

# **DRAFT RECREATION RESOURCES STUDY PLAN**

## **Takatz Lake Hydroelectric Project (FERC No. 13234)**

### **City and Borough of Sitka Electric Department**

**May 2011**

## **BACKGROUND**

In September, 2008, the City and Borough of Sitka (“City”) received a Preliminary Permit (“Permit”) for the Takatz Lake Hydroelectric Project (FERC No. 13234, “Project”) from the Federal Energy Regulatory Commission (FERC) in Washington D.C. The Project would be located approximately 18 miles northeast of Sitka, Alaska, on Baranof Island and its various components would affect recreation resources in the Takatz, Baranof, Sadie Lake and Medvejie Basins. The Project is described in detail in the Scoping Document 2. (FERC, 2010b)

Generally, the Project would consist of one or two dams on Takatz Lake, a power conduit consisting of a mostly unlined tunnel and steel penstock leading to a powerhouse located at tidewater on Takatz Bay plus transmission lines and construction related facilities and access. Installed capacity of the Project would be approximately 27 megawatts (MW).

## **CONSULTATION AND COMMENT**

This Draft Study Plan is distributed for Stakeholder review and comment. All comments will be addressed in preparing the Final Study Plan.

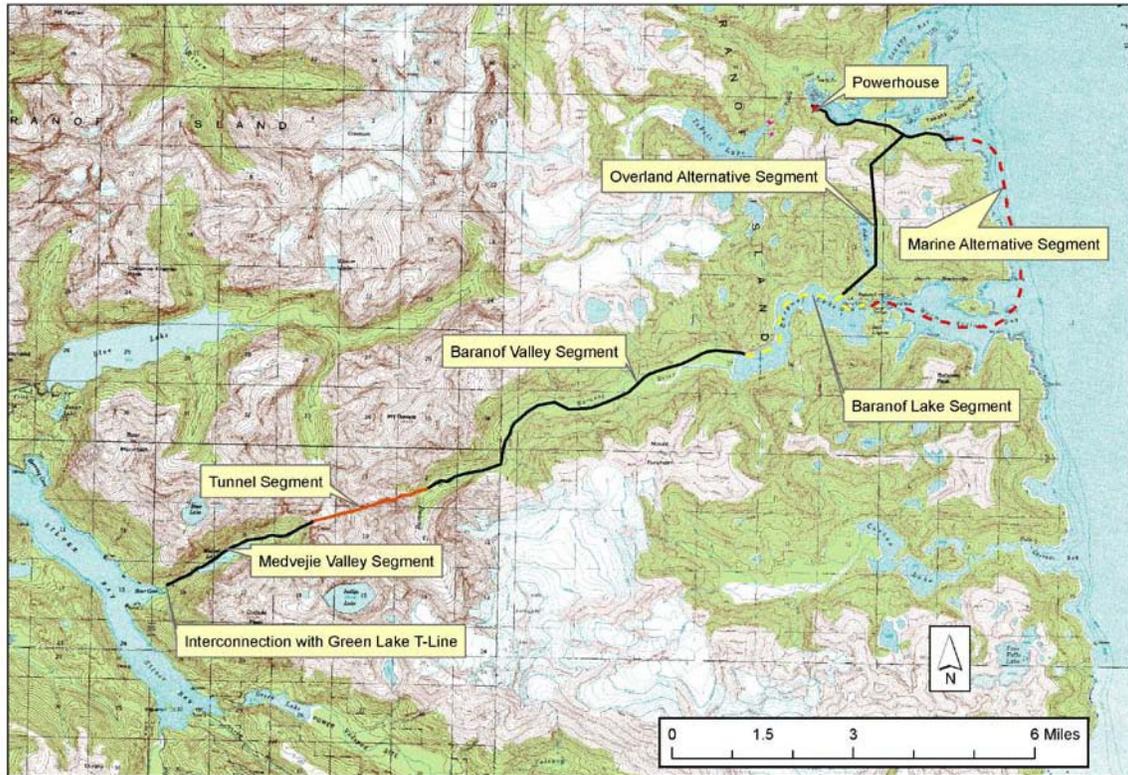
## **STUDY OBJECTIVES**

The primary objective of the studies is to provide a recreation resources baseline to document current and potential recreation uses and recreation values to address issues associated with the proposed project construction and long-term operation. This information will be used to support National Environmental Policy Act (NEPA) requirements in the FERC licensing process.

## **PROPOSED PROJECT ALTERNATIVES**

The scope of recreation studies will be influenced by final design and location of Project features, including the proposed transmission line route. The proposed transmission routing as described in earlier licensing documents, including Scoping Document 1 (FERC, 2009a) and the Pre-Application Document (City, 2009) depicted a submarine transmission route from the powerhouse proceeding underwater along Chatham Strait, through Baranof Bay and through or around the community of Baranof Warm Springs. The line would then proceed underwater

through Baranof Lake and on overhead poles up the Baranof River valley, across the Baranof Mountains and down the Medveje River valley to its connection with the City’s existing transmission facilities. This routing is referred to as the “Marine Transmission Alternative” or “MTA” (Figure 1).



**Figure 1. Takatz Lake Project Transmission Alternatives and Terminology. Note: Overland Alternative is the City’s Preferred Alternative.**

## NEW TRANSMISSION ROUTING

Based on comments received during SD1 review and after Scoping meetings, the City has developed a new transmission alternative which avoids potential effects on marine resources and on the community of Baranof Warm Springs. This routing, referred to as the “Overland Transmission Alternative”, or “OTA” is shown in Figure 2. (Note that more recent engineering feasibility studies have shown that the line should be routed north of Baranof Lake on overhead poles, instead of being routed underwater in Baranof Lake).



**Figure 2. Detail of Overland Transmission Alternative (Note: Line may be routed overhead north of Baranof Lake instead of underwater).**

Note that the OTA does not change the routing of the transmission segments beyond the point at which the line emerges from upper Baranof Lake. At this time, the OTA is the City’s preferred transmission alternative because it responds to concerns for impacts on both the community of Baranof Warm Springs and those on marine resources in Chatham Strait.

## 2011 STUDY SCOPE

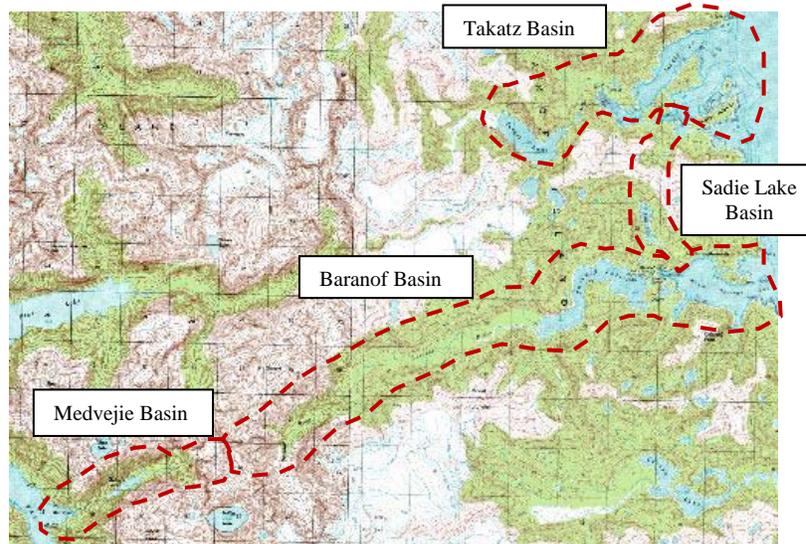
### GENERAL

Recreation facilities and use will be surveyed in Takatz, Baranof, Sadie Lake and Medvejie Lake Basins which are the areas potentially impacted by proposed project construction and long-term operation. Results of the studies described in this plan will be used to generate baseline recreation resource data and develop analysis/conclusions regarding the following topics:

- Facility and resource inventories – capture type, number and location of recreation sites, use areas and facilities;
- Visitation levels and patterns – estimate the number of visitors and describe where they go, including determining access points and internal travel routes and activities based on standard time periods and seasons;
- Visitor profiles and activities – Includes demographic information, visitation history and trip characteristics; and
- Visitor evaluations – assess perceptions and attitudes of what is most important about the area, value and significance of recreational use relative to opportunities in other locations, general recreation trends independent of the proposed project, and views about potential issues related to proposed project development.

## STUDY AREAS AND NOMENCLATURE

Studies are planned to be conducted in four distinct geographic areas. For consistency, the *Recreation Resources Study Plan* has adopted the Fisheries Investigation Report nomenclature which organizes areas by major river basin or drainage area shown in Figure 3. Additional sub-units have been created for recreation purposes.



**Figure 3. Recreation Resource Study Areas**

## TAKATZ BASIN

The Takatz Basin Study Area includes the following sub-units, from Takatz Lake downstream (Figure 4):

### Takatz Lake

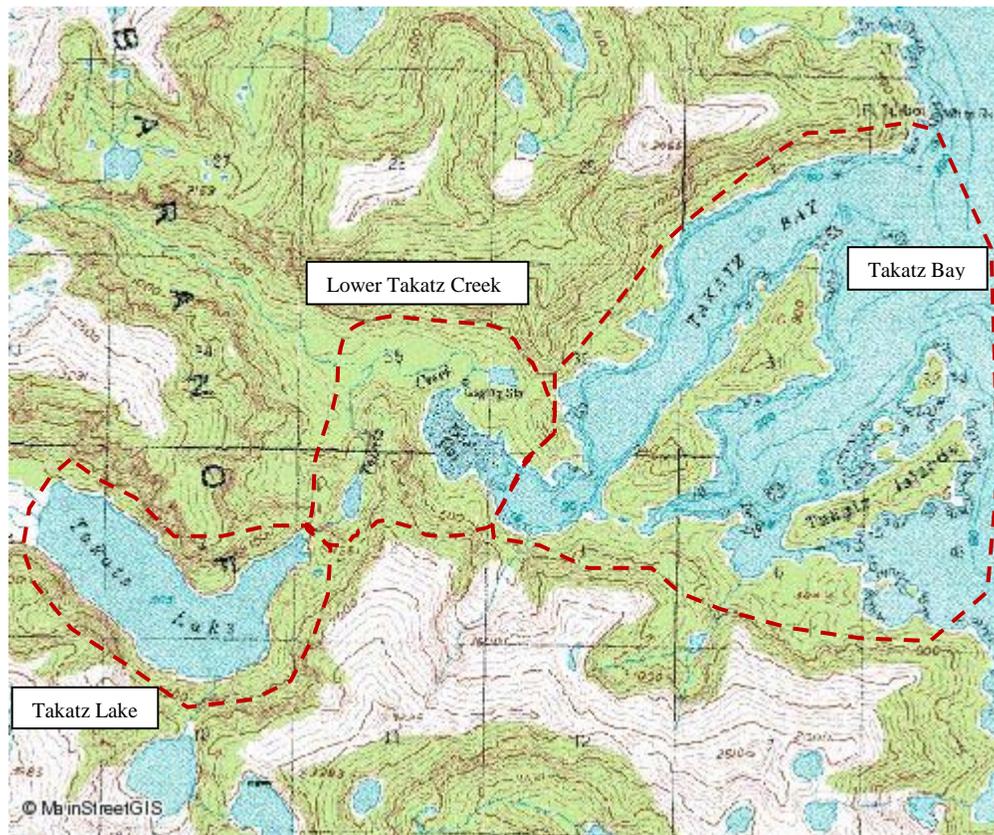
Including all normally inundated lake areas.

### Lower Takatz Creek

Extending from the outlet of Takatz Lake downstream to its confluence with tidewater at normal low tide, including tributaries, adjacent areas and the tidal flat.

### Takatz Bay

Including the saltwater basin from the Takatz Creek tidal flat to Point Turbot in the north and Takatz Islands in the south bordered by Chatham Strait.



**Figure 4. Takatz Basin Study Area and Sub-units**

## SADIE LAKE BASIN

This Study Area includes the overland area from Takatz Bay to Warm Springs Bay as well as Sadie Lake. (Figure 5)



Figure 5. Sadie Lake Basin Study Area

## BARANOF BASIN

The Baranof Basin Study Area includes the following sub-units, from upstream down: (Figure 6):

### Upper Baranof River

Includes headwaters of the river in the Baranof Mountains to inflow into Baranof Lake.

### Baranof Lake

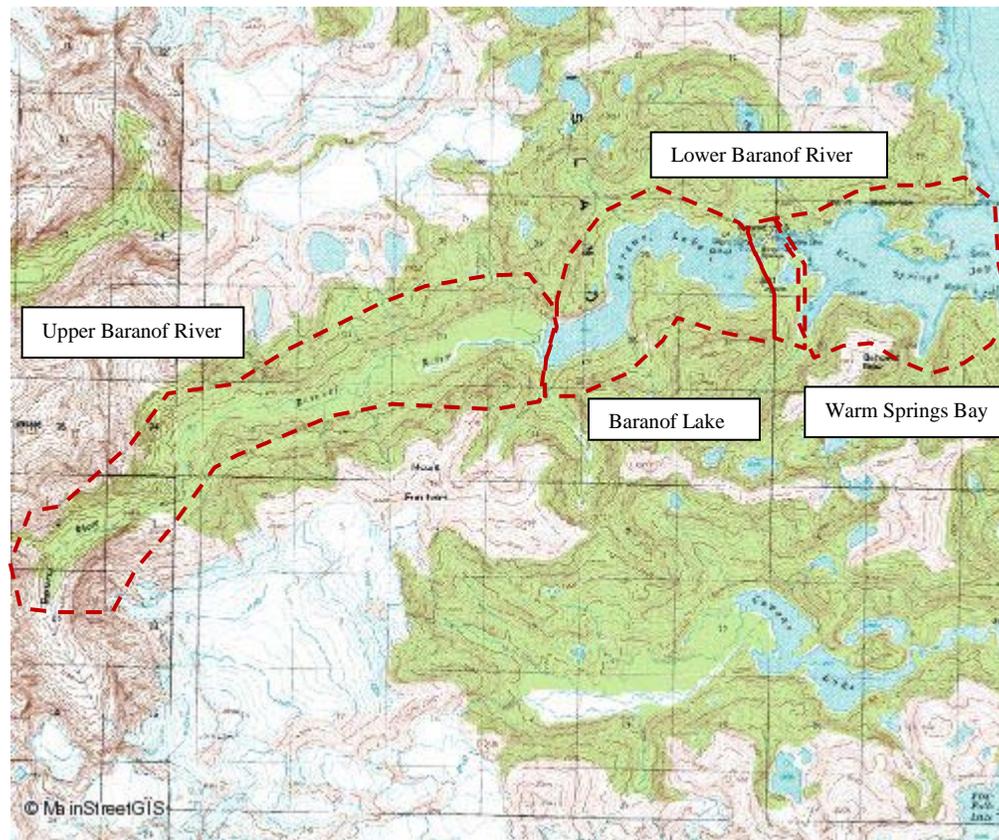
Includes entire lake basin and USFS Cabin site.

## Lower Baranof River

Includes the outlet of Baranof Lake to the normal high tide mark in Warm Springs Bay, including the Baranof Lake Trail and hot springs.

## Warm Springs Bay

Includes the saltwater basin extending from the outlet of Baranof River to Chatham Strait, including the state dock, Baranof Wilderness Lodge.



**Figure 6. Baranof Basin Study Area and Sub-units**

## MEDVEJIE BASIN

The Medvejie Basin Study Areas includes the following sub-units, from upstream down: (Figure 7):

### Upper Medvejie River

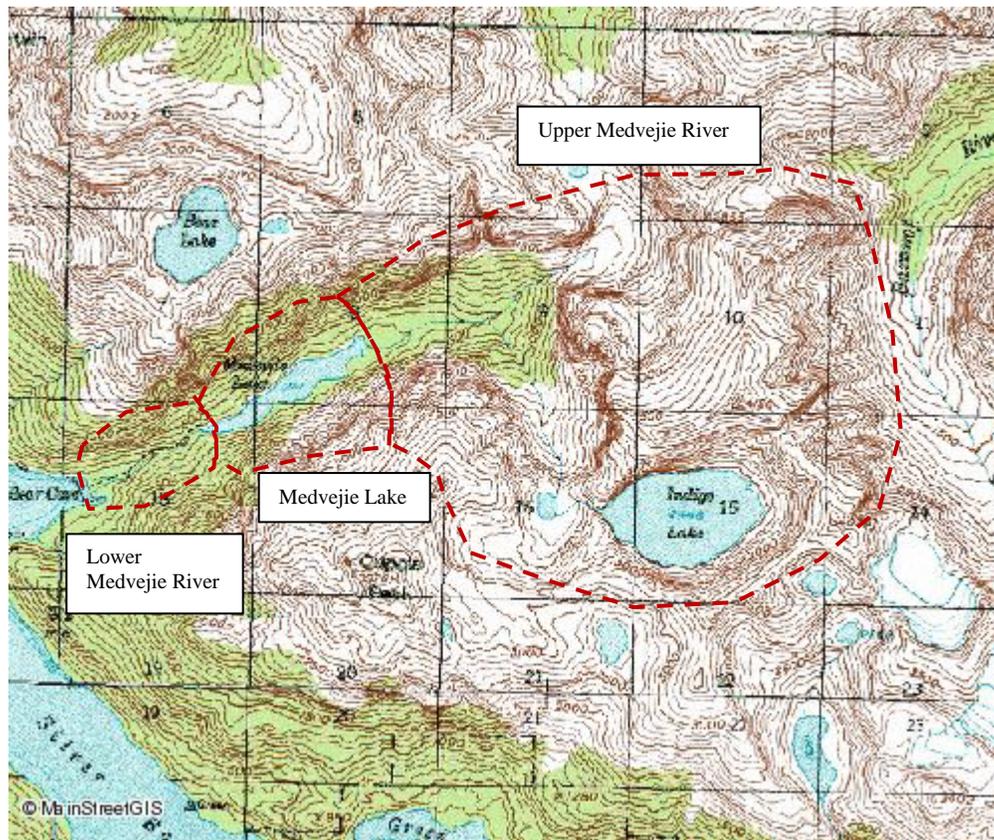
Includes headwaters of the river in the Baranof Mountains to inflow into Medvejie Lake.

## Medvejie Lake

Includes the lake and an area around about 200 ft around it.

## Lower Medvejie River

Includes the Medvejie River from the outlet of Medvejie Lake downstream to the normal high tide mark in Bear Cove, Silver Bay. The sub-unit also includes the NSRAA facilities around the Green Lake Road intersection.



**Figure 7. Medvejie Basin Study Area and Sub-units**

## STUDY METHODS FOR 2011 FIELD STUDIES

Based on anticipated recreation use and preliminary consultation, three primary research components are planned for 2011. These are:

1. Recreation Inventory, to determine type, number and location of recreation sites, use areas and facilities, review of regional recreation and tourism trends and use patterns and a literature/web search to determine the visibility of the area in publicity on Alaska; and

2. Visitor Observations, to determine current recreational use levels, patterns and intensities as well as visitor profiles based on standard time periods and seasons; and
3. Visitor Surveys, to assess perceptions and attitudes of what is most important about the area as well as profiles, visitation history and trip characteristics of local and regional users to illustrate general recreation trends, significance of recreational use relative to opportunities in other locations and potential impacts.

Detailed descriptions of methods for these study components are as follows:

## RECREATION INVENTORY

Pre-Field review will involve researching several sources of background information on known or potential recreation facilities and dispersed recreation areas in the general project area. These sources will include USDA Forest Service (USFS) and Alaska Department of Fish and Game (ADF&G) reports along with consultation with a number of other entities listed in Table 1.

<b>SOURCE</b>	<b>DOCUMENT TYPE</b>
USDA Forest Service, Pacific Northwest Research Station	Recreation Research and Management Plan Proceedings Outdoor Recreation Trends
USDA Forest Service, Tongass National Forest	Tongass Land and Resource Management Plan (TLRMP)
USDA Forest Service, Sitka Ranger District	Sitka Sustainable Outdoor Recreation Plan Recreation cabin use records Outfitter/Guide Permits Future Recreation Projects Plan Sitka Ranger Special Use Permits
Alaska Department of Fish & Game	Recreation cabin use records Big Game/Small Game – Hunting Report: Game Unit 4 Waterfowl/Migratory Bird Hunting Sport Fishing Post Season summary Subsistence Division Records
AK Department of Natural Resources	Coastal Management Plan Statewide Comprehensive Outdoor Recreation Plan (SCORP)
City & Borough of Sitka	Sitka Trail Plan, 2003 Sitka Visitor Traffic Indicators and Trends Sitka Visitor Industry Plan Sitka Comprehensive Plan
Sitka Tribe of Alaska, Angoon Community Association, Organized Village of Kake	Subsistence Records & Interviews

Northern Southeast Regional Aquaculture Association (NSRAA)	Medvejie Hatchery and Hidden Falls Staff Interviews
Southeast area and Local Guide/Outfitters (ex. Baranof Wilderness Lodge, Harris Air)	Charter/Resort Use data and Personal Interviews
US Coast Guard/Sitka Mountain Rescue	Mission reports for the study area
Local Non-Profits (eg. Sitka Conservation Society, Sitka Trail Works)	Visitation patterns & Personal Interviews
Alaska Visitor Statistics Program (State of Alaska)	Statewide and regional trends in out of state visitor activity
Institute of Social and Economic Research, UAA	Regional Economy of Southeast Nature-based Tourism in Southeast

**Table 1. Background Research**

Recreation facilities and dispersed recreation areas and resources will also be identified, described and mapped in the field concurrent with visitor observations and survey work. Potential facilities include cabins, trails, lakes, campsites, hiking routes, ski/snowboard areas and floatplane/ boat landing areas along with hunting areas and fishing sites. Recreation resources include particular natural features that today or in the future may be important for recreation use, such as an attractive beach, water body or potential trail route.

## **VISITOR OBSERVATIONS**

Because of the large area covered by various project features, visitor observations will be carried out both at the aerial and ground level. Observations will occur at different levels of intensity and at various timeframes in the four Study Areas. Standard reporting time periods include weekday, weekend day and holiday days for *Peak Season* and *Off-Season* reporting periods. May 1- Memorial Day *Off-Season* includes brown bear hunting and king salmon fishing activities. September 15-December 31 *Off Season* includes fall brown bear, deer and goat hunting and silver salmon fishing activities. A remote trail counter is planned at one location to unobtrusively capture recreation use data. Detailed descriptions of visitor observation methods are as follows:

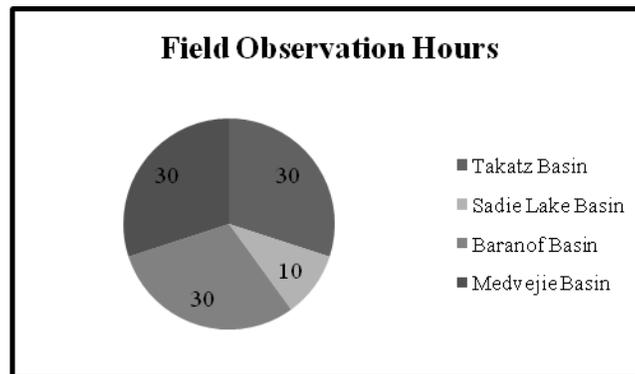
### **Aerial Reconnaissance**

Aerial reconnaissance will occur monthly, at a minimum, to thoroughly cover the four Study Areas in a relatively short time frame and over an extended six month period (approximately 18 hours total). The flights will occur over both *Peak* and *Off-Season* time periods from mid-May through October and on a variety of weekday, weekend day and holiday periods. Equitable amounts of time will be spent over each Study Area to allow findings comparison. A GPS flight line will be recorded along with data capture of numbers, types and locations of recreation use. A monthly recreation intensity map will be generated from this data. The Researchers will

coordinate with other field study disciplines to increase the aerial reconnaissance frequency if budget will allow.

### Field Observations

Visitor observations will occur at several pre-identified access points. Use numbers, general profiles, activities, modes of transport and patterns will be recorded. The planned relative level of effort per Study Area is shown in Figure 8. Observations will be conducted in both a continuous time period for remote areas and infrequently over an extended time period for the City accessible Medvejie Basin area. See Appendix 1 Visitor Observations/Surveys by Study Area for more detailed descriptions by study area.



**Figure 8. Relative level of effort per Study Area**

### Trail Counter

A battery powered, rugged outdoor trail counter will be installed along the Medvejie Trail June through October. The counter unit uses an active infrared beam technology that provides an invisible line that counts when broken. The unit will be located where the trail naturally encourages single-file and spaced apart hikers to yield the best counter results. Standard forms will be utilized to document counter status and data collected weekly.

### VISITOR SURVEYS

Surveys will gather information from actual visitors as well as regional users about what is important about the area, their visitation habits and preferences, perceptions and attitudes, intended behaviors, and other evaluative items.

### On-site Surveys

On-site Surveys will be conducted concurrently with Visitor Observations at pre-identified access points. See Appendix 1 Visitor Observations/Surveys by Study Area for more detailed descriptions by study area. The researcher will ask visitors to respond to the questionnaire upon

arrival. One representative from each party will be surveyed. Visitors leaving the area will be surveyed if they were not surveyed upon arrival.

**Researcher-based Interviews**

Researchers will conduct telephone and personal visits for specific users identified in Table 1 including local guide/outfitters, representatives of Sitka Trail Works, Baranof Wilderness Lodge, Sitka Mountain Rescue, NSRAA staff and other recreation groups through further research.

**Self-administered Survey (Questionnaires)**

An electronic Questionnaire will be hosted on a project website. Local residents of Sitka as well as general users in the regional area including Angoon, Port Alexander, Kake, Tenakee Springs, Baranof Warm Springs, Petersburg and Juneau will be informed about the opportunity to comment on recreation resource issues for the Project. A few communication methods to inform visitors of the project and direct them to an electronic survey include:

- Posted notices at Baranof Warm Springs and Medvejie Lake Trail;
- Public service announcements (ex. KCAW, Sitka Daily Sentinel, Juneau Empire); and
- City and Borough of Sitka Electric Utility customer billings.

**TIMEFRAME**

Studies described in this report will be conducted according to the schedule proposed in Table 2. Specific schedule items are subject to comment by reviewing agencies and are further subject to changes based on weather. Visitor Observations and Surveys are planned, to the extent possible, to account for periods of high recreation use in Takatz, Sadie Lake and Baranof Basins.

<b>Location, Study Component</b>	<b>Proposed 2011 Time Period</b>
All Study Areas – Inventory, Visitor Observations	May – October - 1 aerial reconnaissance flight per month (1 crew member)
Takatz Basin – Inventory, Visitor Observations and Surveys	June 17-20; One work period (2 crew members)
Sadie Lake Basin - Inventory, Visitor Observations and Surveys	June 21; One work period (2 crew members)
Baranof Basin - Inventory, Visitor Observations and Surveys	June 22-25; One work period (2 crew members)
Medvejie Basin - Inventory,	June 1 – October; 1 observation/survey

Visitor Observations and Surveys	session per month along with weekly trail counter collections (1 crew member)
Researcher-based Interviews	June – October – various times
Self-administered Surveys	Online July - September

**Table 2. Proposed 2011 Field Study Schedule**

## REPORTING

A draft report documenting results of studies conducted in *2011* will be distributed in late *2011* or early *2012* for agency review. Review of the report should assist in determining the need and details for further studies which might be conducted in *2012*.

The recreation resources report will include analysis and conclusions regarding the following topics:

- the quantity and character of current recreation use;
- what is most important about the area to current and prospective recreation users;
- evaluation of the value and significance of recreational use in the project area relative to opportunities in other locations;
- recreation trends and likely changes in future recreation activities independent of the proposed project; and
- identify potential recreational issues related to proposed project development, including looking at how the proposed project could change recreational experiences and/or future recreation choices.

The analysis will also include consideration of new recreation and access opportunities or restrictions that may result from the proposed project, such as potential effects on hiking, backpacking, bike riding, snowboarding, OHV riding and other activities, covering both commercial and non-commercial recreation activities.

Because project design and layout are likely to change through the licensing period, a full recreation impact analysis will need to be done after final project feature locations and construction details are developed. It is presumed that task will happen as part of the future NEPA analysis.

## LITERATURE CITED

City, 2009. Pre-Application Document, Takatz Lake Hydroelectric Project, FERC No. 13234. City and Borough of Sitka, Sitka, Alaska. 30 pp.

Federal Energy Regulatory Commission (FERC), 2009a. Scoping Document 1, Takatz Lake Hydroelectric Project, Project No. 13234-001. Federal Energy Regulatory Commission, Washington D.C. 27 pp.

FERC, 2010b. Scoping Document 2, Takatz Lake Hydroelectric Project, Project No. 13234-001. Federal Energy Regulatory Commission, Washington D.C. 42 pp.

## APPENDIX 1

### PROPOSED VISITOR OBSERVATIONS/SURVEYS BY PROJECT AREA

Following are more detailed descriptions of visitor observations and surveys by project area:

#### ***Takatz Basin Study Area***

30 hours will be spent on visitor observations and surveys during a continuous time period in mid-June over *Peak* Season weekday and weekend day periods. Visitor observations will be conducted by dingy and foot in the lower Takatz Creek and Takatz Bay sub-units. The number and type of vessels in the anchoring basins will be documented at regular intervals during survey days. Over flight types and numbers will also be documented during survey periods. Expected recreation use will be private and fishing vessels, beach users, kayakers, NSRAA staff visits and administrative use from work crews.

#### ***Sadie Lake Basin Study Area***

10 hours will be spent on visitor observations and surveys during a continuous time period in mid-June. Visitor observations will be conducted by foot. Over flight types and numbers will also be documented during survey periods. Expected recreation use will be local and guided hikers and fishermen from Warm Springs Bay.

#### ***Baranof Basin Study Area***

30 hours will be spent on visitor observations and surveys during a continuous timeframe at the end of June over *Peak* Season weekday and weekend day periods. Visitor observations will be conducted on foot at three locations - Baranof Warm Springs Dock, Baranof Hot Springs and Baranof Lake trail terminus and by small kayak in Baranof Lake. The researchers will spend equal time at each location. The number and type of vessels at the dock and anchoring basin will be documented at regular intervals during survey days. Over flight types and numbers will also be documented during survey periods. Expected recreation use is high with a mixture of commercial fishermen, private vessels, tour boats, lodge guests, cabin guests and floatplane tours.

#### ***Medvejie Basin Study Area***

30 hours will be spent on visitor observations and surveys at the Green Lake Road access gate near Herring Cove, south of Sitka. Observations will be infrequently over an extended time period June-November over *Peak* and *Off Season* weekday and weekend day periods. This location is selected because it is the natural recreation gateway to the Medvejie Valley for Sitka residents and tourists and the gate prevents private vehicular access to Medvejie Hatchery and Green Lake Hydroelectric facility.