

# STATE OF ALASKA

## DEPARTMENT OF FISH AND GAME

### DIVISION OF SPORT FISH

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May 9, 2012

Mr. Duff Mitchell, Business Manager  
Juneau Hydropower, Inc  
P.O. Box 22775  
Juneau, Alaska 99802

Re: Sweetheart Lake Hydroelectric Project (FERC No. P-13563)  
Comments on the Draft Aquatic Resources Study Plan/Scope of Work

Mr. Mitchell:

The Alaska Department of Fish and Game (ADF&G) has reviewed the Draft Aquatic Resources Study Plan/Scope of Work (Plan) for the proposed Sweetheart Lake Hydroelectric Project (FERC No. P-13563) and offer the following comments.

### **General Comments**

The Plan adequately identifies the various resource issues and associated study needs that came out of the scoping process. From our recent discussions with you, we understand the intent of this Plan was more of a scope of work than a detailed study plan, and that you are currently hiring consultants to develop detailed study plans and carry out the studies. Please work with the agencies in developing these study plans.

The sampling design for each study should be linked to the specific objectives of that study and should include a description of the following:

- protocols for selecting specific sampling locations and associated sampling method/gear within each water body;
- sampling schedule by water body and sampling method/gear (the Plan provides the start and end dates for each study component but does not provide a sampling schedule within these dates);
- sampling effort (sampling frequency, duration, area covered, etc.) by water body and sampling method/gear; and
- procedures for data collection, analysis, and reporting.

These details on sampling design will be used to evaluate the effectiveness of proposed studies in collecting information needed to assess potential project impacts on aquatic resources. This information will also provide a framework to determine what field studies and sampling effort can be accomplished in the given time frame.

### **Specific Comments by Section**

#### **4.2.1 Study Component #1 – Anadromous Resource assessment, evaluation, analysis and possible PM&E measures.**

See General Comments concerning the need for more detail on sampling design for the fish studies.

What specific method will be used to classify and quantify stream habitat during the inventorying and mapping process?

How will relations between seasonal instream flows, water temperature, and habitat quantity and quality under existing conditions be quantified and analyzed?

How will the potential impacts of predicted changes in seasonal instream flows and water temperature on habitat quantity and quality under proposed project operations be quantified and analyzed?

In addition to foot surveys, other sampling techniques (e.g., minnow traps, rod and reel, trap nets, etc.) should be used to help document the presence, relative abundance, distribution, habitat use, and life-stage periodicity of Dolly Varden and cutthroat trout within the anadromous reach.

The description of stream gaging methods probably belongs in section 6.0 (Water Quantity and Water Quality Analysis and PM&E) of the Plan.

#### **4.2.2 Study Component #2 - Tidewater Resource Assessment, Evaluation, Analysis and Possible PM&E Measures**

While the Plan describes how changes in the timing, quantity, and temperature of freshwater inputs from Sweetheart Creek into Gilbert Bay will be evaluated under proposed project operations, how the predicted operational changes in freshwater inputs will be used to evaluate the potential impacts of these changes on marine resources in Gilbert Bay should be described.

#### **5.2.1 Study Component #1 – Sweetheart Lake and Inflow Tributaries Aquatic Survey assessment, evaluation, analysis and possible PM&E measures.**

See General Comments concerning the need for more detail on sampling design for the fish studies.

What specific methods will be used to classify and quantify lake and stream habitat during the inventorying and mapping process?

As noted in the Plan, the proposed sockeye smolt line at Sweetheart Lake will necessitate a different design for attracting and intercepting smolts than the smolt lines used at Deer and Spiridon lakes. Please provide design details and feasibility analysis on the smolt line as they become available.

Please keep an eye out for kokanee while sampling the lake.

### **5.2.2 Study Component #2 – Sweetheart Creek Aquatic survey assessment, evaluation, analysis and possible PM&E measures.**

We understand the difficult logistics associated with sampling the bypass reach and that developing a detailed sampling design will be difficult until further field work in this reach is attempted. Please keep us updated on initial sampling efforts in the bypass reach so we can work together to determine an appropriate course of action for adequately sampling this reach.

## **7.0 Agency Resource Management Goals**

Correction: Alaska Statutes 41.14.870 and 41.14.840 were renumbered to 16.05.871 and 16.05.841 when Habitat Division was moved from DNR back to ADF&G.

## **9.0 Consistency with Generally accepted practices**

The Plan states (bottom page 33 – top page 34) *“The instream flow approach, as a whole, is custom-designed for Sweetheart Creek and its unique hydrology, geomorphology, and fish resources. However, each component of the study is a well known and accepted technique for study application in the field. The integration of these components is accomplished through post-processing and analysis of results.”*

Each study component needs to be adequately described with citations as appropriate. And how these components will be integrated through post-processing and analysis of results needs to be described.

Invertebrate and periphyton sampling are mentioned for the first time in the Plan in this section. Please provide a sampling and analytical design for the invertebrate and periphyton studies.

## **10.0 Schedule for Conducting the Study**

See General Comments.

Thank you for the opportunity to provide comments. Please contact me if you have any questions.

Sincerely,

*/S/ Shawn Johnson*

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