



Eklutna Hydroelectric Project

1991 Fish & Wildlife Agreement Implementation

Public Safety Plan



August 2021

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1.0 Introduction

The Eklutna Hydroelectric Project (Project) is located in Southcentral Alaska approximately 30 miles northeast of downtown Anchorage near the Native Village of Eklutna (NVE). The Project was originally constructed by the Federal government in the 1950s but was later sold to, and is currently owned by, the Municipality of Anchorage (MOA), Chugach Electric Association (Chugach), and Matanuska Electric Association (MEA), collectively the “Project Owners”.

As part of the sale of the Project, the current Project Owners entered into the 1991 Fish and Wildlife Agreement (1991 Agreement) with the National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), and the State of Alaska, collectively the “Parties”. The 1991 Agreement requires the Project Owners to fund and conduct studies to examine, and quantify, if possible, the impacts to fish and wildlife from the hydroelectric development of the Project. The studies must examine and develop proposed protection, mitigation, and enhancement (PME) measures to address those impacts. This examination must also consider the impact of fish and wildlife measures on electric rate payers, municipal water utilities, recreational users, and adjacent land use, as well as available means to mitigate these impacts. In late 2020 and early 2021 the Project Owners developed study plans in consultation with the Technical Work Group (TWG) including:

- Native Village of Eklutna (NVE)
- U.S. Fish and Wildlife Service (USFWS)
- National Marine Fisheries Service (NMFS)
- Alaska Department of Fish and Game (ADFG)
- Trout Unlimited (TU)
- Alaska Pacific University (APU)

As required by the 1991 Agreement, the Proposed Final Study Plans were distributed to the Parties for review and concurrence on the scope of work. The Project Owners received concurrence letters from the following agencies:

- U.S. Fish and Wildlife Service (USFWS)
- National Marine Fisheries Service (NMFS)
- Alaska Department of Fish and Game (ADFG)
- Alaska Department of Environmental Conservation (ADEC)
- Alaska Department of Natural Resources (ADNR)
- Alaska Department of Transportation and Public Facilities (ADOT&PF)

The State agency concurrence letters and the Proposed Final Study Plans were sent to the Alaska Energy Authority (AEA) as the Governor’s representative for review and feedback; however, the Project Owners did not receive any additional feedback from AEA.

The Project Owners have also coordinated with the appropriate entities to obtain all necessary permits and authorizations. The following entities required and have issued permits or authorizations for the implementation of the Final Study Plans in 2021.

- Alaska Department of Fish and Game (ADFG)
- Alaska Department of Natural Resources (ADNR), including:
 - Water Resources Section
 - Dam Safety Program
 - Chugach State Park
- U.S. Army Corps of Engineers (USACE)
- Eklutna, Inc.

1.1 Controlled Flow Releases

The Final Study Plans include releasing controlled flows from the existing dam at the outlet of Eklutna Lake into the Eklutna River in the fall of 2021. The current flow release schedule is shown below. It should be noted that the flow release schedule is subject to change.

- Monday, September 13 – Initiate flow releases at 150 cfs
- Friday, September 24 – Decrease flows to 75 cfs
- Wednesday, September 29 – Decrease flows to 25 cfs
- Wednesday, October 6 – Decrease flows to 0 cfs

1.2 Public Safety Concerns

Since the project was constructed, all outflows from Eklutna Lake, with the exception of any spill events, have been diverted through a 4.5-mile-long tunnel north to a power plant located on the Knik River. This has resulted in the Eklutna River being almost completely dry for the first few miles below the existing dam. Accretion from some relatively small tributaries in the upper river adds up to approximately 5-10 cfs over the next few miles of the Eklutna River. Thunderbird Creek is the main tributary to the lower Eklutna River and contributes approximately 30-70 cfs on average. Therefore, the controlled flow releases in 2021, especially the 150 cfs flow release, will represent a significant increase in the overall instream flows throughout the Eklutna River. Although there is no official public access to the Eklutna River, the river is still open for fishing, and trespassing to access the river does occur. During the study planning process, several entities raised concerns regarding unusual high flow conditions in the river and public safety.

There is also a large amount of sediment that accumulated behind an old dam in the lower Eklutna River, which was recently removed in 2018 by The Conservation Fund, Eklutna, Inc, and NVE. It should be noted that the sediment itself was not removed as part of the project, and the controlled flow releases in 2021 will be the first time there have been any significant flows in the Eklutna River since the lower dam removal. Therefore, the flows are likely to mobilize and transport a large portion of the accumulated sediment downstream. Both ADOT&PF and the Alaska Railroad Corporation (ARRC) have expressed

concern that the sediment will deposit downstream near their respective bridges and cause negative impacts, which is a public safety concern.

In addition to the potentially hazardous conditions in the Eklutna River itself, there are public safety concerns associated with the pond upstream of the dam. People are known to kayak and paddleboard in the pond between the dam and the lake outlet, especially during the late summer and early fall when the water level is high enough that the lake and the pond are connected. There is also a public use cabin adjacent to the pond, and people have been observed swimming in the pond just upstream of the dam, although this activity is more popular in the summer. With this in mind, the Project Owners have concerns that the flow releases through the drainage gate at the base of the spillway may create potentially dangerous undercurrents for any recreational users in the pond at that time.

2.0 Public Safety Measures

The Project Owners will implement the following measures to address the public safety concerns associated with the controlled flow releases in 2021.

2.1 Signage

In advance of the flow releases, the Project Owners will place signage at all known access points to the Eklutna River, including but not limited to:

- The pullout on the Old Glenn Highway across from Eklutna Lake Road
- The footpath that leads down to the Eklutna River near the Thunderbird Falls trailhead
- The footpath that leads down to Thunderbird Creek from the Thunderbird Falls trail
- Both entrances to the Anchorage Water and Wastewater Utility (AWWU) access road
- The access road to the Project dam

The signs will stay in place throughout the duration of the flow releases. Figure 1 below shows the proposed signage. The actual content and exact location of each sign will be coordinated with Eklutna, Inc., NVE, Chugach State Park, and AWWU.

In addition, one or more signs will be placed on the footpath adjacent to the pond upstream of the dam near the public use cabin. The sign(s) will stay in place throughout the duration of the flow releases. Figure 2 below shows the proposed signage. The actual content and exact location of the sign(s) will be coordinated with Chugach State Park.



Figure 1. Proposed signage at the river access points



Figure 2. Proposed signage near the pond

2.2 Notifications

2.2.1 Project Stakeholders

The Project Owners shared the general flow release schedule with the stakeholder group during the quarterly update call held on August 23, 2021. The detailed flow release schedule will also be sent to all stakeholders via email in advance of the flow releases.

2.2.2 Downstream Landowners

In addition to the email notification that will be sent to all stakeholders, a formal notification with the flow release schedule will be sent to all of the downstream landowners, including:

- Native Village of Eklutna
- Eklutna, Inc.
- Alaska Railroad
- ADOT&PF
- AWWU
- Chugach State Park

All downstream landowners will also be notified of any changes to the flow release schedule as soon as is feasible. In addition, the Project Owners will coordinate with the Chugach State Park superintendent to ensure that all park rangers and the campground host are aware of the flow release schedule and potentially hazardous conditions in the pond during that time.

2.2.3 Native Village of Eklutna

The NVE Land and Environment Department is planning to distribute flyers to all tribal residents within the area. The Project Owners will continue to coordinate with NVE regarding this effort and provide support as needed.

2.2.4 Lifetime Adventures Alaska

Lifetime Adventures operates the kayak rental facility at the north end of the lake near the lakeside trailhead. The Project Owners will notify the owner of Lifetime Adventures of the flow release schedule and potentially hazardous conditions in the pond during that time.

2.3 Sediment Transport Monitoring

The Project Owners have reviewed all relevant available data and do not anticipate any negative impacts to downstream infrastructure. However, out of an abundance of caution, the Project Owners have installed staff gages in the riverbed near the New Glenn Highway bridges and the railroad bridge in order to monitor these locations for any unanticipated deposition or scour.

The day after each flow release is initiated, field staff will observe both staff gages and record the base water level at each staff gage. Field staff will then monitor the staff gages on a daily basis for any

significant change in water level. A significant increase in water level would indicate that unanticipated deposition is occurring at that location, while a significant decrease in water level would indicate that unanticipated scour is occurring. See Table 1 below for the identified warning and action limits.

Table 1. Warning and Action Limits

	Scour Elevation Change (ft)	Deposition Elevation Change (ft)
Warning Limit	1.5	2.0
Action Limit	3.0	4.0

Note that these limits are consistent with the Infrastructure Sediment Monitoring Plan that is currently being implemented by Eklutna, Inc. as required by their USACE permit for the lower dam removal. If changes in the water level at either location exceed the warning limit, both Eklutna, Inc. and the respective bridge owner will be contacted as soon as possible. If changes in the water level at either location exceed the action limit, both Eklutna, Inc. and the respective bridge owner will be contacted as soon as possible, and appropriate corrective actions will be discussed.