4.1.2. Background Information

5.4.1.3. Procedures

5.4.1.4. Compliance and Effectiveness

5.4.1.5. Reporting and Schedule

5.4.1.6. Consistency with Other Plans

5.5. Research and Monitoring

The following section will describe studies and monitoring that will provide information that could be useful during the implementation of one or more PM&Es or contribute to understanding the likelihood of success of one or more PM&Es.

5.5.1. Northern Pike Monitoring and Radio-Telemetry Study

5.5.1.1. Scope

5.5.1.2. Background Information

5.5.1.3. Procedures

5.5.1.4. Compliance and Effectiveness

5.5.1.5. Reporting and Schedule

5.5.1.6. Consistency with Other Plans

6 REPORTING, COORDINATION, AND SCHEDULE

This section will describe the content and frequency of reports and describe coordination between SCL and resource agencies and other entities, for example, coordination with the Kalispel Tribe, Pend Oreille PUD, and BC Hydro related to fish radio telemetry studies. The scheduling described in this section will be for the broader plan (e.g., for reporting, coordination, Fish and Aquatic Workgroup planning, etc.) rather than for implementation of the individual components.

6.1. Reporting

6.2. Schedule

7 FUNDING

This section would specify SCL's funding responsibilities. For example, regarding LWD stockpiling, SCL may specify that it will not bear the cost of dispersing LWD from the stockpile location to where the wood will be used, but rather that the recipient of the LWD will be responsible for loading and transporting the LWD it receives.

8 REFERENCES

SCL. 2009. Aquatic Invasive Species Control and Prevention Plan Annotated Outline, Seattle Washington.

Young, S.F., J.G. McLellan, and J.B. Shaklee. 2004. Genetic integrity and microgeographic population structure of westslope cutthroat trout, Oncorhynchus *clarki lewisi*, in the Pend Oreille Basin in Washington Environmental Biology of Fishes 69: 127-142.