

February 19, 2024

Eklutna River Hydroelectric Project Owners:  
Municipality of Anchorage (MOA)  
Chugach Electric Association (CEA)  
Matanuska Electric Association (MEA)  
VIA EMAIL: info@eklutnahydro.com

**Re: Eklutna Hydroelectric Project Draft Fish and Wildlife Program**

Dear MOA, CEA, and MEA:

The Alaska Wildlife Alliance (AWA) provides the following comments on the Chugach Electric Association, Matanuska Electric Association, and Municipality of Anchorage (“Project Owners”)’s Eklutna Hydroelectric Project Draft Fish and Wildlife Program (“Draft Program”).<sup>1</sup> The Alaska Wildlife Alliance is a non-profit organization based in Anchorage, founded in 1978 by Alaskans, and speaks for more than 1,500 supporters of Alaska’s wildlife. We advocate for healthy ecosystems which are ethically and scientifically managed to protect our wildlife for present and future generations.

Since the Eklutna Hydroelectric Project (“Project”) became operational in 1955, it has caused the Eklutna River to run dry. The hydrological record is clear on this point:

“Currently, no water spills over the Eklutna Lake Dam down the river except during floods. A 4.5-mile bypass tunnel diverts water from the lake to the power plant. Of the water diverted, 90% is diverted to the Knik River for hydropower, while 10% is diverted for Anchorage drinking and wastewater, effectively blocking the remaining 14 miles of Eklutna River from its water source.”<sup>2</sup>

The Project’s adverse effects on fish and wildlife resources in the Eklutna River were not evaluated for almost 70 years after project construction due, in part, to the existence of the lower diversion dam, which prevented salmon from ascending to Eklutna Lake and the upper reaches of the river. However, since the lower diversion dam was removed in 2018, the Project’s continued diversion of all controllable flow at Eklutna Lake to the Project’s powerhouse on Knik Arm and the complete disconnection of the river to the lake and upper tributaries are, and will continue to be under the Project Owners’ Program, the primary causes for ongoing degradation of fish and wildlife habitat in the Eklutna River system.

---

<sup>1</sup> Chugach Electric Association, Matanuska Electric Association, and Municipality of Anchorage (“Project Owners”), Eklutna Hydroelectric Project Draft Fish and Wildlife Program (Oct. 27, 2023) [https://eklutnahydro.com/wp-content/uploads/2023/10/2023-10-27-Eklutna-Draft-Fish-and-Wildlife-Program\\_withAppendices.pdf](https://eklutnahydro.com/wp-content/uploads/2023/10/2023-10-27-Eklutna-Draft-Fish-and-Wildlife-Program_withAppendices.pdf).

<sup>2</sup> Native Village of Eklutna, “Eklutna River: Idlughetnu” (accessed Nov. 17, 2023) <https://eklutna-nsn.gov/departments/land-and-environment/eklutna-river/>; see also, Kleinschmidt Associates, Draft Instream Flow Technical Memo at 2 (Sept. 28, 2022) [https://eklutnahydro.com/wp-content/uploads/2022/12/2022-9-27-EklutnaInstream-Flow-Tech-Memo\\_DRAFT.pdf](https://eklutnahydro.com/wp-content/uploads/2022/12/2022-9-27-EklutnaInstream-Flow-Tech-Memo_DRAFT.pdf) (“In 1955, the federal government completed construction of a new hydropower project and in 1964 a new storage dam which effectively eliminated any flow releases from Eklutna Lake to the Eklutna River.”).

Rather than fully evaluate alternatives that would avoid, minimize, or mitigate the project's adverse effects, as would generally be required for the relicensing of any other similarly-sized non-federal hydropower project, the Project Owners have put forward a Draft Program that would maintain those adverse effects by continuing to dewater a portion of the lower Eklutna River and deny salmon access to the majority of the system's salmon habitat for the next 35 years. The Draft Program shows that the Project Owners did not fully evaluate alternatives that would mitigate and enhance, let alone avoid or minimize the Project's ongoing impacts to sockeye, Chinook, and coho salmon habitat even though the loss of the sockeye salmon run was one of the express reasons for the 1991 Eklutna Fish and Wildlife Agreement.

### ***Purpose of the 1991 Eklutna Fish and Wildlife Agreement***

The purpose of the 1991 Eklutna Fish and Wildlife Agreement ("Agreement") and the resultant Fish and Wildlife Program is to develop and implement measures to "protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" from the harms of the Project.<sup>3</sup> Salmon spawning grounds and habitat harmed by the project include the lower Eklutna River below the dam, Eklutna Lake, and the upper tributaries to Eklutna Lake. The Divestiture Summary Report for the Sale of Eklutna and Snettisham Hydroelectric Projects ("Divestiture Report"), to which the Agreement is an appendix, notes that mitigating harms to sockeye salmon and their spawning habitat was particularly important in creating the Agreement. The Divestiture Report explained that "[d]uring reviews of the legislative proposal, loss of a sockeye salmon run that once spawned in Eklutna Lake was identified[...]" This specific problem and the desires of the fish and wildlife agencies to provide appropriate consideration to fish and wildlife resources over the long run led to the August 7, 1991 Agreement.<sup>4</sup> The Divestiture Report notes that the Agreement's fish and wildlife measures were intended to "work at least as well as Federal regulation for the intended purpose of mitigation and enhancement of affected fish and wildlife resources," and were to be "quite similar to that under the [Federal Energy Regulatory Commission ("FERC")] licensing" process for hydroelectric projects.<sup>5</sup>

In comparison, the "AWWU Portal" plan proposed in the Draft Program by the Project Owners leaves Eklutna Lake and its upper tributaries completely disconnected from the lower Eklutna River, maintaining over a mile of dry streambed.<sup>6</sup> Furthermore, the flows the Project Owners propose to release from the AWWU Portal are the minimum flows considered by any of the signatory parties to the Agreement ("Parties") during the Agreement study process, with inadequate higher flushing flow events in only three out of every ten years.<sup>7</sup>

---

<sup>3</sup> Fish and Wildlife Agreement Snettisham and Eklutna Projects at 1 (Aug. 7, 1991) <https://eklutnahydro.com/wpcontent/uploads/2019/05/1991-Fish-and-Wildlife-Agreement.pdf>; See also Eklutna Draft Fish and Wildlife Program at 45; See also Alaska Power Administration Asset Sale and Termination, Pub. L 104-58, title I § 104(a)(2) (Nov. 28 1995) <https://www.govinfo.gov/content/pkg/STATUTE-109/pdf/STATUTE-109-Pg557.pdf>.

<sup>4</sup> Divestiture Summary Report, Sale of Eklutna and Snettisham Hydroelectric Projects at 19 (Apr. 1992) <https://eklutnahydro.com/wp-content/uploads/2020/03/APA-1992-Divestiture-Summary-Report.pdf>.

<sup>5</sup> Id. at 20, 18.

<sup>6</sup> Eklutna Draft Fish and Wildlife Program at 46-56.

<sup>7</sup> Id. at 39, 40; see, e.g., Trout Unlimited, Eklutna River Workshop: Summary of Outcomes, Recommendations, and Future Needs at 4-6; see also, e.g., U.S. Fish and Wildlife Service, Upper Eklutna River Survey Preliminary Fish

***The Preferred Alternative (“AWWU Portal”) is Insufficient for Salmon and Does Not Provide for a Connected Ecosystem***

The AWWU Portal puts the least amount of water in the river of all the alternatives for regular flows and high-flow events.<sup>8</sup> The justification for choosing the lowest flow alternative primarily comes from economic considerations rather than what is best for fish and wildlife. The Agreement makes clear that the consideration of non-fish and wildlife factors should be made by the Governor, not by the Project Owners in the Draft Program. The preferred alternative continues to create a dead-end river, with over a mile of dry streambed below the dam. Creating a dead-end river hardly mitigates the damages caused to fish and wildlife from the Project because it prevents connectivity between Knik Arm, the lower Eklutna River, the lake, and the upper tributaries. The preferred alternative cannot mitigate damages to sockeye in any way because it will continue to prevent nearly all anadromous sockeye from spawning in the Eklutna River system. Because the destruction of the sockeye run was the “specific concern” leading to the Agreement, a Program that continues to prevent almost all sockeye from spawning is impermissible.<sup>9</sup> The preferred alternative permits less than 10% of the river to flow down its historic channel to the Knik Arm, the smallest amount of any proposed alternative.<sup>10</sup>

High flows are essential to mimic beneficial flooding. Seven of the nine alternatives proposed much more water during high flows, yet the Draft Program Plan settles on the lowest water discharge for channel maintenance flows of all discharges proposed. The maintenance flow regime in the preferred alternative is severely inadequate because it fails to return the river to its natural flow. The 220 cfs maximum flushing flows in the Draft Program is less than 20% of the average flushing flows of 1,402 cfs that USFWS estimated would be necessary to recreate the flows that historically supported the natural fishery and created the natural river channel and off-channel habitat.<sup>11</sup> Worse, the Draft Program imagines the peak flow for just a few hours for just three out of every ten years before returning to conditions that approximate a severe drought. NOAA Fisheries concluded that the proposed flushing flows in the Draft Program “are unlikely to modify substrates and support habitat complexity in a meaningful way after nearly a century of limited impactful flow events.”<sup>12</sup> The chosen channel maintenance flow hardly mitigates for the Eklutna River’s deprivation of almost a century of flooding with a maximum recorded value of approximately 3,000 cfs.<sup>13</sup>

The AWWU Portal proposal provides no solution for the complete blockage of salmon reaching the extensive lake spawning habitat required by sockeye salmon (which was the key driver for the Agreement in the first place) and 15 miles of upper tributaries spawning habitat above the lake that is

---

Habitat Flow Assessment (July 14, 2019) <https://www.tu.org/wp-content/uploads/2019/06/Upper-Eklutna-FlowAssessment-071419-1.pdf>.

<sup>8</sup> Eklutna Draft Fish and Wildlife Program at 39-40.

<sup>9</sup> See Divestiture Report at 19.

<sup>10</sup> Eklutna Draft Fish and Wildlife Program, 39, 49.

<sup>11</sup> U.S. Fish and Wildlife Service, Upper Eklutna River Survey Preliminary Fish Habitat Flow Assessment.

<sup>12</sup> NOAA Fisheries, Comment Letter to Draft Fish and Wildlife Program (Dec. 5, 2023).

<sup>13</sup> McMillen Jacobs Associates, Initial Information Package at 77 (Sept. 2020)

[https://eklutnahydro.com/wpcontent/uploads/2020/10/200928-Eklutna-IIP\\_FINAL.pdf](https://eklutnahydro.com/wpcontent/uploads/2020/10/200928-Eklutna-IIP_FINAL.pdf)

highly amenable to Chinook and coho salmon.<sup>14</sup> Without a connection to Eklutna Lake, restoring those key spawning grounds and habitat is impossible. The Project Owners admit in the Draft Program that “no change in sockeye rearing habitat is anticipated.”<sup>15</sup> The proposed nominal flow releases from the AWWU Portal, which represent less than 10% of the inflows to Eklutna Lake, will only minimally enhance Chinook and coho salmon and their habitat in the lower Eklutna River and bear no resemblance to historic flows.<sup>16</sup>

As such, we do not support the AWWU Portal alternative because it does not provide for a connected ecosystem, as it:

- Fails to remedy the harms to sockeye salmon and their spawning habitat that instigated the Agreement and Program process;
- Leaves one mile of dry riverbed that prevents fish from reaching Eklutna Lake;<sup>17</sup>
- Blocks access to the majority of sockeye, Chinook, and coho salmon spawning and rearing habitat in the lake and its tributaries; and
- Delivers inadequate flows for fish below the Eklutna Lake dam.<sup>18</sup>

The Project Owners are not providing decision-makers and the public with the full range of alternative solutions and mitigation measures to meet the Agreement requirements. The Project Owners must select an alternative that would restore connectivity of Eklutna Lake and upper tributaries to the lower river.

### ***The Program’s Analysis of Non-Salmonid Wildlife is Severely Inadequate***

The Agreement’s protection, mitigation, and enhancement purpose is not limited to salmon but instead includes all fish and wildlife impacted by the Project. Reducing the ecological function of the tidal wetlands, lower river, lake, and upper tributaries from the Project’s impacts reduces the health of fish and wildlife throughout the watershed. However, the Draft Program is not built upon any surveys or studies of marine mammals and its consideration of terrestrial and avian wildlife and habitat is severely inadequate.

The wildlife habitat survey study area boundary was limited to the lower end of the lake, the current river channel corridor, and a section of the wetlands at the river mouth.<sup>19</sup> This study area boundary is insufficient and should have included the entire Eklutna watershed, including the upper tributaries, the

---

<sup>14</sup> See, e.g., Native Village of Eklutna, Eklutna Lake and Tributaries Salmon Habitat (2022) <https://static1.squarespace.com/static/5f52cd19995bf84b22653379/t/630683349fc05e329044d6bf/1661371211807/Lake+%26+Tributaries+Habitat.pdf>; See also e.g., McMillian Jacobs Associates, Eklutna Lake Aquatic Habitat and Fish Utilization, Year 2 Study Report Draft (2023) <https://eklutnahydro.com/wp-content/uploads/2023/04/Draft-Eklutna-Lake-Habitat-and-Fish-Y2-Report.pdf>; See also, e.g., Native Village of Eklutna, TWG 2021-2022 Final Report (Jul. 23, 2023).

<sup>15</sup> Eklutna Draft Fish and Wildlife Program at Appendix B-4 (emphasis added).

<sup>16</sup> McMillen, IIP at 77

<sup>17</sup> Eklutna Draft Fish and Wildlife Program at 46 (“Release of water from the portal valve will provide year-round flow to 11 of the 12 river miles.”).

<sup>18</sup> See, e.g., USFWS, Upper Eklutna River Survey Preliminary Fish Habitat Flow Assessment; see also, e.g., Trout Unlimited, Eklutna River Workshop: Summary of Outcomes, Recommendations, and Future Needs at 4-6.

<sup>19</sup> ABR, Inc., Eklutna Hydroelectric Project Wetlands and Wildlife Habitat Study Report Draft at 3 (Mar. 2023) <https://eklutnahydro.com/wp-content/uploads/2023/04/Draft-Eklutna-Wetlands-and-Wildlife-Habitat-Report.pdf>.

entire lake, and the off-channel stream areas in the lower river valley, given the Project harms to the whole Eklutna watershed ecosystem. Because of the limited study area, the wildlife analysis could not fully consider the protection, mitigation, and enhancement from all the alternatives, including the potential restoration of habitat from increasing flows and reconnecting the lower river to the lake and upper tributaries. Terrestrial and avian wildlife and habitat studies were primarily conducted via aerial surveys and literature reviews, both which have issues regarding their accuracy and the amount of place-specific detail they can provide.<sup>20</sup> A recent scientific review of the accuracy of wildlife aerial surveys stated that aerial surveys can be an efficient platform to collect observational counting data “across large spatial areas,” but which are far less well-suited for specific and small-scale geographies like the Eklutna survey area.<sup>21</sup> Furthermore, the review noted common errors such as “nondetection, counting error, and species misidentification” that if not adequately addressed at all stages of the study “can provide data that obscure animal-environment relationships or introduce biases into inferences.”<sup>22</sup> The Project Owners provide no details or assurances that their limited surveys addressed these common errors. Furthermore, aerial and other surveys for wildlife were extremely limited. For example, only one day of raptor aerial surveys were completed, four days of migratory shorebird and waterfowl surveys were completed, and three days of moose surveys were completed, all during 2022.<sup>23</sup> These surveys would not account for any annual variation in wildlife abundance or timing in the Eklutna watershed, as well as seasonal access limitations, among other issues. Wildlife habitat analysis relied on historic and current aerial photography with no ground vegetation surveys completed.<sup>24</sup> Scientific literature on Alaska wildlife and habitat is rarely area specific and is therefore not necessarily a valid representation of species using the Eklutna watershed either for their full lifecycles or for their migration routes or travel corridors.

Overall, the Plan recognizes that increasing the Eklutna River’s flow below the dam will “directly or indirectly benefit several ecologically and/or culturally important wildlife species” such as wolves, moose, raptors, and bears.<sup>25</sup> Yet, because of the severe lack of adequate baseline data, it is impossible to truly analyze and understand how the different alternatives would impact and potentially benefit all wildlife and their habitat and to what degree. For example, even though listed in the “observed or expected” wildlife list, the Draft Program fails to consider imperiled species like the Little brown bat (*Myotis lucifugus*) that rely on the Eklutna watershed and for which mitigation and enhancement of their foraging habitat in the lower Eklutna River valley, which is currently harmed by the Project, could be improved by increasing flows and rebuilding off channel habitat in the lower river.<sup>26</sup> The Draft Program also fails to analyze why certain wildlife populations appear to be below normal levels. For example, the Summary of Study Results notes that “[w]aterfowl and shorebird numbers in the study

---

<sup>20</sup> Chugach Electric Association, Matanuska Electric Association, and Municipality of Anchorage (“Project Owners”), Eklutna Hydroelectric Project Draft Summary of Study Results at 46-50 (Oct. 2023) <https://eklutnahydro.com/wp-content/uploads/2023/11/2023-10-27-Eklutna-Draft-Summary-of-Study-Results.pdf>.

<sup>21</sup> Davis, Kayla L. et al., Errors in aerial survey count data: Identifying pitfalls and solutions, 12 Ecology and Evolution e8733 (Mar. 18, 2022) <https://onlinelibrary.wiley.com/doi/10.1002/ece3.8733>.

<sup>22</sup> Id.

<sup>23</sup> Eklutna Draft Summary of Study Results at 46-49.

<sup>24</sup> Id. at 42-43; see, Email from Terry Schick, ABR Inc., to Carrie Brophil, NVE (Nov. 22, 2022 at 11:27AM) (on file with NVE).

<sup>25</sup> Eklutna Draft Fish and Wildlife Program at 53.

<sup>26</sup> ABR Inc., Eklutna Hydroelectric Project Terrestrial Habitat Study Report Draft at 23 (Mar. 2023) <https://eklutnahydro.com/wp-content/uploads/2023/04/Draft-Eklutna-Terrestrial-Wildlife-Report.pdf>.

area were moderate and low, respectively, during the field surveys” and that “[s]horebirds were noticeably absent during the spring surveys.”<sup>27</sup> This may be an example of a system that is in depression from nearly a century of harms from hydroelectric dams. These examples, and many others, highlight the Draft Program’s inadequacies in considering and rigorously analyzing how the different alternatives would impact all non-salmonid fish and wildlife in the Eklutna system and whether the preferred alternative provides adequate mitigation and enhancement.

Regarding marine mammals, the Draft Program fails to consider the protection, mitigation, and enhancement of Cook Inlet beluga whales (*Delphinapterus leucas*), one of the nation’s most critically endangered marine mammals. The best available science shows that Cook Inlet belugas could significantly benefit from increased salmon runs in the Upper Cook Inlet. Given the mouth of the Eklutna River is within designated critical habitat in upper Cook Inlet where the majority of the Cook Inlet beluga population forages during the summer, the critically endangered whales should be a primary concern for the Program.<sup>28</sup> The 2011 critical habitat designation for Cook Inlet belugas identified shallow intertidal and subtidal waters of Cook Inlet in close proximity to medium to high flow anadromous fish streams along with four species of Pacific salmon (Chinook, sockeye, chum, and coho) as essential to the beluga’s conservation (also known as Primary Constituent Elements).<sup>29</sup> NOAA Fisheries’ 2016 *Recovery Plan for the Cook Inlet Beluga Whale* identifies prey availability as a threat of medium concern for their recovery.<sup>30</sup> NOAA Fisheries acknowledges the heightened importance of prey availability, specifically Pacific salmon, for conserving Cook Inlet beluga whales. NOAA Fisheries has also identified Cook Inlet beluga whales as one of the species most at risk of extinction, and in their *Species in the Spotlight, 2021-2025 Action Plan*, state that, “[s]urvival and recovery of Cook Inlet beluga whales depend on an adequate quantity, quality, and accessibility of prey resources.”<sup>31</sup> In a recent notice to issue an Incidental Harassment Authorization (IHA) proposal from the Port of Alaska, NOAA Fisheries noted that, “Pacific salmon represent the highest percent frequency of occurrence of prey species in CIBW stomachs.”<sup>32</sup> The notice highlighted that rich foraging areas to the north of the Port of Alaska, including the Eklutna River, are important to belugas and that the whales correlate their movements into Knik Arm around the timing of the salmon runs in those rivers.<sup>33</sup> A recent 2023 study by Wild et al. delineated portions of Cook Inlet, including Knik Arm and the mouth of the Eklutna River, as a Biologically Important Area (BIA) for the small and resident population of Cook Inlet beluga whales based on scoring methods outlined by Harrison et al. in 2023.<sup>34</sup> The best available science shows that restoring abundant salmon runs may be one of the key strategies available for Cook Inlet beluga recovery by creating more foraging opportunities for belugas in upper Cook Inlet. The results of a 2020 study by Norman et al. suggest that “reproductive success in [Cook Inlet belugas] is tied to salmon abundance” in the Deshka

---

<sup>27</sup> Eklutna Draft Summary of Study Results at 47.

<sup>28</sup> 76 Fed. Reg. 20,180 (Apr. 11, 2011).

<sup>29</sup> 76 Fed. Reg. 20,203, 20,214 (Apr. 11, 2011).

<sup>30</sup> National Marine Fisheries Service, *Recovery Plan for the Cook Inlet Beluga Whale* at III-13 (2016).

<sup>31</sup> NOAA Fisheries, *Species in the Spotlight – Cook Inlet Beluga Whale, Priority Actions 2021-2025* at 14 (Apr. 21, 2021).

<sup>32</sup> 88 Fed. Reg. 76588 (Nov. 6, 2023).

<sup>33</sup> *Id.*

<sup>34</sup> Wild, Lauren A. et al., *Biologically Important Areas II for cetaceans within U.S. and adjacent waters – Gulf of Alaska Region*, *Front. Mar. Sci.* 10:1134085 (May 5, 2023); Harrison, Jolie, *Biologically Important Areas II for cetaceans within U.S. and adjacent waters – Updates and the application of a new scoring system*, *Front. Mar. Sci.* 10:1081893 (Mar. 14, 2023).

River, which is also located in upper Cook Inlet near Knik Arm and the Eklutna River.<sup>35</sup> That study showed that “if salmon runs remained at their current levels, the [Cook Inlet beluga] population would likely continue its current slow decline,” yet the study found that “if Chinook salmon increased 20% or more, the current decline would likely be reversed.”<sup>36</sup> Furthermore, the study simulations found that “doubling the salmon abundance would be sufficient to allow recovery of the population regardless of impacts from other threats.”<sup>37</sup> The study noted that while Chinook are the most nutritionally important salmon species for Cook Inlet belugas, belugas still rely on other salmon species as important prey.<sup>38</sup> Moreover, a recent 2023 study by McHuron et al. found that if there is enough prey available for Cook Inlet belugas, the whales can withstand other intermittent stressors, concluding that increasing prey availability increases the beluga’s resiliency to threats.<sup>39</sup> Another recent 2023 study by Warlick et al. stated that “aerial survey data suggest that the [Cook Inlet beluga] population continues to decline[, and the] leading hypotheses include reduced prey availability [...]”<sup>40</sup>

The proposed nominal flow releases from the AWWU Portal will only minimally enhance Chinook and coho salmon and their habitat in the lower Eklutna River. The AWWU Portal provides no solution for the complete blockage of salmon reaching the extensive lake spawning habitat required by sockeye salmon and miles of upper tributaries spawning habitat above the lake that is highly amenable to Chinook and coho salmon, both of which are primary forage species for Cook Inlet belugas.<sup>41</sup> Without connection to Eklutna Lake, protecting, mitigating, and enhancing those key spawning grounds and habitat is impossible. In turn, the mitigation and enhancement for Cook Inlet beluga whales are likely to be minimal as well. Furthermore, no analysis was completed for how the other alternatives considered would benefit Cook Inlet belugas. The Draft Program’s severely inadequate analysis of non-salmonid fish and wildlife fails to meet the purposes of the Agreement and the standard of a similar federal process, and severely inhibits the Governor’s ability to make an informed decision.

### **Conclusion**

The Eklutna Project is the limiting factor preventing the restoration of the Eklutna River that flows from its headwaters to its confluence with the Knik Arm. Plainly, the Project Owners’ Draft Program to continue to promote lack of connectivity of the ecosystem is inadequate to mitigate the Project’s harms to fish and wildlife. Adequate and equitable fish and wildlife protection, mitigation, and enhancement, as required by the Agreement, requires the lake and upper tributary streams to be connected to the lower river and adequate flows for salmon to thrive. As such, we request that the Project Owners

---

<sup>35</sup> Norman, S. et al., Relationship between per capita births of Cook Inlet belugas and summer salmon runs: age-structured population modeling, *Ecosphere* 11:1 (2020).

<sup>36</sup> Id. at 1, 9.

<sup>37</sup> Id. at 10.

<sup>38</sup> Id.

<sup>39</sup> McHuron, Elizabeth A. et al., Modeling the impacts of a changing and disturbed environment on an endangered beluga whale population, 483 *Ecological Modeling* 110417 (Sept. 2023).

<sup>40</sup> Warlick, A.J. et al., Identifying demographic and environmental drivers of population dynamics and viability in an endangered top predator using an integrated model, *Anim. Conserv.* (Oct. 6, 2023).

<sup>41</sup> See, e.g., Native Village of Eklutna, *Eklutna Lake and Tributaries Salmon Habitat* (2022)

<https://static1.squarespace.com/static/5f52cd19995bf84b22653379/t/630683349fc05e329044d6bf/1661371211807/Lake+%26+Tributaries+Habitat.pdf>; See also, McMillian Jacobs Associates, *Eklutna Lake Aquatic Habitat and Fish Utilization, Year 2 Study Report Final* (2023) [https://eklutnahydro.com/wp-content/uploads/2023/06/Eklutna-LakeStudy-Y2-Report\\_FINAL.pdf](https://eklutnahydro.com/wp-content/uploads/2023/06/Eklutna-LakeStudy-Y2-Report_FINAL.pdf); See also, Native Village of Eklutna, *TWG 2021-2022 Final Report*.

reconsider their proposed alternative, and instead promote methods which ensure a connected ecosystem.

On behalf of our organization, our members and supporters, and Alaska's wildlife, we appreciate your consideration of our comments.

Sincerely,



Nicole Schmitt  
Executive Director