

Eklutna Draft IIP Comment Form

Agencies and interested parties can use this form to submit comments on the Draft Initial Information Package (IIP) for the Eklutna Hydroelectric Project. Please email the completed form to Samantha Owen at owen@mcmjac.com.

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4/24/2020.

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Section, Page, Paragraph	Comment	Reference Document
NMFS appreciates the extensive effort put into this IIP. Most of our comments are centered around information needs to help us all arrive at a better outcome. NMFS recognizes it may not be possible to respond to all our comments in the IIP, but we would like to get our comments on the record as a starting point for future discussions. Thank you for considering our input.		
1.2.1; page 16	NMFS requests further clarification on the meanings of the first two stated purposes in the 1991 Settlement Agreement: "efficient and economical energy production..." and "energy conservation". Please also state how these purposes will be applied to future decision-making.	1991 Settlement Agreement
3.4.2; page 29	NMFS would like to emphasize that the initial 1928 license issued to AL&P by the Federal Power Commission (FERC predecessor) did have a mechanism to release water into the river from the upper storage reservoir. NMFS requests this be made more clear in the IIP.	IIP
3.5.3, page 35	NMFS requests that the IIP provide the drainage area for Thachatnu Creek and the intermittent stream captured in 1963. An estimated artificial hydrograph for Thachatnu Creek would also be helpful, but we understand that is more difficult.	IIP

3.5.4; page 35	In 1965 the Bureau of Reclamation built a replacement dam 1,400 feet downstream of the previous structure. It was a federal project and therefore did not need a FERC license. This is really the 3rd dam built at the lake outlet as it was not at the same location as the 1951 structure. NMFS requests that this is made clear in the IIP.	USBR 1965
3.8; page 38	National Park Service records may provide additional information on the original four BLM campgrounds and establishment of Chugach State Park. While NMFS is not suggesting that this information needs to be in the IIP, necessarily, we wanted to make note of other possible resources.	
3.9; page 41; Fig. 3-18	Many fish habitat restoration ideas center on the ability to manage riparian vegetation, move sediment, and create off channel habitat. These activities are facilitated by mechanized equipment like bobcats, backhoes, and small dozers. NMFS requests that this Figure also include a detailed map showing current dirt roads and old road beds that could be easily put back into use.	IIP
3.8; page 42	The IIP states: “(AWWU(sic) ... will exceed 18,000 acre feet” by 2025. It would be helpful to know whether this 1993 prediction of Anchorage’s water need is still accurate. Table 4.1 provides similar information, but not the same.	IIP
3.11; page 43; Eklutna Salmon Hatchery	The Eklutna Salmon Hatchery has not produced fish since 1998. At this point, NMFS believes it should be considered a newly requested water use, rather than an existing water use.	IIP
3.12; page 44; Tailrace Day Use fishing	NMFS recognizes this tailrace fishery is socially important. It is difficult to imagine a scenario where this recreation site would cease to exist as an artificial day-use fishery. Therefore, because this fishery would not change substantially under any likely scenario, NMFS believes that it should be given less weight than other factors.	IIP
3.13; Fig 3-26	This illustration is just a schematic that was not based on physical measurement. NMFS requests more useful information, such as a graphical representation of the sediment that remains there today, like “as deconstructed” drawings.	IIP
4.2.1, page 61	The 30” by 30” drainage outlet could turn out to be a key tool to habitat restoration. Please provide more detail on when the lake is full enough to use this outlet (e.g. which months), and why the utilities are hesitant to use it to provide	IIP; Chugach 2016b

	instream water. Is there some reason to think releasing 25 cfs would be fine, but releasing the full 191 cfs could cause structural damage? Thank you for the information provided so far!	
4.2.2; page 61; Table 4.1	NMFS requests the annual water use by AWWU be added to this table (or put it someplace else in the document).	IIP
4.2.3; page 62; Flood Protection	The probable maximum precipitation (PMP) event calculated in 1963 needs to be updated. The climate has changed as has our understanding of stationarity and predicting rainfall events. An updated PMP may change the Probable Maximum flood (PMP)	IIP
4.2.4; page 64; Spill events; Table 4-2	This is very useful information. Thank you for including it.	MJA 2020
5.1.1; page 65; Historical Climate	The single statement that average annual precip is 18" is an oversimplification of weather and climate information in the Eklutna watershed. It seems the information in the IIP was solely collected at the lake. NMFS requests a list of the years of data collection that the 18" average was based on. Total precipitation is higher at higher elevations and perhaps lower at the old Eklutna town site. Therefore, NMFS requests that this section be expanded to include more data about the areas above and below the lake.	IIP
5.1.2; page 65; Climate change	NMFS requests that the IIP state that identifying the approximate percentage of total discharge provided by glacier melt (old ice) is a priority. This is not the same as melting snow that fell on the glacier the year before. If this glacier's annual water contribution can be calculated, it would be helpful. Figure 5-1 is excellent, but please clarify if it is in Celcius or Farenheit.	IIP
5.2.4; page 68	NMFS does agree that there is an Eklutna River gorge or canyon as the river cuts through bedrock in the mile just above the old dam site. The six miles below the upper dam where the river is incising its way through ancient lake beds, is more of a river valley than a canyon. NMFS requests that when referring to this six mile section the term "river valley" be used rather than "canyon".	IIP
Large Alluvial Fans (missing)	The IIP should discuss the large alluvial fans which enter Eklutna River valley predominantly from the north side and push the river channel South. How these	

	fans/debris flow respond to a changing climate will be instrumental in whether salmon restoration succeeds.	
Rockfall in the Canyon (missing)	Past rockfall in the canyon created two partial barriers to salmon passage just below the lower dam in 2017. Understanding the frequency of these rockfall events and the likelihood of them creating new fish barriers would be helpful. It would also be helpful to understand how long a rockfall event remains a barrier with normal flushing flows frequency and without flushing flows. NMFS requests this information be included in the planned studies.	
5.2.5; page 69; Sediment Accumulation,	NMFS requests clarity and further explanation on ADOT&PF's concern that redistributing a portion of the 230,000 cy downstream will drastically change the channel and undermine the bridge piles. 300,000 cubic yards of sediment accumulated behind the lower dam annually around 1948, and yet only 230,000 cubic yards (cy) existed there prior to dam removal. Large volumes of sediment must have passed over the full lower dam annually prior to 1955. It is the cessation of large river flow by the 1955 structure that set the stage for the current sediment conundrum rather than the removal of the lower dam in 2018. There is likely a large "surplus" of sediment in the 6 miles above the gorge as the day- to-day work of moving sediment performed by a typical river draining 123 square miles did not happen for the last 65 years. Please provide more information.	IIP
5.2.5, Page 69	The railroad's speculation that the 230,000 cubic yards behind the old dam caused the shoreline erosion may be partially correct, but the IIP should also acknowledge that the entire nine miles has more sediment storage because the river has not had the power to move much sediment for 65 years. Gravel mining is also a contributing factor. The six spills may partially "catch up" sediment movement.	
5.3.1; page 72	The Eklutna Lake drainage area is listed both as 123 and 119 square miles in subsequent paragraphs. NMSF seeks clarity on which number is correct.	
5.3.2; page 73; Hydrology also page 74	The estimated flows 1924 to 1928 (Table 5-1) are about twice the water usage from 2010 to 2019 (Table 4-1). Is one set of numbers inaccurate or was 1924 - 1928 a series of wet years? It is unclear if Thunderbird Creek's contribution is included in the early estimates. NMFS requests clarity on this.	
5.3.2; page 76; Figure 5-6	While this is an excellent figure, gage 1520100 seems to be missing from the map.	

5.3.2; page 79	<p><i>“Mean daily flows from 1955-1962 typically remain steady at a range of 15-20 cfs from mid-October through mid-February. From mid-February through late July, flows decrease to a range of 3.8 cfs to 0.0 cfs.”</i> Does this indicate substantial seepage through the dam until the water level hits a certain level mid February and then the seepage mostly stops leaving the channel mostly dry? What are other explanations?</p>	
5.3.3.1; page 85; Turbidity	<p>The presented turbidity data and discussion is primarily from the lake and the tailrace; neither is where we are hoping to create fish habitat. The Eklutna River is extremely turbid on certain days. This turbidity is acknowledged by others on pages 95 - 97 and section 5.4.3.4. The source of this turbidity has not been determined. Whether or not we need to mitigate it to restore fish habitat, is not yet determined. However, we must acknowledge that the turbidity will create a challenge for creating quality fish habitat. NMFS requests this acknowledgement be in the IIP.</p>	
5.3.3.5; page 86	<p>While water temperature data circa 1950 and from the early 1980’s is interesting, those temperatures are not something we can or should strive to recreate. The climate has changed (page 65) and lake and stream temperature are likely warmer now and will continue to increase. NMFS recommends the IIP acknowledge it is unlikely we can mimic old temperature data.</p>	IIP
5.3.4; page 87	<p>If the priority date on the water right is December 31, 1954, it seems that would have been based on the original dam location 1,400 feet up the lake. Were the water rights adjudicated more recently to include Thachkatnu Creek, which was captured in 1962, and any intermittent streams captured when the new (3rd) dam was built post earthquake in 1965?</p>	IIP
5.3.4; page 87	<p>Has anyone filed a water right for the river segment and any tributaries that enter Eklutna below the upper dam but above AWWU aqueduct exit? The three water rights filed by NVE in 2003 for the salmon seem to request water downstream from the AWWU aqueduct outlet.</p>	IIP
5.4.1.1; page 89	<p>As the glacier retreats, the two forks of the Eklunta will become better spawning habitat, even if it is true they were not productive spawning habitat prior to 1929.</p>	IIP

	NMFS requests that the potential for new spawning habitat in these forks be studied.	
5.4.2; page 91	Referring to the event of October 12, 1986 as a 100-year event is incorrect, if it did not cause the dam to spill. With a 123 mi ² portion of the 174 mi ² watershed not contributing it could not have been a 100-year event at the New Glenn Highway Bridge. On a broad alluvial fan like the Eklutna fan, it may not take a 100-year event to cause the main channel to move.	IIP
5.4.3; page 93	While there are 3 monitoring sites for fish, five cross sections were surveyed below the dam and two immediately above the dam in 2017; substrate composition was recorded at each one. Three of the seven have been resurveyed 4 times, two have only been resurveyed twice, and two only once. The four sites that were not required by the Army Corp permit and not paid for by Eklutna Inc. may not have been covered in the 2020 report. NMFS would like to highlight this omission.	IIP
5.4.3.3; page 97; Coho and Chinook	This section posits a number of conflicting hypotheses without providing data to back them up. NMFS recommends that juvenile salmon occurrence would be better understood if the IIP simply stated what fish sampling has been completed in each river reach and in what years.	IIP
5.5; page 103	22.9 acres of estuarine wetlands for a watershed of 174 mi square is an unusually small estuary for a large watershed. If the Settlement Agreement directs us to give equal consideration to purposes #3 and #6, NMFS recommends increasing the size of this estuary. Increasing the water flow to the estuary would greatly increase the productivity of the Fire Creek and Eklutna River estuary easement created in 2012.	IIP
6.2.1; page 136	AWWU pipeline is an option for releasing water into the river. While there might be two obvious release locations, there are engineering fixes that could allow releases at many other locations. NMFS is wondering if any of these alternatives have been considered and if the IIP could discuss those alternatives and/or add considering alternatives to the study plan.	IIP
6.3.1; page 145; Table 6-3	Juvenile rearing is discussed in terms of winter and summer rearing in the IIP, however, in the table they are lumped. NMFS suggests separating the seasonal	IIP

	data, as it involves different water allocations at different times of year and affects species differently.	
6.3.1; page 145; Table 6-3	Smolt habitat may include estuary habitat, however, it would be more clear to create a stand alone Evaluation Parameter called "Eklutna River Estuary Habitat". We don't want the juveniles to simply arrive in the Cook Inlet, we need them to thrive once they get there. Research shows the smolt who go out larger, have greater chance of survival, and smolt that spend time in the estuary usually increase in size.	IIP
6.3.1; page 145; Table 6-3	<i>Difference in Abundance</i> -does this apply to adults or juveniles or both?	IIP