

FINAL MINUTES

APRIL 27, 2011, FISHERIES STUDY PLANNING MEETING

TAKATZ LAKE HYDROELECTRIC PROJECT, FERC No. 13234-001

Prepared by:

City and Borough of Sitka Electric Department (“City”)

The City held a meeting with various agency representatives in Sitka, Alaska on April 27, 2011. The meeting was to discuss the Draft Fisheries Report from 2010 and also the fisheries studies planned for 2011 for the Takatz Lake Hydro Project (“Takatz Project”, FERC No. 13234). The meeting was held in the Electric Department conference room and began at about 12:00 PM.

In attendance were:

Chris Leeseberg, US Forest Service, Sitka Ranger District
Shawn Johnson, Alaska Department of Fish and Game (ADF&G)
Patrick Fowler, ADF&G
Troy Tydingo, ADF&G
Roger Harding, ADF&G
Monte Miller, ADF&G
Susan Walker, National Marine Fishers Service
Karl Wolfe, City fisheries studies contractor
Dean Orbison, City Engineer
Jessica Stockel, City Electric Department Administrative Assistant
Mike Prewitt, City FERC licensing consultant
Monique Anderson, City recreation resources contractor

Via Phone Conference:

Chris Mertl, City aesthetics resources contractor

After introductions, Mike explained the purposes of the meeting which were to 1) summarize 2010 field studies; 2) discuss study planning and field studies for 2011; and 3) give an update on the FERC licensing process. Mike said that the draft Fisheries Report was distributed in March, 2011, and asked that comments be filed with FERC and copied to the City, preferably within 60 days of when the report was sent.

Mike showed a project area map and described two alternative transmission line corridors, the Marine Transmission Line (MTL) and the Overland Transmission Line (OTL), with the City preferring the OTL. He said that because the OTL is preferred, no marine studies were

conducted in 2010. Mike added that he didn't know whether FERC would require modification to the Scoping Document to reflect any final decisions on the transmission route.

Monte asked about the dam height and Dean said it would be about 200 ft.

Mike said that the City had looked at the potential for doing the project as a "staged development" initially using a lake tap and only building the dam if the electrical load increases justified it. The "Lake Tap Alternative" (LTA) would generate less electricity, but would have lower costs because of not needing to build the dam. He said that under the LTA there would be no raise in water levels, eliminating inundation of the areas around Takatz Lake including the valley of Upper Takatz Creek. He said that that the City would make a decision soon as to whether the Lake Tap Alternative would be preferred by the City.

Dean said that the LTA would be dependent on bathymetric surveys, to be done in 2011. He said that these studies would show whether or not the bottom topography of Takatz Lake, including presence of boulders in the area of the tap, was suitable. He said these studies would have to be done prior to any decision on whether to adopt the LTA as the City's preferred alternative.

Roger and Sue asked about the transmission line routing around Baranof Lake. Mike said that, based on a recent transmission line feasibility study by Commonwealth Engineering, the line would be overland along the north side of Baranof Lake, not underwater in the lake as described in earlier licensing documents.

Monte asked how far from the lakeshore the line might run. Dean said he had not read the Commonwealth report but that it would likely run around Baranof lake in a fashion similar to the way the Green Lake transmission line runs around Silver Bay.

Mike said that the line north of Baranof Lake could be overhead or buried or some combination of both, but that until further engineering studies were conducted the exact route and configuration could not be known.

Karl then described the 2010 fish studies and described the nomenclature for the various study areas in the Takatz, Sadie, Baranof and Medvejie Basins using maps of the study areas. Karl described the Upper Takatz Creek (above Takatz Lake), Takatz Lake, and Lower Takatz Creek, below the lake.

He said that the study area breakdown for Lower Takatz Creek was much more complex than for the upper areas. He described two large waterfalls, the Lower Falls, just above tidewater, and the Upper Falls, about 1 mile further upstream. He said that the Lower Falls served as a barrier to all upstream anadromous fish migration and the Upper Falls represented the upstream limit of all fish occurrence in the basin. Karl said that the study reach below the Lower Falls was called Reach 1, and the reach between the Lower and Upper Falls was called Reach 2.

Karl described the locations of the two newly-installed USGS streamflow gages, one just above the Lower Falls near tide water and the other at the outlet of Takatz Lake. Mike said that original gage, used in earlier feasibility studies, was located near tidewater and couldn't account

for inflow from major tributaries. He said that, with the two gages we could now provide information for both Project generation and instream flow determinations. Shawn asked if the USGS had a gage on the North Tributary and Karl said no.

Karl then described the study methods used in the 2010 field season which included foot surveys, boat surveys, snorkeling, hoop and minnow traps and hook and line.

Karl said that, in the Takatz Basin, no fish of any species were captured or observed in Takatz Creek above the Upper Falls, in Takatz Lake, or in Upper Takatz Creek. Monte asked about the trap effort and Karl said that it totaled 917 hours with both hoop and minnow traps in the areas above the Upper Falls. Monte asked about which kinds of trapping were conducted in the Takatz Lake outlet and Karl said that he had used baited minnow traps in the stream reaches because the water generally wasn't deep enough for hoop traps.

Roger said that results of the 2010 studies were fairly conclusive that there were no significant fish populations above the Upper Falls.

Karl then described fish distribution on the Takatz Creek reaches in Reach 2, between the Upper and Lower Falls, and noted that only Dolly Varden occurred in this Reach. He said that the Dollies were typical of small above barrier isolated types.

He said that in Reach 1, below the Lower Falls, only chum and pink salmon were seen, with some chum salmon fry noted in intertidal areas, but that most were likely from a nearby rearing facility. He said that no salmon of any kind or life stage were seen above the Lower Falls. He also stated that salmon populations were relatively small with peak counts of about 2,500 pink salmon and 350 chums in Reach 1. Karl added that the Northern Southeast Regional Aquaculture Association (NSRAA) rearing facility in Takatz Bay normally released 40,000,000 chum smolts annually and that the plan was to increase that number to 50,000,000.

He showed that the rearing facility had been moved further away from the inflow of Takatz Creek to avoid ice formation. He mentioned that data would be gathered to evaluate the temperature effects of the Project on the current location of the net pens.

Karl described the extensive beaver activity in Reach 2, and said that there was considerable fish utilization, consisting of Dolly Varden char, of these areas. Shawn asked about water sources for the many backwater and bog areas around the beaver activity. He said that most of the water in these areas came from muskeg and groundwater inflow. Karl said that although the backwaters were connected to the main Takatz Creek channel at their outflows that only one channel in the Oxbow Area received significant inflow from the main creek.

Karl then described studies in the Baranof Basin. He showed how he had surveyed both Baranof Lake and its inflow tributaries and the Upper Baranof River, especially at its confluence with the lake. He described varying degrees of habitation by cutthroat trout at the tributaries and in the lower reaches of Upper Baranof River. Karl said that, as in the Takatz basin, there was considerable beaver activity near the inflow of Upper Baranof River. He said he had not

surveyed all the way up the river, but that he had noted trout including young of the year in the lower reaches.

Roger asked if there was a barrier on Baranof River and Karl said that he had seen no barriers during his surveys. Roger and Karl then briefly discussed and theorized the likely location of barriers.

Chris asked about the stocking history in Sadie Lake and Karl said that he had not heard of any stocking records. Roger said that he knew there was good trout fishing at Sadie Lake and that there had probably been some "carry in" stocking by local anglers accessing the lake from the Baranof Warm Springs trails.

There was some discussion of fish stocking in Baranof Lake and Monte said that there may have been attempts to stock Baranof Lake in the 1930's with rainbow trout.

Karl described fish surveys in Medvejie basin. He noted that the lower river was weir controlled and that the stretch above the weir to the lake contained minimal spawning habitat which was dry during much of the year. He also stated that only Dolly Varden were observed upstream of these lower areas to a series of cascades 0.31 stream miles above Medvejie Lake. He said that effort in this basin was lower than in the Takatz Basin and was primarily concentrated on resident Dolly Varden in the fall.

The discussion moved to the proposed 2011 studies with Karl saying that the major emphasis for 2011 would be on lower Takatz Creek below the Upper Falls. He went on to discuss survey methods, documentation and temperature data logger placement.

Monte asked if the data logger array would be vertical and Shawn asked why have temperature data at all. Karl answered saying the data array would be vertical and that temperature data is necessary because NSRAA has questions on net pen changes in the bay and at the tidewater. Sue followed up by asking if the base of the lower falls was influenced by tides in which Karl replied yes.

Roger asked about the Oxbow Channel. Karl said that the channel does have a high fish density and that based on aerial photography it was created by a large scale disturbance which occurred after 1995.

Chris asked if there was a temperature difference at the North Tributary. Karl said it wasn't much but could be about 1 degree warmer during the summer months. He added that the warmest temperatures and greatest growth rates were from the East Tributary and immediate vicinity.

Roger asked if Karl had noted spawning colors or other indicators on Dollies in Reach 2. Karl said he hadn't seen any in 2010 and that he'd again be looking for them during 2011 studies.

Shawn and Roger suggested more spawning surveys in 2011. Karl said that Dolly Varden spawning was a primary objective in 2011 and he was planning on doing focused swims as well

as some fish captures in order to examine for spawning indicators. There was a brief discussion on the location of young of the year fish observations in 2010 and likely spawning areas.

There was considerable discussion of instream flow studies in Reach 2. Mike and Shawn discussed studies which might be used to determine effects of altered flow in the reach, including Instream Flow Incremental Methodology (IFIM). Mike and Shawn agreed that IFIM would be difficult to apply in Reach 2 because of the complex nature of the channel and the amount of inflow from both main channel and groundwater/muskeg inflow sources.

Mike said that IFIM had been used on Sawmill Creek for relicensing of the Blue Lake project, but that the creek had a single, relatively simple channel and little off-channel inflow. He said that wasn't the case in Takatz Creek.

Sue asked that if an IFIM wasn't usable, which studies would be conducted in its place. Mike said that he didn't know, but that he believed that a group of knowledgeable biologists and hydrologists could look at the existing conditions and come up with a way to determine instream flow effects. He suggested formation of an instream flow work group which could visit the site and determine evaluation methods. Karl said that a site visit to view most of the relevant areas wouldn't be difficult.

Mike described the progress of the Takatz Project studies as they related to the FERC licensing schedule. He said that the Project's Preliminary Permit expires in September, 2011, and, because the scope of studies is too large to complete in one year, the City will submit an application for a second preliminary permit.

Roger said he had some issues with the transmission line in the Baranof River valley. Mike said that the exact routing of the line both around Baranof Lake and up the Baranof River valley will not be known until further engineering transmission studies are conducted.

There was some discussion about the transmission line routing and alternatives in the Baranof Lake area. Monte said that more transmission line alternatives should be evaluated.

Regarding studies for 2011, Mike said that there would be more concentration on Reaches 1 and 2 in the Lower Takatz Creek area, with emphasis on habitat utilization by Dolly Varden. He said that Karl would continue to observe salmon utilization in Reach 1 and would continue to set up a temperature monitoring system including Takatz Lake, Takatz Creek and Takatz Bay.

Mike said that study efforts in the other river basins would be reduced relative to work in Lower Takatz areas. He said that concerns about transmission line effects in Baranof Lake and Upper Baranof River would be addressed by transmission line routing and that more fisheries studies would probably not be needed, due to the already large amount of fisheries information from that area.

Mike asked that the agency representatives to send a list of bulleted items to be done in the 2011 studies. He said that such a list of 2011 study requests was more important at this time than the completed review of the 2010 report, noting that the study requests would help to complete the

draft study plan. Mike said that the City understood the importance of producing a final study plan for 2011.

The meeting adjourned at about 2:05 PM.