



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
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December 6, 2023

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Re: Draft Fish and Wildlife Program preferred alternative for the Eklutna Hydroelectric Project;
1991 Fish and Wildlife Agreement

Dear Ms. Owen:

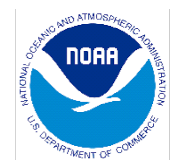
The National Marine Fisheries Service has reviewed the draft Fish and Wildlife Program (draft Program) as provided by Anchorage Municipal Light and Power, Chugach Electric Association and Matanuska Electric Association (collectively, the “Owners”) on October 27, 2023. This draft Program was provided to us pursuant to the *1991 Fish and Wildlife Agreement for Snettisham and Eklutna Projects* (1991 Agreement). We appreciate the time and effort required to develop and implement the studies, complete the study reports and alternative analysis, and produce the documents provided for review.

As parties to the 1991 Agreement, we have been involved in the development of the Fish and Wildlife Program from the earliest stages. Throughout this process, we endeavored to maintain the intent of the 1991 Agreement¹ as defined in the Agreement, the 1992 Environmental Assessment² for the divestiture sale, and the 1995 House Report³. The main impact of the Eklutna Hydropower Project (Project) on the Eklutna River and its fish, wildlife, and habitat is the complete lack of water in the upper Eklutna River and the reduced flows throughout. Since the Eklutna Project became operational, it has prevented the flow of water to the Eklutna River. The Project diverts 90% of the water for generation to the Knik River, while 10% is diverted for Anchorage drinking and wastewater.

¹ The 1991 Agreement specifically states the Agreement is a “*mechanism to develop and implement measures to protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat) [and] obviate the need for the Eklutna Purchasers and AEA to obtain FERC licenses*”. The 1992 Divestiture Summary Report stated that the 1991 Agreement would work “*at least as well as Federal regulation for the intended purpose of mitigation and enhancement of affected fish and wildlife resources*”, and would therefore be sufficient to restore and maintain habitat.

² Alaska Power Administration’s 1992 Environmental Assessment for the sales of the Eklutna and the Snettisham Projects states that the 1991 Agreement is intended to “*work at least as well as Federal regulation for the intended purpose of mitigation and enhancement of affected fish and wildlife resources.*”

³ House Report 104-187, Alaska Power Administration Sale Act. July 13, 1995, reiterates that the intent of the 1991 Agreement is to provide “*post-sale protection, mitigation, and enhancement of fish and wildlife resources affected by [the Eklutna Hydropower Project]...*”



Project operations are designed to refill the reservoir in the spring and summer as much as possible without spilling. Only ten spill events have occurred since 1965. This persistent lack of water has resulted in cascading negative effects on other natural resources, cultural and traditional resources, and ecological functions.

To date, the process for evaluating Project related impacts and potential mitigation options has been satisfactory. However, based on our review of the draft Program as provided by the Owners, the proposed mitigation measures do not meet the stated intent to protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat), and to be at least as effective as the Federal Energy Regulatory Commission (FERC) licensing process⁴. The proposed mitigation measures do not address Project related impacts within the full length of the affected river and do not address connectivity with lake and upper tributary habitat. We recommend the draft Program be modified to address the following concerns: re-watering the full river, seasonal flows, channel maintenance flows, new spillway gate infrastructure, fish passage, and habitat connectivity.

Re-Watering the Eklutna River

The proposed actions within the draft Program do not align with our management interests to re-water the full length of the Eklutna River as outlined in our September 11, 2023, recommendations. This leaves extensive project related impacts unaddressed. To meet the intent of the 1991 Agreement for mitigating project related impacts, to enhance fish, wildlife, and habitat affected by the Project, and to function at least as well as would have been the case under FERC licensing, the entire river should be re-watered on a year-round basis. Adding water to the full extent of the river is possible with a new spillway gate (discussed below) and would provide broader, holistic ecological benefits that will, in turn, benefit species like Pacific salmon and their prey species. Further, minimum flows in the entire reach of the river affected by Project operations are a common FERC license requirement⁵. Adopting this recommendation to re-water the full length of the Eklutna River would promote the stated 1991 Agreement intent to function *at least as well* as Federal regulation. We understand the limitations of the existing Project design to meet this stated goal. However, in our view appropriate Project modifications and an adaptive management plan can better balance water availability for fish habitat and hydropower generation. A new spillway gate could be the first step.

Seasonal Flows

The seasonal minimum flows outlined in the draft Program do not address the scale of direct Project related impacts and appear to be limited to the capability of the existing infrastructure. In order to account for and address the full scope of Project impacts, the mitigation measures need to re-establish a broader range of habitat availability within the Eklutna River. To do this, moderate increases in winter flow to 40 -70 cfs is a better option.

⁴ References to the Federal Energy Regulatory Commission (FERC), Federal licensing, and Federal regulation are synonymous in this context.

⁵ e.g., Allison Creek (P-13124) License Article 402; Falls Creek (P-11659) License Article 404; Grant Lake (P-13212) License Article 410.

We acknowledge the limitations of the existing infrastructure to provide winter flows and maintain hydropower operations; however, we see the potential for mitigation measures that balance these interests. Similarly, the draft Program's proposed summer flows of 40 cfs are described as flows that will increase habitat for coho and Chinook; however, our recommended summer flow of 160 cfs provides greater habitat availability to address project related impacts. The range of flows discussed in the first alternatives meeting included 80-90 cfs for maximum coho spawning habitat and 150-160 cfs for maximum Chinook habitat. Here, too, we see opportunity for better mitigation of Project related impacts while balancing hydropower generation. In addition, each of the resource agencies who are signatories to the 1991 Agreement recommended seasonal flows greater than seasonal flows identified in the draft Program. We recommend re-evaluating the seasonal flows in the context of our resource management interests and the data from the alternatives analysis process.

Channel Maintenance Flows

The draft Program does not provide sufficient channel maintenance flows (also referred to as "flushing flows") to address our resource management interests of reviving the riverine habitat after decades of no inflow and to ensure long-term in-stream habitat complexity. Similar to minimum flow for bypass reaches, flushing flows are consistent with Federal licensing requirements⁶. Although we agree with the timeframe for flushing flows, the proposed 220 cfs and associated water budget are inadequate to meet our resource management interests for migratory fish and their habitat. The proposed flows are unlikely to modify substrates and support habitat complexity in a meaningful way after nearly a century of limited impactful flow events. Our proposal for flushing flows of 700 cfs will result in significant, meaningful habitat modifications, consistent with natural hydrographs in unmodified rivers, and will mitigate impacts to the Eklutna River from hydropower development. These larger flushing flows need greater consideration for their functionality to mitigate project related impacts and meet the intent of the 1991 Agreement.

New Spillway Gate

The draft Program did not adopt our recommendation for a new spillway gate at the existing dam. The analysis provided indicates that continual flows from the dam would greatly diminish hydropower generation by requiring the pond to be held at a higher level⁷. Thus, the draft Program proposed a new gaging system to improve estimates of flow releases. This proposed measure does not increase the range of flows or address future flow conditions. Further, this proposed measure does not fulfill the intent of the 1991 Agreement, which states that the Owners shall prepare a draft Program for "the protection, mitigation of damages to, and enhancement of fish and wildlife (including related spawning grounds and habitat)."⁸

⁶ e.g., Gartina Falls (P-14066) License Article 404.

⁷ In an average year the water surface elevation fluctuates from El. 830.0 ft (local datum) to El. 867.0 ft with the ability to draw down to El. 814 ft. Releases year-round at the existing dam would require the reservoir to remain above El. 861 ft to maintain connectivity with the dam outlet gate.

⁸ 1991 Agreement at 3.

The Owners could have considered impacts on electric ratepayers and municipal water utilities in the Study Plans, and the Governor may consider efficient and economical power production during his review, but the draft Program's mandate is solely to propose measures to protect and enhance fish and wildlife and to mitigate damages to such from the Project. By not including a new spillway gate in the draft Program, the potential for implementing a variety of flows to the Eklutna River is limited.

Further, not including a new spillway gate in the draft Program does not take into account the pervasive changes to inflows to Eklutna Lake, to fisheries, or habitat driven by climate change. The *Fifth National Climate Assessment for Alaska*⁹ includes two key messages that resonate with the 1991 Agreement process and development of mitigation measures. First, our built environment will become more costly. Much of Alaska's infrastructure was built for a stable climate, and changes in permafrost, ocean conditions, sea ice, air temperature, and precipitation patterns place that infrastructure at risk. The assessment indicates with high confidence that further warming is expected to lead to greater needs and costs for maintenance or replacement of infrastructure. Planning for further change and greater attention to climate trends and changes in extremes can help improve infrastructure resilience around Alaska. In addition, there is high confidence that Alaska's ecosystems are changing rapidly due to climate change. Many of the ecosystem goods and services that Alaskans rely on are expected to be diminished by further change. Careful management of Alaska's natural resources to avoid additional stresses on fish, wildlife, and habitats can help avoid compounding effects on our ecosystems. This climate assessment for Alaska, which includes modeled and observed climate related trends, demonstrates negative implications for the Eklutna Hydropower Project operations related to water control. Warming trends and increased precipitation will influence the impoundment level throughout the year, potentially leveling the flow duration curve, and will likely increase the potential for uncontrolled spill at the existing dam. Our recommendation for a new spillway gate will increase the resilience of the project to climate change effects, likely mitigating the potential for long-term maintenance and repairs, as well as improving the ability to implement cost effective mitigation measures or natural resources. Incorporating a new spillway gate at the existing dam, as discussed throughout the alternatives assessment process, would expand the range of flows released to the Eklutna River to mitigate direct project related impacts and build resilience to the project infrastructure in the face of climate change.

Fish Passage and Habitat Connectivity

Fish passage was not included in the draft Program at this time due to the significant costs, impacts, and uncertainty regarding the viability of introducing anadromous species above the Project dam.

⁹ Huntington, H.P., C. Strawhacker, J. Falke, et.al. 2023: Ch. 29. Alaska. In: *Fifth National Climate Assessment*. Crimmins, A.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, B.C. Stewart, and T.K. Maycock, Eds. U.S. Global Change Research Program, Washington, DC, USA. <https://doi.org/10.7930/NCA5.2023.CH29>

The Native Village of Eklutna (NVE) provided a resolution¹⁰ stating their interests for salmon passage into Eklutna Lake and moderation of Eklutna Lake level variability at levels sufficient to facilitate sockeye spawning, among several priorities. In their comment letter regarding the draft Program¹¹, NVE reiterated their interests for returning salmon to the Eklutna River to restore their traditional, cultural, and subsistence resources. We continue to support NVE’s goals as a means to outline objectives of the Fish and Wildlife Program and meet the intent of the 1991 Agreement.

Under the FERC licensing process, the Department of Commerce through the National Marine Fisheries Service, and the Department of Interior through the U.S. Fish and Wildlife Service have prescriptive authority for fishways, pursuant to the Federal Power Act¹². The administrative record, including traditional ecological knowledge, supports the need for fish passage within the timeframe of a typical FERC license (30-50 years). Therefore, the draft Program should incorporate long-term measures to address fish passage in order to be consistent with (1) the intent of the 1991 Agreement to function “*at least as well as Federal regulation*” for mitigating and enhancing project related impacts to natural resources; (2) the typical timeframe needed to implement complex fish passage projects; and (3) the provision that the 1991 Agreement shall “*...remain in full force and effect so long as that project remains in operation.*”

Likewise, the FERC licensing process includes a regulatory requirement to consider comprehensive plans. Section 10(a) of the Federal Power Act requires FERC to ensure the proposed project “will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of waterpower development, for the adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), and for other beneficial public uses.”¹³ FERC shall consider the extent to which the project is consistent with a comprehensive plan (where one exists) for improving, developing, or conserving a waterway or waterways affected by the project; the recommendations of Federal and State agencies exercising administration over resources in which the project is located; and the recommendations (including fish and wildlife recommendations) of Indian tribes affected by the project.¹⁴ This means, under the FERC licensing process, all relevant comprehensive plans, such as those to protect and mitigate damages to fish and wildlife, must be reviewed for consistency with the proposed project. If a project is inconsistent with a comprehensive plan, FERC would then assess whether it would be reasonable to include conditions in the project license to make the project consistent with the comprehensive plan.

¹⁰ Native Village of Eklutna Tribal Government Resolution 2022-04, Addendum to Resolution 2019-11. May 14, 2022.

¹¹ Native Village of Eklutna, draft Fish and Wildlife Program comment letter dated December 4, 2023

¹² 16 U.S.C. § 811.

¹³ 16 U.S.C. § 803(a)(1).

¹⁴ 16 U.S.C. § 803(a)(2).

Similarly for this Project, the draft Program should fully account for pertinent comprehensive plans in order to be consistent with the intent of the 1991 Agreement to function “*at least as well as Federal regulation*” for mitigating and enhancing project related impacts to natural resources. For our interests, the fishery management plan for Pacific salmon¹⁵ and Cook Inlet beluga whale recovery plan¹⁶ should be considered comprehensive plans for consideration in this process. Incorporating provisions to improve fish passage and habitat connectivity will support the restoration of Pacific salmon, sockeye salmon in particular, and further advance the goals of these comprehensive management plans.

Availability of prey was identified as one of nine threats to the recovery of the endangered Cook Inlet beluga whale. Listed as endangered in 2008, the Cook Inlet beluga has experienced continued population decline and range retraction, with the entire population now occurring primarily in the upper and middle Inlet. Pacific salmon are a key prey item for Cook Inlet belugas, and the geographic distribution of the whales is strongly influenced by seasonal fish runs. Knik Arm, into which the Eklutna River flows, is important Cook Inlet beluga whale foraging habitat. In addition, Knik Arm, including the mouth of the Eklutna River, is designated critical habitat for the population. We identified five physical or biological features that are deemed essential to the conservation of the population, one of which is the presence of primary prey species consisting of four species of Pacific salmon (Chinook, sockeye, chum, and coho)¹⁷. Improving fish passage and habitat connectivity, as we recommend here, is anticipated to have beneficial effects to both the Cook Inlet beluga whale and its critical habitat and will support recovery of the population.

The Eklutna Project’s cumulative effects on fish and wildlife includes the disruption of habitat connectivity from the lower river to the lake and upstream tributaries. Although discussed in the supporting material in the draft Program, measures for addressing the full scope of connectivity were not adopted. The justification includes cost, complexity, and uncertainty of overall benefits. These justifications are not considerations that the Owners were mandated to take into account under the 1991 Agreement. Based on our discussions with the Native Village of Eklutna, there may be more data to evaluate the potential extent of Chinook spawning habitat in tributaries above the Eklutna Lake. The potential benefits of improved connectivity warrant continued discussion among the technical working group members in the capacity of the adaptive management team. We recommend the draft Program be modified to incorporate this topic as an item within the scope of the adaptive management plan working group.

Adaptive Management

Lastly, we appreciate that an adaptive management approach with a designated coordinator was included in the draft Program. We can agree with most of the proposal, though we would like to discuss the details to better understand the scope.

¹⁵ North Pacific Fishery Management Council. 2021. Fishery Management Plan for the Salmon Fisheries in the EEZ off Alaska. Appendix A. Anchorage, Alaska, North Pacific Fishery Management Council.

¹⁶ National Marine Fisheries Service. 2016. Recovery Plan for the Cook Inlet Beluga Whale (*Delphinapterus leucas*). National Marine Fisheries Service, Alaska Region, Protected Resources Division, Juneau, AK.

¹⁷ 50 CFR § 226.220(c)

We are concerned, however, that the coordinator for the adaptive management team would not be a representative of the Owners. A designee appointed by the Governor may be too far removed from the process to ensure consistency and advocacy for successful mitigation. It may provide disruption as the Governor and associated administration priorities change. We recommend the adaptive management team be coordinated by a representative who has a more direct investment in the process and will ensure successful implementation.

Conclusion

Our analysis indicates that modification to the draft Program is warranted to improve the efficacy of actionable mitigation measures and their alignment with our resource management interests, and to meet the intent of the 1991 Agreement. Actions implemented to protect, mitigate damages to, and enhance fish and wildlife need to holistically address project related impacts and support functioning, resilient, and sustainable salmon habitat in the Eklutna River and Lake. Mitigating the project impacts holistically will likewise manage climate change related stressors and build resilience to effects that are otherwise compounded by Project operations. Habitat resilience can be enhanced by reestablishing habitat connectivity and maximizing habitat diversity and availability¹⁸. In support of this holistic approach for mitigating impacts and promoting climate change resilience, the draft Program should be modified to include: seasonal flows that are more than the baseline available by existing infrastructure; greater consideration of traditional ecological knowledge and loss of cultural resources; a forward-looking, long-term approach to coordinate larger mitigation measures using an advocate with investment in the process; and mitigation measures to account for climate change effects to the larger Eklutna River, the lake, and glacier.

We look forward to continuing the discussion of mitigation measures with you in advance of the public review process. Please contact Sean McDermott (sean.mcdermott@noaa.gov) if you have any questions.

Sincerely,


Jonathan M. Kurland
Regional Administrator

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¹⁸ Pelletier, M.C., Ebersole, J., Mulvaney, K. *et al.* Resilience of aquatic systems: Review and management implications. *Aquat Sci* 82, 44 (2020). <https://doi.org/10.1007/s00027-020-00717-z>

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