

Final Wildlife and Vegetation Resources Study Plan

Blue Lake Hydroelectric Project, FERC No. 2230

Prepared by:

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INTRODUCTION

This Wildlife Study Plan represents the final iteration of a plan for wildlife studies related to relicensing of the Blue Lake hydroelectric project (“Project” FERC No. 2230), owned by the City and Borough of Sitka and operated by the City and Borough of Sitka Electric Department (collectively, the “City”).

The City is in the process of obtaining a new license for the Project. In the relicensing process, the City must make available to the Federal Energy Regulatory Commission, information on existing natural resources potentially affected by the relicensing action. The FERC will, in turn, use that information as environmental baseline in various impact evaluation and other decision documents.

As required under FERC regulations, the City has submitted a Notice of Intent (NOI) to relicense the project, distributed an Initial Consultation Document (ICD), held agency and public meetings and a site visit, all in November and December, 2002. In response to the meetings and the ICD, certain Alaska resource agencies submitted detailed requests for environmental studies. Though not all comments addressed studies for all resources, those pertaining to wildlife resources were received from Alaska Department of the Fish and Game (ADF&G), US Forest Service (USFS) and US Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). (“Draft Plan”) was prepared which addressed those study requests.

A Draft Wildlife Study Plan (Draft Plan) was distributed by the City for agency review, via e-mail, on April 17, 2003, with an invitation to an interagency meeting scheduled for April 24, 2003, to discuss both the draft fisheries and wildlife study plans (distributed at the same time). Minutes of the interagency meeting were distributed in draft on April 29, 2003. Final meeting minutes were returned on July 1, 2003, and used as one basis for revision of the Draft Plan.

Written comments on the Draft Plan were submitted by ADF&G on June 17, 2003, and by USFWS on June 20, 2003. In the City’s opinion, the written comments and those received during the interagency meeting represented no substantive dispute with the elements of the Draft Plan. We believe we have addressed all comments agreeably though text changes in the Draft Plan text. Details of the comments and the City’s responses are in the “Review Comments” section at the end of this Plan.

PROPOSED WILDLIFE and VEGETATION STUDIES

Because the City is not proposing any structural changes to the project, (particularly with respect to raising the dam and subsequent elevation of the reservoir) no additional terrestrial areas will be affected by the relicensing. Therefore, the following proposed studies may differ from agency requests in those areas which might have been affected by raising the dam.

In the following, the term “researcher(s)” refers to contractors hired by the City and approved by agencies, or to teams of researchers which might variously include contractors, City and agency personnel.

Literature and Available Information Review

Researchers will conduct a literature review to help develop a complete list of wildlife species known or thought to use the project area. The City will assemble existing wildlife information in the Blue Lake and Sawmill Creek drainage pertaining to large and small mammals, fur-bearers, waterfowl (including harlequin ducks), shorebirds, bald eagles, and other raptors. Much of the information is part of the existing Blue Lake licensing or amendment data base.

In addition to written material, researchers will interview resource agency personnel from ADF&G, USFS, FWS, Sitka Tribe of Alaska (STA) members and others who might have personal knowledge of wildlife in the Project area.

Finally, researchers will establish communications protocols with resource agencies to receive all appropriate and available survey information which those agencies may have collected through resource inventories, aerial overflights, harvest records (particularly for mountain goats) and other agency-funded or otherwise enabled studies.

Sawmill Creek and Blue Lake Field Surveys.

Seasonal field surveys will be conducted to describe 1) the current distribution and relative abundance of wildlife species and their spatial and temporal use patterns of terrestrial and aquatic habitats within riparian zones, including Blue Lake tributary deltas, and 2) general vegetation and habitat type within the same area; and 3) activity and habitat association of wildlife observed.

Wildlife

Wildlife data will be obtained primarily through observations and captures, which will be done in three separate ways:

Foot surveys. Foot surveys will be used to observe wildlife and vegetation while walking within the survey area. **General foot surveys** will be done in association with fisheries surveys which will be conducted frequently and within viewing range of most of the Project’s potentially-affected area. On a seasonal basis, however, researchers will conduct **dedicated foot surveys** in accessible areas of the Blue Lake shoreline and along selected tributary courses to assess wildlife presence in more detail. Foot surveys will be done primarily along Sawmill Creek, but to a lesser extent in selected areas around Blue Lake.

Boat Surveys. Boat surveys will be used along the shoreline of Blue Lake, and, as with Sawmill Creek foot surveys, will be conducted primarily by fisheries researchers on their

routine trips to the lake area. As with foot surveys, dedicated wildlife boat surveys will be conducted seasonally to assess wildlife presence in more detail.

Checklist for Foot and Boat Survey Wildlife Observations. In both foot and boat surveys, researchers will note:

- Species or sign;
- Estimated age or life stage of fauna sighted;
- Movement patterns, if observed;
- Indications of re-sighting (was animal or bird sighted before, based on identifying marks?);
- Evidence of life-history activity, such as denning, kidding, nesting, feeding, rearing, etc.

Both foot and boat survey observations will be documented, to the extent possible, using Global Positioning System (GPS) equipment, and will be noted on Project area base maps to be produced by the City.

These surveys will also be a primary source of information on existence of threatened or endangered (T&E) species (See Endangered Species section, below). Any initial reports of T&E species will prompt discussions with FWS to determine if additional study effort is needed to adequately confirm sightings.

Small Mammal Trapping. A limited small mammal trapping effort will be used within the riparian zones of Sawmill Creek and Blue Lake. Researchers will work with wildlife specialists from ADF&G, USFS and FWS to determine approved trapping types and techniques, trap placements and seasons when trapping will occur. A separate Methods document will be prepared for small mammal trapping specifying approved trap locations, equipment, techniques and timeframes.

Raptor Protection. The City will survey the Project overhead transmission lines to determine their potential to electrocute birds or present in-flight risks. A special report will evaluate whether Project transmission equipment designs are consistent with the specifications contained in *Suggested Practices for Raptor Protection on Power Lines - The State of the Art in 1996* by Avian Power Line Interaction Committee (APLIC) and *Mitigating Bird Collisions with Power Lines: The State of the Art in 1994* by APLIC. Reports will describe any evidence of past electrocutions, if documented.

Vegetation.

Using aerial photos as a primary data source, the City will survey and document riparian vegetation community composition, including estimates of relative percent cover of dominant species (e.g. willow, alder, cottonwood, sedges, forbs, grasses). Aerial imagery will be ground-truthed in accessible areas.

To the extent possible using photos and ground observations, the City will also document important plant communities within shallow littoral zones (e.g. aquatic macrophytes) that are utilized by terrestrial and aquatic species, including furbearers and birds.

The City intends to conduct aerial photography of the project area as part of a larger City-sponsored aerial imagery survey in 2003. Imagery and maps from this survey will serve as base data for both all environmental field surveys done for the Project relicensing and later monitoring surveys.

Study Area.

All wildlife field surveys (those requiring researchers to observe flora or fauna in the field) will be conducted within a zone of potential wildlife impacts, defined during consultation as the area within which wildlife might be affected either by Project operations or by Project-related human activity.

Because of very dense vegetation and restricted movement along both the Sawmill Creek band and the Blue Lake shoreline, Study Areas will be determined in the field based on accessibility and safety concerns. Generally, most wildlife in such areas travel near the stream or lake bank, assuring that surveys done by fisheries researchers will document most of the potentially-impacted species. Around Blue Lake, the study area will also include slopes above the reservoir which may be observed using binoculars or a spotting scope.

The area to be depicted using aerial imagery will extend to the rim of the Blue Lake basin as defined on topographic maps. More detailed vegetation typing and cover analysis will only be done in those areas potentially-affected by project operations or operation-associated human activity. These two area types will be determined during consultation.

Study Timeframe

Wildlife studies will continue for the duration of the pre-filing period. Wildlife surveys will be done at various times depending on the technique, as described below (specific times will be confirmed with agency specialists, as possible):

Foot Surveys.

Foot survey time periods will be limited by access to the areas within the Sawmill Creek Study Area. Generally, this will define a survey season between late March and late December, but snow pack and access conditions vary greatly among years. Because general wildlife foot surveys will be associated with fisheries foot surveys, they will be performed by the same researcher whenever the stream is accessible for fish foot surveys, or roughly once per week during the accessible period.

Dedicated wildlife foot surveys will be performed on a seasonal basis, again when streamside areas of Sawmill Creek are safely accessible. Exact times of the dedicated

surveys will be developed through consultation with wildlife specialists from ADF&G, USFWS, USFS and STA, and the City's researcher(s) will invite agency specialists to accompany these surveys. It is envisioned that dedicated wildlife surveys will occur in spring, summer and fall, to correspond with accessible periods and the life history and activity patterns of area wildlife.

Boat Surveys.

As with foot surveys, access to Blue Lake will be the controlling factor in boat surveys. Access to Blue Lake by boat is generally possible from mid-April through mid-December, roughly the same period as for Sawmill Creek.

Boat surveys will be done at least twice per year, and more often if fisheries researchers are required to visit the lake more frequently.

Small Mammal Trapping.

Trapping will occur about three times each year during the period when access was available, and small mammals were expected to be active. This will generally require a trapping effort in the spring, summer and fall, beginning in April and ending in December, each year.

ENDANGERED SPECIES

To assure early determinations of whether endangered species occur in the Project area, the City will consult during the early phases of wildlife and vegetation studies with USFS and FWS. As noted above, the initial and ongoing reviews of existing information will note all references to endangered species. In consultation with FWS and USFS, the City will formally request comment on endangered species occurrence in the Sawmill Creek and Blue Lake Study Areas and in a larger geographic area to be determined during consultation. Annual survey reports will have sections on endangered species sightings, if any.

The objective of the endangered species activities will be to have completed all endangered species reviews and surveys prior to submission of the Draft License Application for agency and public review.

REPORTING

Wildlife and vegetation studies will be done on a calendar year basis, with studies for each year commencing on or about January 1 and ending December 31. A draft report documenting the annual wildlife and vegetation surveys will be distributed on or before March 1 of the following year with a 45-day review period. The City will ask for review primarily to allow agencies to familiarize themselves with methods and results of the yearly studies, and to comment on proposed Study Plan Revisions for the following year. The City will convene an annual meeting or conference call to discuss agency

recommendations for Plan revisions, as soon as possible after yearly report review to facilitate incorporating changes in time for spring surveys.

The annual reports will contain the following sections:

- **Introduction.** This section should be brief, describing need for surveys within the context of FERC relicensing and data needs of the participating agencies;
- **Methods.** In this section, the author(s) will describe observation methods, including sites, dates, observations recorded (wildlife numbers and species, weather, etc, as described above) identification keys used and other items;
- **Results.** Authors will describe the results of the foot and boat surveys and other recorded data. Study Area base maps will be used to the extent possible to identify wildlife locations from the foot and boat surveys, noting habitat utilization and life history activities.

A separate Results section will be devoted to T&E and sensitive species. In coordination with ADF&G, USFS and FWS, the City will compile and add to a list of potentially-affected sensitive species in addition to T&E species noted by FWS. If any sensitive species are sighted, the significance of the observation will be reported each year in the report, and further documented to the above wildlife agencies via separate written report.

- **Discussion.** This section may be brief in these pre-consultation studies, and limited to general discussions of species present, timing and habitat utilization, as they relate to other areas in Southeast Alaska, and to any previous data collected in the Sawmill Creek and Blue Lake areas. More intensive interpretation of these data in terms of species importance, impacts and mitigation measures will be done as part of development of the relicensing NEPA documents.
- **Recommendations.** This section will focus on evaluation of previous years' studies and ways in which they might be improved. In successive years, this section will be used to evaluate effectiveness of changes and the extent to which proposals have been achieved.
- **Impact and Mitigation Evaluations.** As possible each year, reports will address existing project effects on wildlife and vegetation. As appropriate, reports, particularly in the later relicensing study years, may address proposed changes in project operation, or effects of mitigation proposals which arise during the relicensing process. Mitigation measures may be either on- or off-site, as determined during consultation.

ANNUAL MEETING

An annual meeting will be held each year following review of the annual wildlife and vegetation reports. If possible, the meeting time will coincide with that of a similar meeting proposed for the Fisheries Study Plan. The objective of the meeting will be to discuss results of the previous years' surveys and revise the survey methods to address problems encountered. After the report review and meeting, the City will provide draft meeting minutes for review, and, following finalization of the minutes, the Study Plan for both the Blue Lake and Sawmill Creek wildlife and vegetation surveys will be revised and reissued as necessary.

REVIEW COMMENTS

Comments on the Draft Wildlife Study Plan were received from ADF&G and USFWS. (We have numbered the comments to facilitate tracking). Phone contact with NMFS, USFS and ADNR (one representative formerly with ADGC) indicated that they would not provide written comment, but that their comments during the April 24, 2003 study planning meeting should be taken into account.

In Table 1, we detail the specific written agency comments (we have numbered the comments, as shown in Attachments I and II), Study Plan modifications, and locations of changes in the draft text. We also provide an explanation of our response, particularly if we have taken a different position from the comment in question. Generally, we have agreed with all comments and have incorporated their requested language changes or other recommendations either verbatim or in agreement with the intent of the comment. Any minor disparities between agency recommendations and elements in the final plan are explained in the text revisions and Table 1.

Table 1. Comments on draft wildlife study plan, Blue Lake hydroelectric Project, FERC No. 2230.

ADF&G Comments of June 17, 2003 (“NRR” means “No Response Required”).

| Comment Number | Comment Summary | Response and Location |
|-----------------------|--|--|
| ADFG1 | Agreement with literature review | NRR |
| ADFG2 | Observations of wildlife in the project area should include their activity and habitat association. | Text revised; p. 3, under “Sawmill Creek and Blue Lake Field Surveys”, added item 3, referencing activity and habitat associations. |
| ADFG3 | a) Detailed notes should be taken on the location of wildlife sign in order to identify habitat associations; b) Document evidence of | a) NRR; p. 4, para. following bulleted list states all observations will be recorded relative to GPS, and noted on Project base map; |

| | | |
|---------------|--|--|
| | herbivory; c) Conduct dedicated foot surveys along Blue Lake shoreline and tributaries. | b) Text revised, p. 4, bulleted list, bullet added to note evidence of herbivory; c) Text revised, pp. 3 and 4 under “Foot Surveys” to indicate that dedicated foot surveys will be done assess wildlife presence in more detail. |
| ADFG4 | Conduct dedicated boat surveys, as requested in ADFG3 | Text revised, p. 4, under “Boat Surveys” to indicate that dedicated boat surveys will be done on a seasonal basis. |
| ADFG5 | Recommend trapping methods be coordinated with agency staff | NRR; text p. 4 under “Small Mammal Trapping” indicates close agency coordination. |
| ADFG6 | Request documentation of past electrocutions. | Text revised, p. 4 under “Raptor Protection” to indicate that reports will document electrocutions, if any have occurred. |
| ADFG7 | Request that City map nearshore vegetation | NRR; we agree that such mapping is important, and plan to use aerial imagery and ground truthing to develop vegetation maps. |
| ADFG8 | Mapping should extend to the rim of the Basin, but be concentrated in Blue Lake/Sawmill Creek corridor | NRR; p. 5, para. 3 under Study Area indicates this coverage and emphasis. |
| ADFG9 | Agree with schedule; specific timing should be confirmed with agency staff when possible | Text revised, p. 5, under “Study Timeframe”, to indicate that timing will be coordinated with agency staff, as possible. |
| ADFG10 | Agree with Section. | NRR |
| ADFG11 | Agree with Annual Reports | NRR |

USFWS Comments of June 20, 2003 (“NRR” means “No Response Required”).

| Comment Number | Comment Summary | Response and Location |
|-----------------------|-------------------------------|------------------------------|
| FWS1 | Agree with Literature Review. | NRR |
| FWS2 | Wildlife observations | Addressed under ADFG2, |

| | | |
|-------------|---|-------------------------------------|
| | should include habitat associations. | above. |
| FWS3 | a) Request for detailed information where sign is found; b) Need for dedicated wildlife surveys. | Addressed under ADFG3 and 4, above. |
| FWS4 | Small mammal trapping should be coordinated with agency specialists. | Addressed under ADFG5, above. |
| FWS5 | Concur with transmission line survey. | NRR. |
| FWS6 | Concur with City proposals | NRR. |
| FWS7 | Concur with Annual Meetings and Reports. | NRR. |

ATTACHMENT I

Numbered ADF&G draft wildlife study plan comments from their June 17 letter.
(comments are in red type as in the original comment letter)

Wildlife and Vegetation Resources Study Plan

LITERATURE AND AVAILABLE INFORMATION REVIEW

We agree that a literature review and agency personnel interviews will aid in confirmation of the species using the Blue Lake/Sawmill Creek riparian areas and watershed. Historical data, although likely limited, will be important in comparison to current and proposed project operation.

ADFG1 →

SAWMILL CREEK AND BLUE LAKE FIELD SURVEYS

Wildlife

Observations of wildlife in the project area should include their activity and habitat association.

ADFG2 →

Foot Surveys.

Foot surveys conducted in association with fish foot surveys along Sawmill Creek should be effective in providing good incidental documentation of wildlife sightings and observations of signs. Detailed notes should be taken on the location of wildlife sign in order to identify habitat associations. Tracks and scat are useful signs to note. However, evidence of herbivory should also be documented. Foot surveys along Blue Lake shoreline and tributaries should be dedicated to wildlife surveys because opportunity for wildlife sightings in association with Blue Lake fish foot surveys may be limited.

ADFG3 →

Boat Surveys.

Boat survey observations of wildlife activities will allow viewers to monitor activities without affecting behavior. As with foot surveys, it will also be important to note habitat associated with observed activities. As discussed at the April 24 meeting, boat surveys may be conducted by fisheries researchers but surveys should be dedicated to wildlife in order to provide dedicated observation time.

ADFG4 →

Small Mammal Trapping.

If small mammal trapping is conducted, we agree methods should be closely coordinated with agency staff.

ADFG5

Raptor Protection.

We agree with the overhead transmission line survey. We also suggest that documentation of past electrocutions be provided.

ADFG6

Vegetation.

Remote sensing methods for vegetation mapping can involve complex technologies and techniques. ADF&G does not have staff with the specialized skills needed to effectively consult with CBS on methods. We encourage CBS to map the vegetation in riparian areas and nearshore habitat. This will be important data that could be used to predict wildlife response to any ongoing or future project affects.

ADFG7

Study Area.

We agree that accessibility will largely determine effective study areas for wildlife and will likely be restricted to the shoreline around Blue Lake and the banks of Sawmill Creek. Mapping should extend to the Blue Lake basin limits with some amount of coverage but that most detail may be limited to the Sawmill Creek/Blue Lake corridor.

ADFG8

Study Timeframe

We agree generally with timeframes. Specific schedules should be confirmed with agency staff when possible.

ADFG9

ENDANGERED SPECIES

We agree with this section.

ADFG10

REPORTING/ANNUAL MEETING

We agree that annual reports will be useful to allow agency staff to become familiar with studies and with progress. Reports and annual consultation will also allow discussion of changes to make studies more effective and to eliminate studies where appropriate.

ADFG11



ATTACHMENT II

Numbered ADF&G draft wildlife study plan comments from their June 17 letter.
(comments are in red type as in the original comment letter)

Literature and Available Information Review

A literature review and agency contacts will assist in determining species occurrence in the Blue Lake and Sawmill Creek watershed.

FWS1



Wildlife

Wildlife observations should include habitat relationships.

FWS2



Foot Surveys

Detailed information should be collected where wildlife sign is found in order to identify habitat relationships. Surveys along Blue Lake should be conducted solely for wildlife purposes because observations may be missed if conducted concurrent with fish foot surveys.

FWS3



Small Mammal Trapping

Small mammal trapping activities should be coordinated with fish and wildlife agencies.

FWS4



Raptor Protection

We concur with survey of overhead transmission line.

FWS5



Endangered Species

We concur with this section.

FWS6



Reporting/Annual Meeting

We concur that annual reports will assist agency staff to become more knowledgeable with studies and with findings. Annual coordination will help with information transfer and with proposed modifications to study plans necessary to make them more applicable.

FWS7

