
THE
CONSERVATION FUND

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April 17, 2020

RE: Eklutna Hydro Initial Information Package

Samantha Owen,

Thank you for the opportunity to comment on the Draft Initial Information Package on the Eklutna Hydroelectric Project. This is a great compendium of facts about the region and the project that will prove useful in the process of implementing the 1991 Fish and Wildlife Agreement.

It is important that the Initial Information Package (IIP) be as complete, accurate and unbiased as possible to provide a shared foundation of knowledge to work from. To that end, The Conservation Fund offers the following comments and edits, and suggests additional sources of information.

1.0 Introduction

We are pleased to see the statement that “The owners have no pre-conception as to any particular outcome or what will be included in the Proposed Fish and Wildlife Program.” We will examine the contents of the IIP in light of this statement.

In reviewing the list of acronyms and participating parties, it is notable that the Cook Inlet Region Inc. (CIRI) is not listed and has not been participating in the process. Given that CIRI own’s the subsurface rights for all of the surface estate held by Eklutna Inc., it seems they should at least be notified and invited to participate.

At 1.1.1 page 14, it should be inserted that the sale from APA to the Eklutna Purchasers included “any and all property and facilities acquired or used in connection with Eklutna”. See the Eklutna Purchase Agreement. This will need expansion and reiteration at 3.5.2 to clarify that the Eklutna Purchasers assumed ownership of, and liability for, all infrastructure related to the 1929 Lower Diversion Dam.

At 1.1.3, page 14, this section needs expansion with additional language from the Environmental Assessment Report section of the Divestiture Report specific to the loss of sockeye salmon. On page 10 of the Environmental Assessment the language is clear and unambiguous: “During initial reviews of the

legislative proposal, one significant problem was identified: namely, loss of a Sockeye salmon run that once spawned in Eklutna Lake.” Further language from the Environmental Assessment is unambiguous: “Loss of the Sockeye run was most likely staged, initiating with the 1929 dam construction and including the construction of the Eklutna Project facilities...Complete loss of the anadromous salmon run (Sockeye) undoubtedly occurred with the construction of the 1929 dam.” Use of the word “alleged” in the text of the IIP here is misleading and appears to be an attempt to cast doubt on the prior existence of a sockeye salmon run that used to reach Eklutna Lake.

At 1.2.2. Schedule Requirements, language from the Environmental Assessment section of the Divestiture Report should be included wherein concerns are raised about the lengthy timeframe for study and mitigation: “The time frames within the agreement for assessing damages to the fish resources were judged to be too far in the future and not realistic. It was felt that by the time program implementation was initiated, loss to the salmon resources could not be adequately mitigated for.” Elsewhere in the Environmental Assessment: “The Region II Habitat Division of the Alaska Department of Fish and Game recommended that the timeframes within the Eklutna Fish and Wildlife Agreement be accelerated. ADF&G recommends that the fish and wildlife mitigation analysis be initiated **within 3 years.**”

Also at 1.2.2, additional discussion is needed on the financing of the Eklutna Project, as we are told that financing was the principal rationale for the lengthy delay in starting the mitigation process. How did the financing work out? How much did the Eklutna Purchasers pay for the project (~\$6.7 million) How quickly did the Project pay for itself? Was the 22-year delay in mitigation financially necessary?

At 1.3 Early Consultation and Information Gathering, we object to the phrase “...more than three years early” and ask that it be deleted. If the Eklutna Purchasers had started the mitigation process in year 1, rather than year 22, it might be warranted to say you started early. But waiting 22 years to start is like showing up for a baseball game in the 8th inning and bragging that you started early.

At 3.1, much more information about the Eklutna Dena’ina exists in definitive book, Shem Pete’s Alaska (Kari and Fall, 2003), and this source describes the profusion of Dena’ina place names around the Eklutna Lake and the Eklutna Valley. It would be good to include a map of the area that includes all the many Dena’ina place names.

The text at 3.1.1.2 seems to be implying that the Eklutna Dena’ina did not fish for salmon in the Eklutna River, and elsewhere (e.g. 5.4) we find insinuations that the Eklutna was never a significant salmon river. The continued presence of all five species of salmon in the Eklutna despite the severely degraded hydrologic conditions is sufficient evidence alone that salmon have long used the Eklutna and that the Eklutna Dena’ina took advantage of this food source close to their village.

At 3.1.2, reference should be made to the extensive Palmer Land Claims made by William Ezi in 1953, well before ANCSA. See Kari and Fall, 2003 above.

At 3.3 Glenn Highway, information should be provided about the hydrologic design flow that was assumed for the construction of the Old and New Glenn Highway bridge.

At 3.5.2, more detail should be provided on the disposition of assets of the old project subsequent to the sale from the city to the USBR. It appears that these assets were transferred to the Eklutna Purchasers subject to the sale of the Eklutna Project.

At 3.5.3, my understanding is that an additional creek on the south shore of Eklutna Lake was also diverted, and that this diversion rerouted the creek that now flows into the catchment basin upstream of the upper dam. On the ground inspections of this creek support this conclusion. If this creek is walked upstream from where it empties into the catchment basin, nothing about it seems normal or natural. The creek mouth is not well established and neither is there a definite channel upstream. Aerial photos of the area show what appear to be bulldozer lines to divert the creek to its current location, including what appears to be trenching that diverted the creek to the east from its original channel. Ground inspections indicate that this creek formerly entered the Eklutna River immediately downstream from the upper dam. It is possible that this creek was diverted not only to capture the water but to keep this creek from impairing the function of the upper dam.

At 3.9 Eklutna Water Project, it is worth noting that the recommended alternative would have taken water from the tailrace. This is still an option, as the water discharged at the tailrace is perfectly potable yet it is lost to the Knik River. At this section some discussion is needed that an overflow discharge system exists at the AWWU plant that causes released water to flow into the Eklutna River canyon through the side drainage just upstream of the Lower Dam. During the course of the lower dam removal, this side channel flooded once in an unannounced and surprisingly large discharge (estimated at ~300 cfs) due to an issue at the AWWU facility. The possibility has been raised that this discharge could be used to mobilize remaining sediment in the vicinity of the lower dam site.

At 3.9, mention should be made of the existing arrangement with AWWU and Alaska Glacier Products whereby the latter purchases Eklutna Lake water from AWWU and resells it as bottled water. (www.clearalaskan.com).

At 3.9 or at 5.3.4, discussion is warranted on the relative proportional allocation of water between AWWU and the Eklutna Purchasers and a comparison of the relative importance of that allocation to the total of each resource (ie; AWWU gets 10% of Eklutna Lake water which that represents 85% of the supply of public water for the MOA vs. Eklutna Purchasers use 90% of the Eklutna Lake water which represents <5% of the power supply for Southcentral Alaska.

At 3.9, some discussion is needed about the overall AWWU water system, what fraction of total water is provided by Eklutna, the relative or absolute volume of water lost to leakage, how water is distributed and whether AWWU users are billed for volume and usage.

At 3.12, the use of the adjective “very” in two places (“very large” and “very popular”) seems biased and unnecessary.

Somewhere in Section 3.0, perhaps at 3.13, there needs to be discussion of the multiple efforts to remove junked cars and other debris from the Eklutna Canyon. I believe that NVE led the first effort in 2011(?) that led to the removal of most of this debris. In the course of removing the Lower Dam, an additional 30 tons of junked cars, refrigerators, tires, bicycles and other debris were taken out of the lower canyon.

At 4.2.2 Water Usage, Energy Generation and Cost of Power, the first sentence states that “The Eklutna Hydroelectric Project produces nearly 6% of the project owners’ combined generation.” We need much more information here to verify this statement. In a presentation to the Anchorage Assembly on August 18, 2017, ML&P asserted that Eklutna hydro represents 5.8% of ML&P’s total power generation. The Alaska Energy Authority Report AEA 11-022 showed installed generation capacity for MEA, CEA and ML&P of 921 MW in 2009, with Eklutna hydro making up 4.3% of installed generation capacity at that time. Additional installed capacity (ML&P Plant 2A and Eklutna Generating Station) has come online since 2009, so the percentage of installed generation capacity represented by Eklutna hydro must be even lower in 2020. Based on 2019 figures reported by the three utilities, current installed generation capacity of the three utilities totals 1,132 MW, of which Eklutna hydro represents 3.5%.

After the discussion that ensued on this topic on 4/16/20, this topic needs further elaboration to draw out the distinction between owner’s combined generation, installed generation capacity, Railbelt generation, and Railbelt generation capacity, and the relative percentage of these figures that Eklutna hydro represents. Depending on which of these terms is used you can get different results that raise or lower the apparent significance of Eklutna hydro.

At 4.2.2, the text notes that “Eklutna hydro is the lowest-cost resource for power in the Railbelt.” It is appropriate to ask here why Eklutna hydro is the lowest cost resource? The answer, which should accompany the statement above, is that Eklutna hydro is cheap for the following reasons: 1) the project was paid for by the Federal government; 2) the Eklutna Project was purchased by the Eklutna Purchasers at a very steeply discounted price; and 3) environmental costs, such as the impact to the river, to fish and to the Eklutna Dena’ina, have been externalized and delayed.

At 5.2 Geology, this section is thin and should be supplemented with additional information about the geology. One recommended source is Guidebook to the Quaternary Geology of Central and Southcentral Alaska, (Pewe, T.L., ed., 1977)

At 5.2.1, it would be helpful to better establish the glacial history of the Eklutna Valley. See Geometry, mass balance, and thinning of the Eklutna Glacier, Alaska, Journal of Glaciology 2017, Sass, Loso, Geck, Thomas and McGrath.

See the remark at 5.4.1.1 regarding glacial history, the evolution of Eklutna Lake and suitability to sockeye salmon.

At 5.2.5, the statement from the 2011 USACE report (“In 2011 the USACE stated that removing the lower dam and releasing this accumulated sediment...”) is taken out of context. This report preceded the actual dam removal by six years. This statement seems to be included to suggest that the removal of the lower dam caused more biological harm than good because of the absence of flushing flows. There is no evidence that has turned out to be the case, despite the fact that the proponents of the lower dam removal have repeatedly requested that the Eklutna Purchasers provide flushing flows. USACE permitted the lower dam removal and was satisfied that doing so in the absence of flushing flows would ultimately be beneficial, not detrimental, to the biology and hydrology of the Eklutna River. We suggest that this sentence taken from the 2011 USACE report be deleted here.

At 5.2.5, Eklutna Inc. should be asked to provide for inclusion here the results of the monitoring of the Glenn Hwy bridges that to date show no significant accumulation of sediment at the bridges nor scour of the bridge abutments.

At 5.2.6, it would be useful to have information about the volume of water contributed by Thunderbird Creek.

At 5.3 or 5.4, some discussion is needed of the marine and estuarine environment of Knik Arm and Upper Cook Inlet, and the impacts the project may have had on marine species, including Beluga Whale, federally listed as an endangered species. Beluga whales are regularly sited in upper Knik Arm in the vicinity of the mouth of the Eklutna River, apparently foraging on salmon. Surveys of Beluga whales in upper Knik Arm were conducted by the Eklutna Tribe. It is likely that Beluga whales are impacted by the decline of salmon populations in the Eklutna River.

At 5.3, it would be useful to have a more detailed map and description of the reaches of the Eklutna River and details about where seeps, springs and creeks contribute flow with an estimate of volume for each.

At 5.3, more detail is needed on the significance of the Eklutna River as a major clear water river in Upper Cook Inlet. At normal flows, the Eklutna River is one of the largest (and is possibly the largest) clear water river in Upper Cook Inlet.

At 5.3.2, a number of historical photos exist of the Eklutna River and Eklutna Lake during the 1940's and 1950's. Many of these have been collected by Crane Johnson of NOAA, and a sample of these are attached here at the end of this comment letter. Some or all of these should be included as they provide a rare glimpse of what natural conditions look like for this lake and river.

At 5.3.4, more discussion is needed here on historical water rights that pertained to the operation of the Lower Eklutna Dam. Were water rights an issue at the time the Lower Eklutna Dam was built? Did

Frank Reed claim the water rights that allowed him to operate AL&P? Did these water rights get sold to the City of Anchorage? Did these water rights get sold by the City of Anchorage to the USBR? Was the Lower Eklutna power facility purchased by USBR to resolve the question of water rights?

Water rights are a threshold question in this process, and probably warrant their own section of investigation in Section 7. Early in the process, Dave Schade of the AKDNR water rights section raised the prospect that the Eklutna Purchaser's water right did not allow them to release water down the river in an "unproductive manner." We have also heard the Eklutna Purchasers say similar things in recent meeting of the parties to the 1991 Agreement. Does the Eklutna Purchaser's water right need to be amended? Is that possible?

At 5.3.4, it would be useful to have more discussion of water rights as they relate to the Native Village of Eklutna (NVE), the timing of ANCSA and the federal recognition of NVE as a tribe. How is it that the people who have been living in the Eklutna Valley for thousands of years, whose presence there is well documented, who own nearly all the land along the Eklutna River and around Eklutna Lake, were not consulted or considered when water rights were granted?

At 5.4.1, once again we find a biased statement ("...whether or not there was once a sockeye salmon run into Eklutna Lake...") that seems intended to cast doubt on the presence of a sockeye run in Eklutna Lake. There is no reason to doubt the statements made at the time of the sale, nor is there an alternate explanation for the continued presence of landlocked sockeye salmon (aka kokanee). Prior to the 1929 dam, there were no barriers to sockeye reaching the lake. Despite the degraded condition of the river, sockeye salmon still return to the Eklutna River. The preponderance of evidence should be interpreted to support the historic presence of sockeye, rather than their absence. What is indisputable is that current operations of the Eklutna Project are responsible for preventing sockeye, and any of the other four species of salmon, as well as Dolly Varden, from moving upriver beyond the lower dam site.

At 5.4.1.1, it is conceivable that Eklutna Lake in the 1920's was just beginning to be hospitable to sockeye salmon as the Eklutna Glacier receded and sediment loads in the lake decreased. The aerial photo of Eklutna Lake from 1941(attached) suggests the lake was much siltier than present, and the foreground of this photo shows a landscape that appears to only recently have been deglaciated. Better establishing the glacial history of the Eklutna Valley would be helpful to include in the IIP. The 1941 aerial photo also shows that original drainage of Thachkatnu Creek before it was diverted.

At 5.4.1.2, Oral Histories, the story in Shem Pete's Alaska about How Eklutna Got Its Name is important to include here. This story recounts a giant fish in Eklutna Lake that came out of the depths and swam down the river.

At 5.4.2, Habitat Degradation, some discussion is warranted to the effect that the Eklutna River is entirely dry in sections in the first 3 miles downstream of the dam, one of the most egregious forms of habitat degradation.

At 5.4.3, more detail is needed on the status of Upper Cook Inlet Chinook Salmon as a stock of concern. Chinook salmon are doing poorly throughout Upper Cook Inlet. A significant number of Chinook use the lower Eklutna River and are undoubtedly impacted by abnormally low water levels caused by hydropower diversions.

At 5.4.3.5, what is the effect of lake drawdown on shore spawning of kokanee? As sockeye are typically lake shore spawners, and kokanee are landlocked sockeye, presumably kokanee are affected by the regular drawdown, exposure and desiccation of their spawning habitat. It is conceivable the kokanee in Eklutna Lake are stunted because of the lack of marine-derived nutrients that are no longer being brought into the lake by sockeye salmon. Sockeye have a tremendous ability to import marine-derived nutrients.

At 5.5 Wetlands, some discussion is needed of the extent of riparian wetlands that have been lost as a result of dewatering of the upper reaches of the Eklutna River. Perhaps this is an item for Section 6, to characterize the Project Effects on the loss of wetlands resulting from the project.

At 5.7, this section needs substantial re-arrangement or there needs to be an entirely new section titled "Land Status and Land Ownership." It is important to provide a clear and concise description of land ownership throughout the entire Eklutna watershed and the project zone of influence, including the tailrace, the Knik River valley, Eklutna Village and the Thunderbird subdivision. Placing a discussion of land ownership under the header of Chugach Park is inappropriate as Chugach Park itself falls within the broader category of land ownership, not the other way around.

A much better map of land ownership also needs to be provided than what is shown in Figure 5-25. Such a map would show in great detail all the various tracts of private and public lands throughout the Affected Environment. This map may be put under the category of a "need" that should be filled as it will probably be a detailed GIS product that may not currently exist. Likewise, we need a comprehensive map of the Affected Environment, again something that doesn't exist and will require GIS expertise to produce.

The section on land ownership needs discussion of surface and subsurface ownership, as well as discussion of ownership of the lake bed and the river bed, issues of navigability and jurisdiction (ie; what agencies have jurisdiction of what attributes throughout the Eklutna watershed and the entire region affected by the Eklutna Project.)

At 6.1, Project Effects, this would be an appropriate place for additional citations from the 2011 USACE report, to wit: "Permanent loss of 90 percent of the natural hydrograph due to upstream dam construction and diversion of 100 percent of Eklutna River flows, impacts to the river resulting from highway and railroad bridge construction, and other anthropogenic effects have degraded channel morphology and salmonid habitat functionality in some river reaches...The over-riding limitation is the inability to restore the natural hydrograph.. ... True restoration of the Eklutna River ecosystem would require removal of both dams..."

At 6.1, change the tense of the statement that “the overall effect of the federal hydropower development was thus to diminish significantly the amount and timing of water...” Here “was” should be changed to “has been” to clarify that the impacts of the Eklutna Project are on-going and are not limited to the mere “footprint” impacts at the time of construction. The next sentence (“However, with respect to effects on the anadromous fish of interest...”) needs to be deleted since, with the removal of the lower dam, the flow impacts now encompass the entire river. The tense of the last sentence (“Resident fish impacts...”) needs to reflect the fact that the effects of the federal project have extended over 65 years, continue to the present and are likely to extend into the foreseeable future. This sentence should read “Resident fish impacts from the change in flow regime are occurring along the entire length of the river.”

The Eklutna Purchasers are not absolved from effects on anadromous fish either above or below the lower diversion dam. Because the chain of custody of the lower dam passed through the city (which is still one of the Eklutna Purchasers) to the USBR, which built the federal project, and apparently passed to the Eklutna Purchasers with the sale, the Eklutna Purchasers are fully responsible for all impacts to the hydrology and fisheries of the Eklutna River stretching back to 1928. Especially now that the lower dam has been removed, the absence of salmon upstream of the lower dam site, and their inability to reach Eklutna Lake, rests entirely with the Eklutna Purchasers.

Relevant to 6.1 Project Effects, The Conservation Fund is one of the top providers of wetlands mitigation in the nation. Since 1998 we have operated a statewide wetlands mitigation program in Alaska. One of the central concerns of wetlands mitigation is “temporal loss” which is the lag between the time of impact and the time that mitigation is implemented. Nowadays, wetlands mitigation typically must occur before the impact to wetlands happens, to avoid any temporal loss of wetlands function. If a project proponent sought to dewater a salmon river, they would need to replace or restore an equivalent amount (and equivalent type) of riparian habitat before their project would be permitted to advance.

In this case we are looking at 65 years of temporal loss associated with the complete dewatering of the Eklutna River. So, not only are the Eklutna Purchasers responsible for the “footprint” impact of the project, but they are responsible for 65 years of loss of services and functions of an anadromous river. Additionally, because of the inter-related nature of the Lower Dam and the Eklutna Project, we believe that the Eklutna Purchasers are responsible for all impacts to the Eklutna River that have resulted from hydropower development.

At 6.2.1, page 135, we find the statement that “This flow regime would require a total of approximately 80,000 acre feet of water each year, roughly 35% of the average annual water usage of the hydropower project.” Why is this statement included here? How is this calculation completed? What assumptions are used to reach this conclusion? Without further expansion, this statement appears to be an attempt cast doubt on the feasibility of restoring instream flow and is an example of implicit bias favorable to the owners.

At 6.2.1 Flow Related, we find a series of statements that defy the sentiment in 1.0 that “the owners have no pre-conception as to any particular outcome or what will be included in the Proposed Fish and Wildlife Program.” The statement that “Because of the way the reservoir is operated, this method is not a viable alternative...” exposes a clear bias on the part of the owners. In fact, allowing the reservoir to fill and allowing the spillway to overflow is a perfectly viable alternative. It might actually be the simplest and easiest means to accomplish flow restoration. Doing so might result in reduced power production, but it is a perfectly viable alternative that should be carefully considered. Likewise, an intentional flow release could be accomplished at other times of the year besides fall, but it would require a reduction in power generation.

At 6.2.1, discussion is warranted here on the idea of converting Eklutna Lake over to a pumped storage battery system. In its simplest iteration, the water discharged at the tailrace could be recaptured, and pumped back up to Eklutna Lake, using Fire Island wind at times of excess wind capacity. This would allow for the “firming up” of additional wind capacity at Fire Island, allow Eklutna Lake to function like a battery, and keep Eklutna Lake levels full and spilling into Eklutna River.

Maintaining Eklutna Lake at bankful and overflowing into the Eklutna River is an achievable and desirable outcome that would restore the natural functioning of an anadromous river that has been degraded by hydropower for 92 years. The objective here is not to return to a prior condition that may have existed in 1928 or 1954. Rather, the focus should be to provide natural conditions so that the Eklutna River can function and evolve without manipulation or intervention.

In light of the statement in 1.0 Introduction that “the owners have no pre-conception as to any particular outcome or what will be included in the Proposed Fish and Wildlife Program” we find throughout the Draft IIP a large number of statements that cast doubt on the claims of impartiality. If the purpose of the IIP is to present the facts of the matter in an undistorted manner, this document falls short. The impression one gets is that the consultant provided the owners with the first chance to edit this document before it was circulated to the working group. It would appear that the owners used this opportunity to tilt the narrative in their favor: 1) to cast doubt on the historic presence of sockeye salmon in Eklutna Lake; 2) to cast doubt on the extent that Eklutna Dena’ina relied on fish from the Eklutna River; 3) to limit the liability of the owners for impacts throughout the Eklutna River system; 4) to bolster the significance of the Eklutna Project; and 5) to pre-empt discussion of viable alternatives that would restore instream flow to the Eklutna River.

Thank you for considering our comments and incorporating them into the Draft IIP. We ask that you revise the Draft IIP to provide a neutral rendering of the facts. We also request that all future draft documents be circulated simultaneously to all the relevant parties. Providing the drafts first to the owners provides an unfair opportunity to bias the text to their advantage.

Sincerely,

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Eklutna Lake, Alaska

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Rec'd 7/22/41 from 2nd Photo Sqdn., Elmendorf
Field, Anchorage, Alaska. Original Neg.
rec'd 1 May 1944.

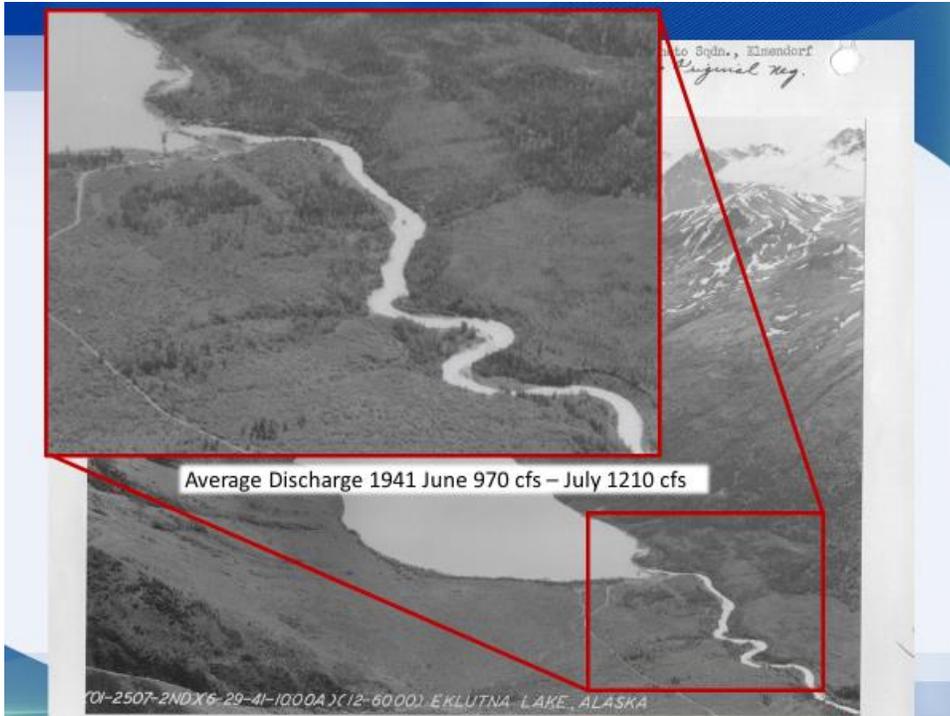


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Average Discharge 1941 June 970 cfs - July 1210 cfs

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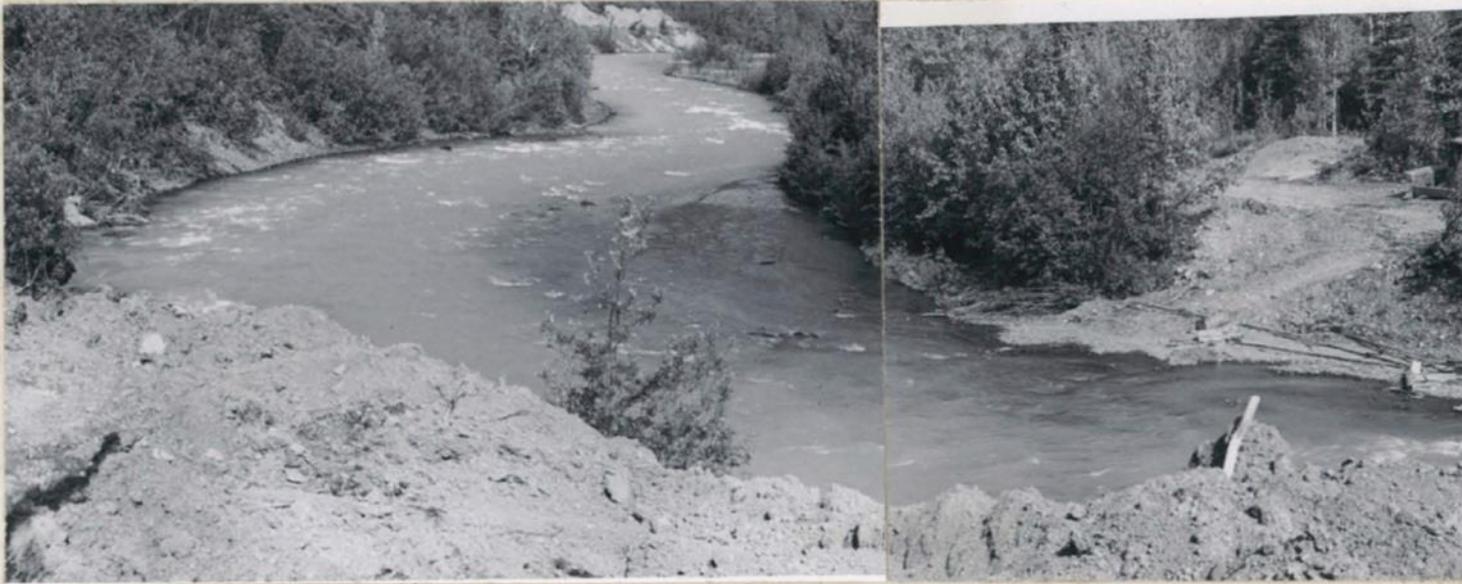


Plate X. View down Eklutna Creek at dam site,
taken from measured section No. 2.
Drill is set up on drill hole No. 2.