Eklutna Hydroelectric Project

Water Quality Study

Year 1 Interim Report

DRAFT

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Terms, Acronyms, and Abbreviations

ADEC	Alaska Department of Environmental Conservation
AWWU	Alaska Water and Wastewater Utility
°C	Celsius
cfs	cubic feet per second
DO	dissolved oxygen
ft	feet
FSP	Final Study Plans
i.e.	id est (in other words)
m	meter
mg/l	milligrams per liter
NIST	National Institute of Standards and Technology
NMFS	National Marine Fisheries Service
NTU	nephlometric turbidity units
pH	potential of hydrogen (basic or acidic scale of liquids)
PME	protection, mitigation, and enhancement
RM	river mile
TWG	Technical Working Group
TSI	trophic state index
TSS	total suspended solids

1 INTRODUCTION

The Water Quality Study was initiated in 2021 in accordance with Section 3.5 of the May 2021 Final Study Plans (FSP). As noted in the FSP, and based on early outreach efforts, the main goals of the agencies and interested parties is to find a new balance amongst the uses of water in the Eklutna River basin, including power production, potable water supply, and fish habitat. Potential flow related protection, mitigation, and enhancement (PME) measures include the potential for providing a flow regime into the Eklutna River that would accomplish habitat restoration and increase the anadromous fish production of the river.

As a requirement of the 1991 Fish and Wildlife Agreement, a comprehensive study program is being enacted to assess the biological community, water quality, instream flow-fish habitat relationships, and geomorphological processes within the Eklutna River. Quantitative assessment of certain water quality parameters in Eklutna Lake and at select Eklutna River locations is an important component to assist with evaluating the effectiveness potential future flow releases and other aquatic habitat improvement measures.

This Year 1 Interim Report provides continuous or monthly instantaneous water quality data from mid-May through early October of 2021 at two monitoring locations in Eklutna Lake and four monitoring stations within the Eklutna River. The monitoring of Eklutna Lake and Eklutna River water temperatures will continue over the winter and through the fall of 2022. In addition, a second season of chlorophyll *a* sampling will occur to verify the trophic state index (TSI) of Eklutna Lake. The water temperature record and TSI ranking for the 2022 field season will be summarized and presented in the Year 2 Final Report.

2 STUDY OBJECTIVES

The goal of the Water Quality Study was to gain a better understanding of seasonal water quality parameters within Eklutna Lake and the Eklutna River in comparison to criteria established by the Alaska Department of Environmental Conservation (ADEC). A detailed summary of data collection objectives includes:

- Collect continuous water temperature data in Eklutna Lake and the Eklutna River
- Collect continuous pH and dissolved oxygen (DO) data in the Eklutna River as well as *in situ* profiles of these two water quality parameters in Eklutna Lake
- Collect total suspended solids (TSS) and turbidity samples in the Eklutna River at base flows and during at least one controlled flow release event
- Collect total phosphorus, chloropyll *a,* and secchi depth data in Eklutna Lake to determine its trophic status

3 STUDY AREA

3.1. Eklutna River

Water quality study site locations in the Eklutna River are depicted in Figure 3-1; a description of these locations is summarized below:

- Water Quality Station 1 – located just above the Thunderbird Creek confluence and below the lower dam site (temperature, DO, pH, turbidity, TSS)
- Water Quality Station 2 – located above the lower dam site near the downstream end of the AWWU access road (temperature, DO, pH, turbidity, TSS)
- Water Quality Station 3 – located in the upper river downstream of alluvial fan/sediment inputs from adjacent stream banks (turbidity, TSS)
- Water Quality Station 4 – located in the upper river upstream of alluvial fan/sediment inputs from adjacent stream banks (turbidity, TSS)

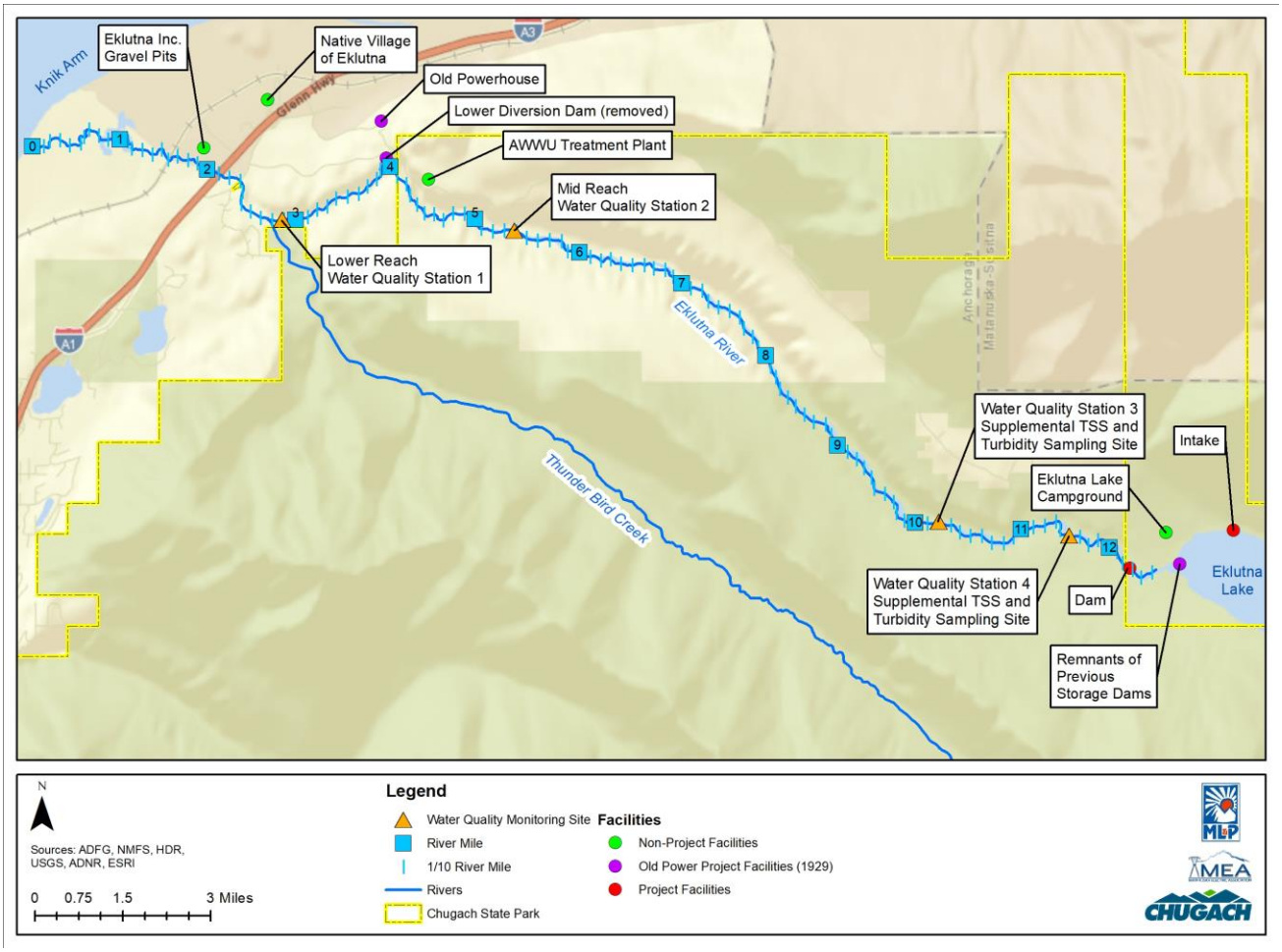

Figure 3-1. Water quality study site locations in the Eklutna River.

3.2. Eklutna Lake

Lake sampling occurred at locations where water may be released downstream into the Eklutna River. Water quality study site locations in Eklutna Lake are depicted in Figure 3-2; these locations are:

- Thermistor String 1 – located in Eklutna Lake near the Project intake structure (temperature, DO, pH, nutrients, secchi depth)
- Thermistor String 2 – located in the pond near the Project dam in front of the spillway (temperature, DO, pH, nutrients, secchi depth)

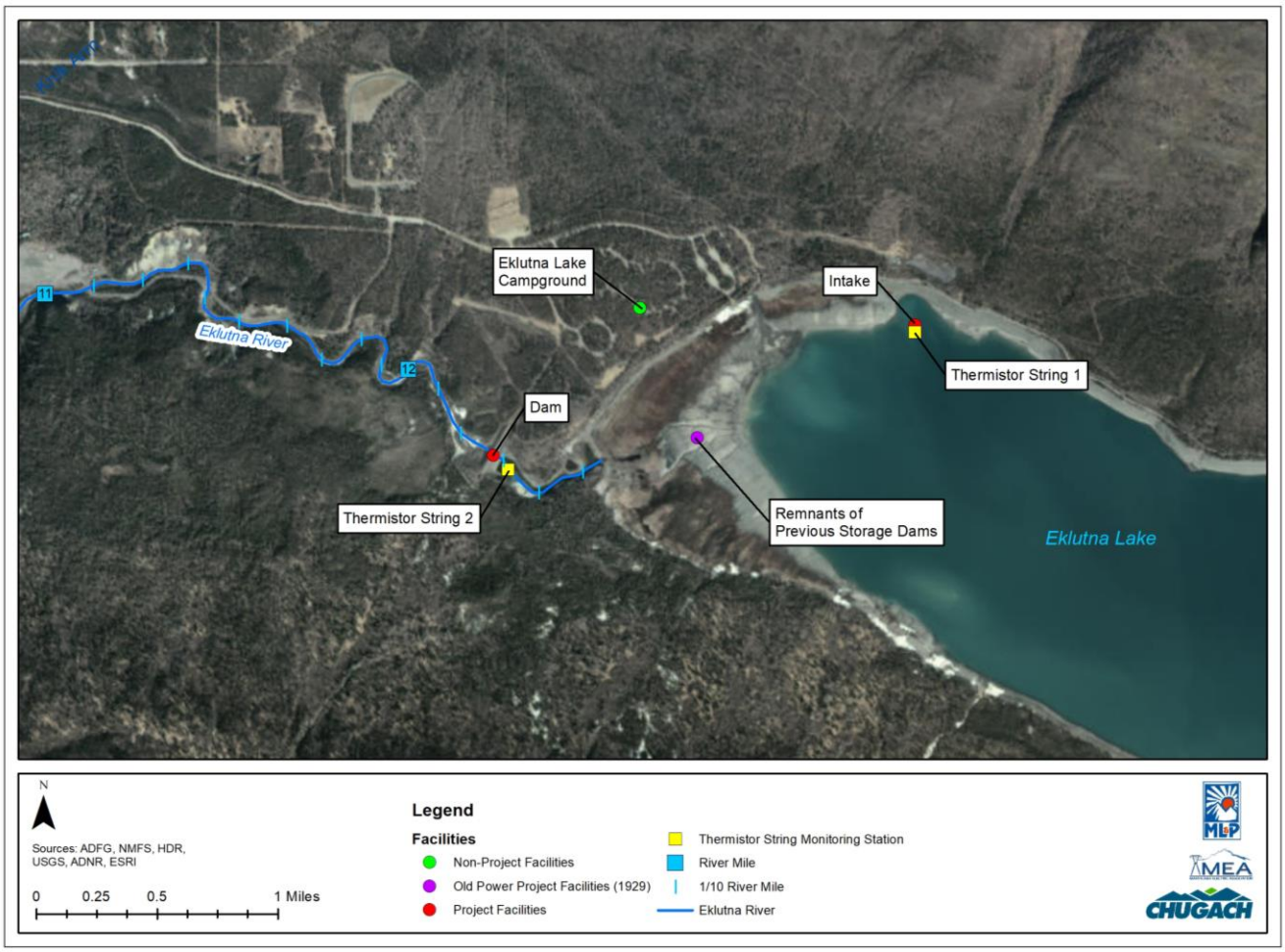

Figure 3-2. Water quality study site locations in Eklutna Lake.

4 METHODS

4.1. Water Temperature

Calibrated thermographs were utilized to continuously record water temperatures in both the Eklutna River and Eklutna Lake during the ice-free season from May or June of 2021 through late September of 2021. Field procedures, as well as pre-deployment instrument calibration, followed techniques detailed by Ward (2011). Following the final water quality field trip in late September of 2021, water temperature instruments remained deployed to provide a winter temperature record as well as the potential for a second monitoring season in the spring, summer, and fall of 2022.

4.1.1. Eklutna River Temperature

Water temperature was continuously monitored in the Eklutna River at Water Quality Station 1 and Water Quality Station 2 using Onset ProV2 thermographs. Loggers were installed on May 18-19, 2021, and last downloaded on September29, 2021. Thermographs were programmed to collect data every 30 minutes. During each of the monthly field inspections and data download efforts, *in situ* water temperature measurements were collected with a National Institute of Standards and Technology (NIST) certified thermometer to validate the accuracy of thermograph readings. Following the final data retrieval on September 29, 2021, temperature loggers remained deployed, continuing to log data every 30 minutes for the assessment of temperature conditions during the winter.

4.1.2. Eklutna Lake Temperature

A thermistor string was deployed using a buoy and anchor system at each of the two lake sites (Figure 4-1). Thermistor String 2 in the pond was deployed on May 20, 2021, while the Thermistor String 1 in Eklutna Lake was deployed on June 23, 2021. Continuous temperature sampling occurred at two distinct depths in the water column. For the Thermistor String 1 site near the Project intake, 30-minute temperature sampling occurred at 0.5 meters below the water surface and at a lake bottom elevation of 793.6 feet (the approximate elevation of the intake). For the Thermistor String 2 site near the existing dam in front of the spillway, 30-minute temperature sampling occurred at 0.5 meters below the water surface and at a pond bottom elevation of approximately 852 feet (the elevation of the drainage outlet gate).

Similar to the Eklutna River stations, *in situ* measurements of water temperature were taken with a calibrated water quality sonde to validate logger data during each of the monthly field maintenance and data download efforts. Following the final data retrieval on September 28, 2021, temperature loggers remained deployed, continuing to log data every 30 minutes for the assessment of temperature conditions during the winter.

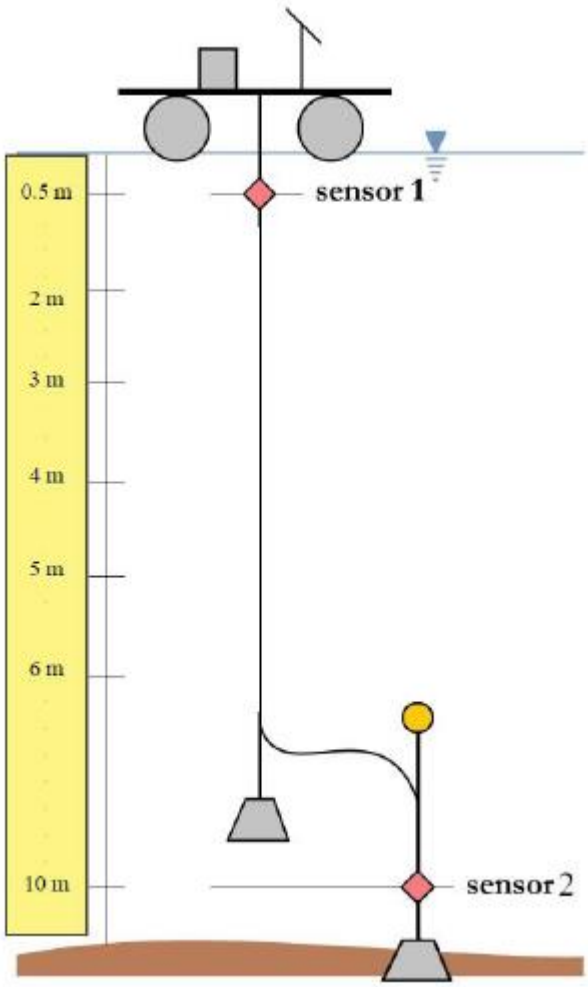

Figure 4-1. Thermistor string schematic for water temperature monitoring in Eklutna Lake.

4.2. Dissolved Oxygen (DO) and pH

4.2.1. Eklutna River DO and pH

Calibrated Onset U26-001 DO loggers and MX2501 pH data loggers were deployed at Water Quality Station 1 and Water Quality Station 2 in the Eklutna River during the ice-free season from June 22 – September 29, 2021 and collected data every 30 minutes. The summer sampling period was prioritized to represent the time frame when DO concentrations are typically at their lowest, in response to water temperatures being at their warmest (Allan, 1995). The continuous monitoring of DO and pH also provided an assessment of diel (i.e., 24 hour) changes in DO concentrations and pH within the Eklutna River. Per manufacturer suggestions, a spot check of DO and pH levels were measured with a calibrated water quality sonde during each monthly field maintenance and data download effort. These check measurements served as confirmation of calibration integrity during the deployment period. Following the final field calibration check and data retrieval effort on September 29, 2021, DO and pH temperature loggers were removed, signifying the completion to this component to the water quality study.

4.2.2. Eklutna Lake DO and pH

Monthly DO and pH data were collected as *in situ* profile readings at the two lake stations during the ice-free period from May 20 to September 29, 2021, in the pond and from June 23 to September 29, 2021, in Eklutna Lake. DO and pH profile data were collected at 3-foot depth intervals for the entire water column utilizing a water quality sonde calibrated to manufacturer recommendations.

4.3. Eklutna Lake Trophic Status

The mid-summer lake profiling on July 14, 2021, also included the determination of secchi depth, as well as the collection of total phosphorus and chlorophyll *a* samples. The assessment of these 3 lake parameters were utilized to provide an index of lake productivity based on Carslon (1977). Water samples for phosphorus and chlorophyll *a* were collected near the surface of the lake and just above the lake bottom utilizing a Van Dorn sampler at the two lake monitoring sites. The Van Dorn sampler was flushed with on-site lake water prior to collection at each site and depth strata. Collected water samples for total phosphorus were transferred to pre-labeled laboratory-supplied bottles while chlorophyll *a* water samples were filtered through 0.45 µm filters and wrapped in aluminum foil. Both the phosphorus and chlorophyll *a* samples were placed immediately on ice then delivered to analytical laboratories on the same day that the samples were collected. Total phosphorus samples were processed and analyzed by SGS Laboratories in Anchorage, AK. SGS Laboratories does not offer chlorophyll *a* analysis nor did several other Anchorage area laboratories which were contacted. Following a brief discussion with the Aquatics Technical Working Group (TWG) members, chlorophyll *a* concentrations were quantified by a Aquatics TWG participant, Professor Erin Larson, PhD at Alaska Pacific University.

4.4. Eklutna River Turbidity and Total Suspended Solids (TSS)

4.4.1. Eklutna River Continuous Turbidity Study

Due to safety concerns from a potential mass wasting event during the 150 cfs flushing flow period, continuous turbidity data was monitored for the final 9 days of study flow releases conducted for the Instream Flow Study (Section 3.1 of FSP). Calibrated water quality sondes were deployed at all four water quality stations on September 27, 2021, during the 75 cfs study flow release and set to collect turbidity data every 60 minutes. Flows were down-ramped to 25 cfs on September 29, 2021, and then down-ramped to the zero-flow release condition on October 6, 2021. Continuous turbidity data collection ended approximately 24 hours after the flow releases ended on October 6, 2021.

4.4.2. Eklutna River *In-situ* Turbidity and TSS Sampling

An independent *in situ* assessment of turbidity and TSS was conducted at all four water quality stations in the Eklutna River. *In situ* turbidity sampling was conducted to check the accuracy of the water quality sondes, while TSS samples provided support to the Geomorphology and Sediment Transport Study (Section 3.2 of FSP) to roughly assess solid-phase material (i.e.

sediment) being transported within the water column. Turbidity and TSS samples were collected as grab samples by lowering a 500 ml Nalgene bottle at mid-depth in the thalweg of the channel during the 75 cfs study flow release (September 27) as well as 24 hours after flow releases ended and the river was returning to base flow conditions (October 6). Collected samples were immediately stored on ice and transported to SGS Laboratories in Anchorage, AK for analysis following Standard Methods SM21 2130B and SM21 2540D for turbidity and TSS respectively (APHA, 2017).

5 RESULTS

5.1. Water Temperature

5.1.1. Eklutna River Temperature

Figure 5-1 shows the time series of mean daily water temperature recorded at Water Quality Station 1 and Water Quality Station 2. Under existing conditions; peak water temperatures in the Eklutna River were just above 9.5°C and 6.0°C at Water Quality Stations 1 and 2 respectively. Also, water temperatures at Water Quality Station 1 are consistently higher than Water Quality Station 2 under base flows. During the study flow releases, temperatures increase substantially and become nearly isothermal at the two monitoring stations.

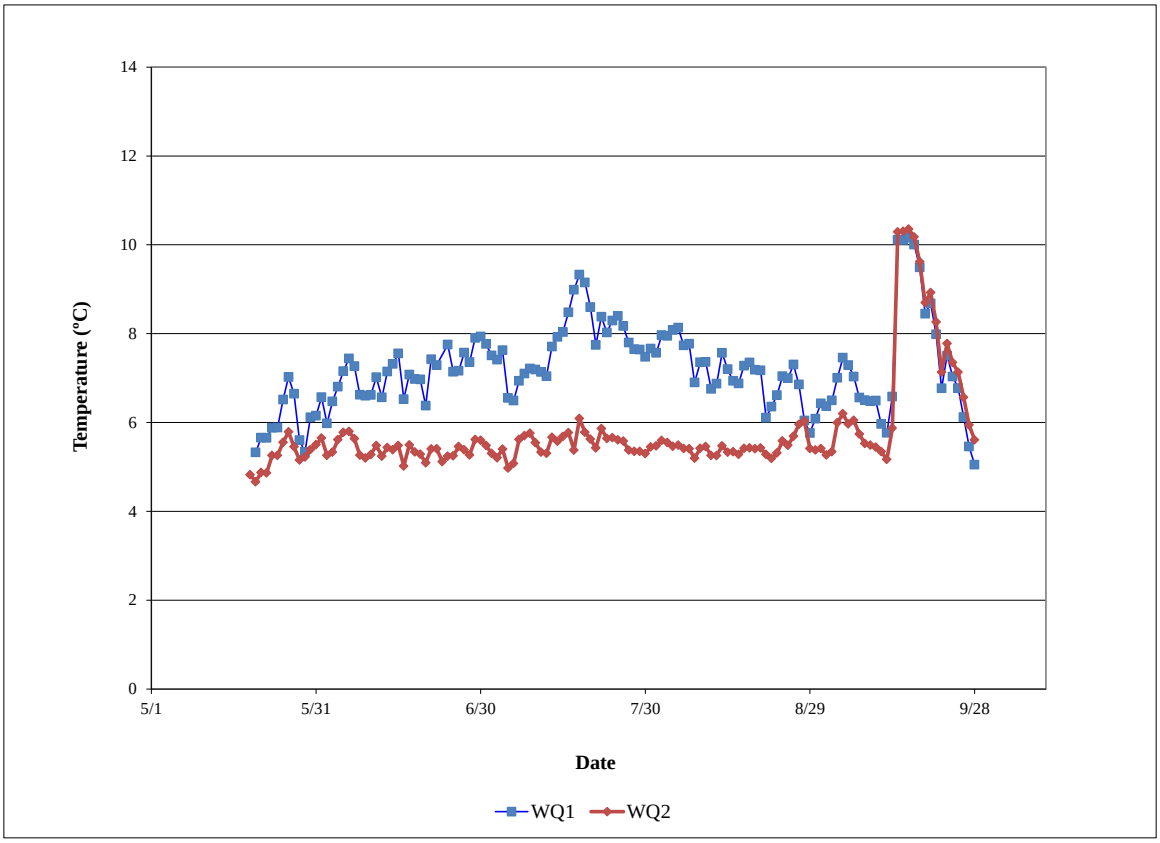

Figure 5-1. Eklutna River Water Quality Stations 1 and 2 mean daily water temperature.

5.1.2. Eklutna Lake Temperature

Figures 5-2 and 5-3 show the time series of continuous mean daily water temperatures recorded at Eklutna Lake and Eklutna Pond, respectively. During the 2021 monitoring season, surface water temperatures were higher than temperatures at depth in both Eklutna Lake and the pond. Eklutna Lake mean daily surface temperature exceeded the ADEC migratory route criteria of 15°C on one day during the summer (July 19), while mean daily temperature near the intake never exceeded the ADEC criteria of 13°C for spawning, rearing, and incubation. Eklutna pond mean daily surface temperatures exceeded 15°C for 24 days in 2021 (July 16-August 8). Near the pond outlet gate (at depth), mean daily temperature never exceeded 15°C, but exceeded 13°C for 24 days (July 18-August 10).

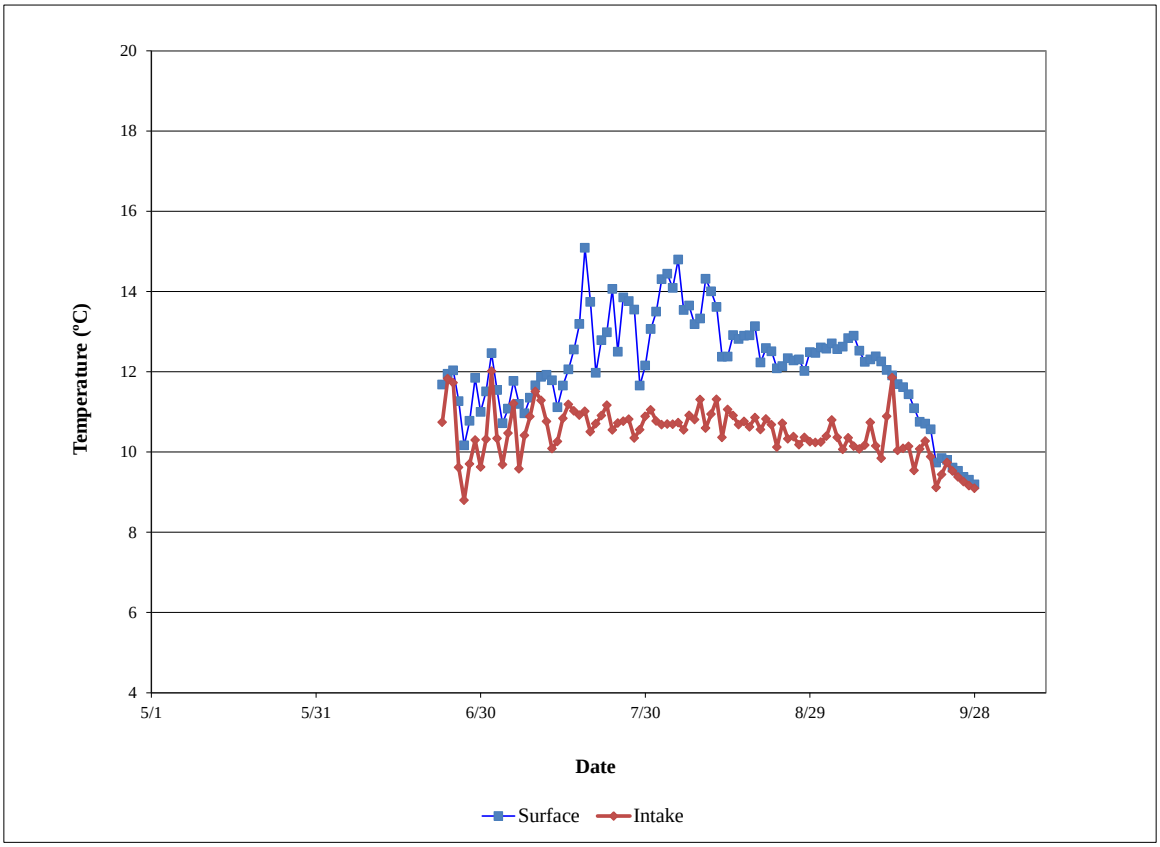

Figure 5-2. Eklutna Lake mean daily water temperature.

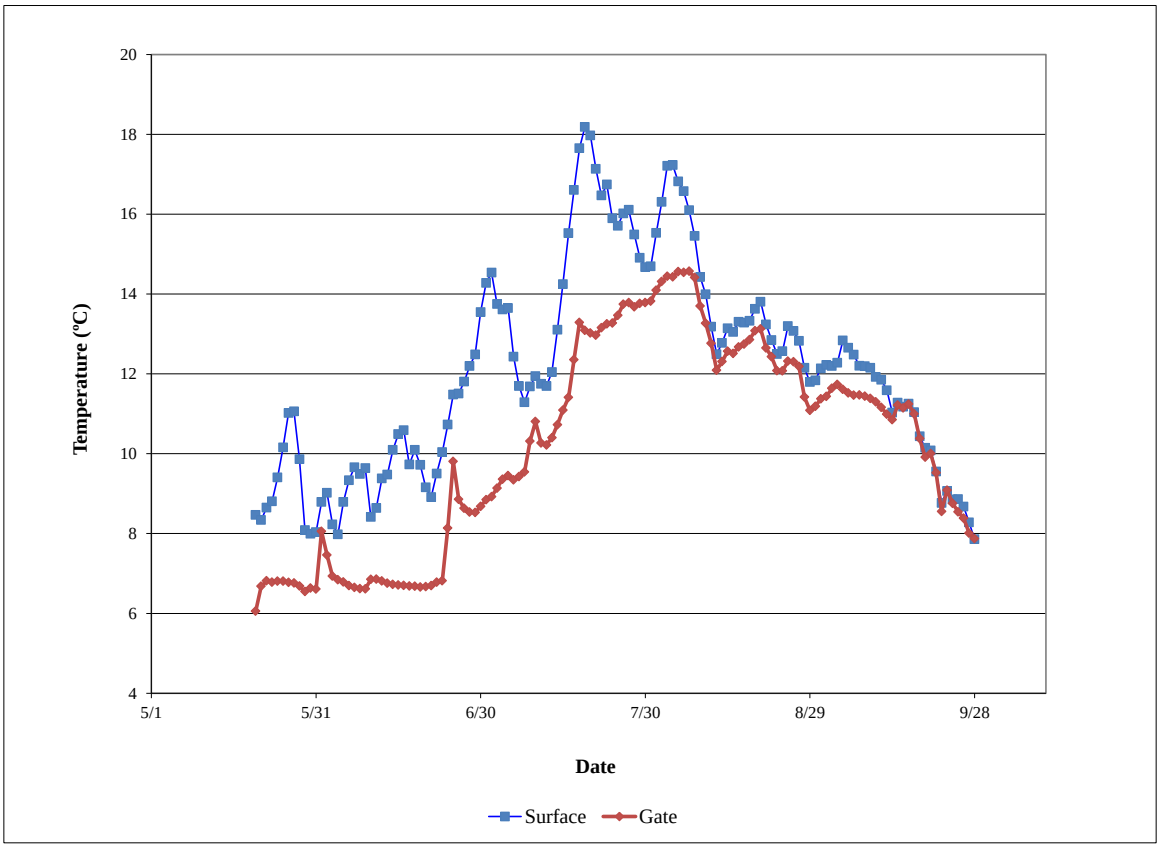

Figure 5-3. Pond mean daily water temperature.

Figures 5-4 and 5-5 show water temperature profile data collected monthly at Eklutna Lake and the pond, respectively. Water temperature profiles in Eklutna Lake indicate minor stratification in mid-summer, differing by about 2°C between the surface and intake in August, and returning to a nearly isothermal condition by late September. Temperature profiles in the pond followed a similar pattern with peak temperatures at the surface and at depth occurring in late August. In addition, the uniform temperature condition throughout the water column is detected in late September.

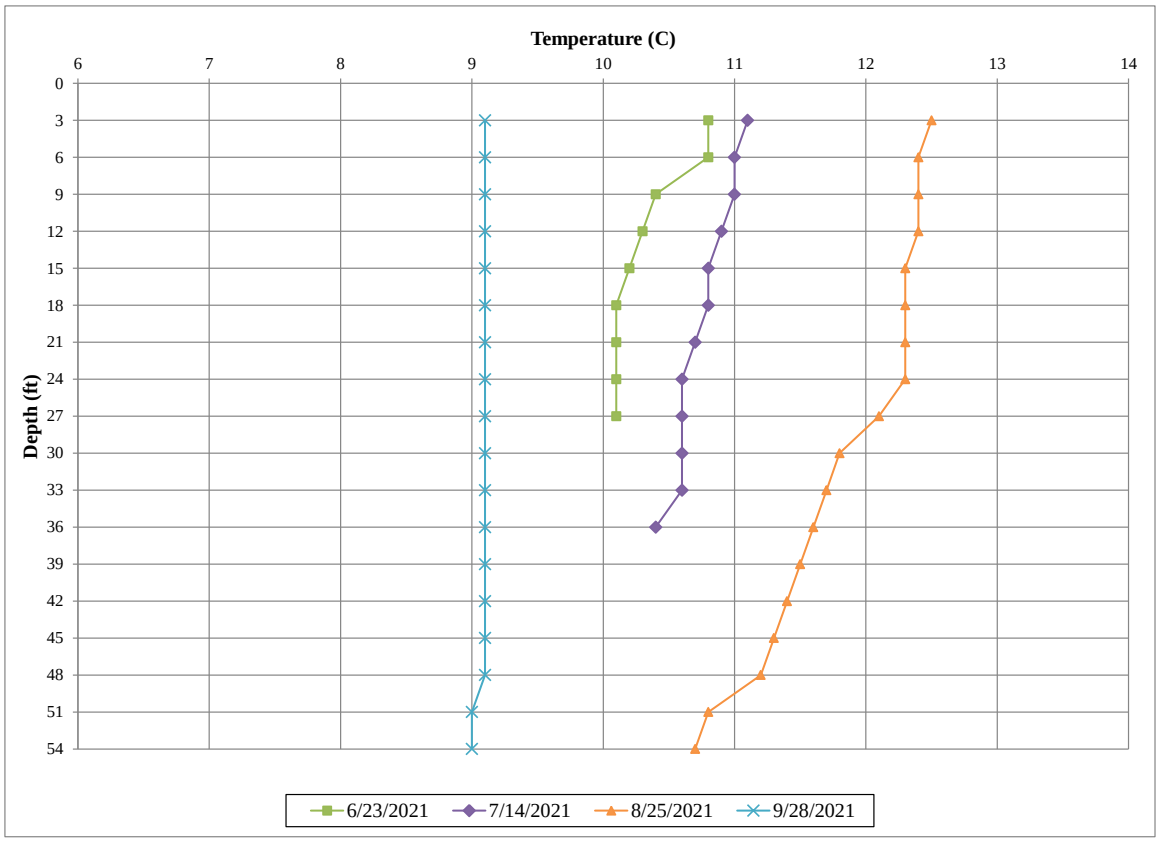

Figure 5-4. Eklutna Lake water temperature depth profiles.

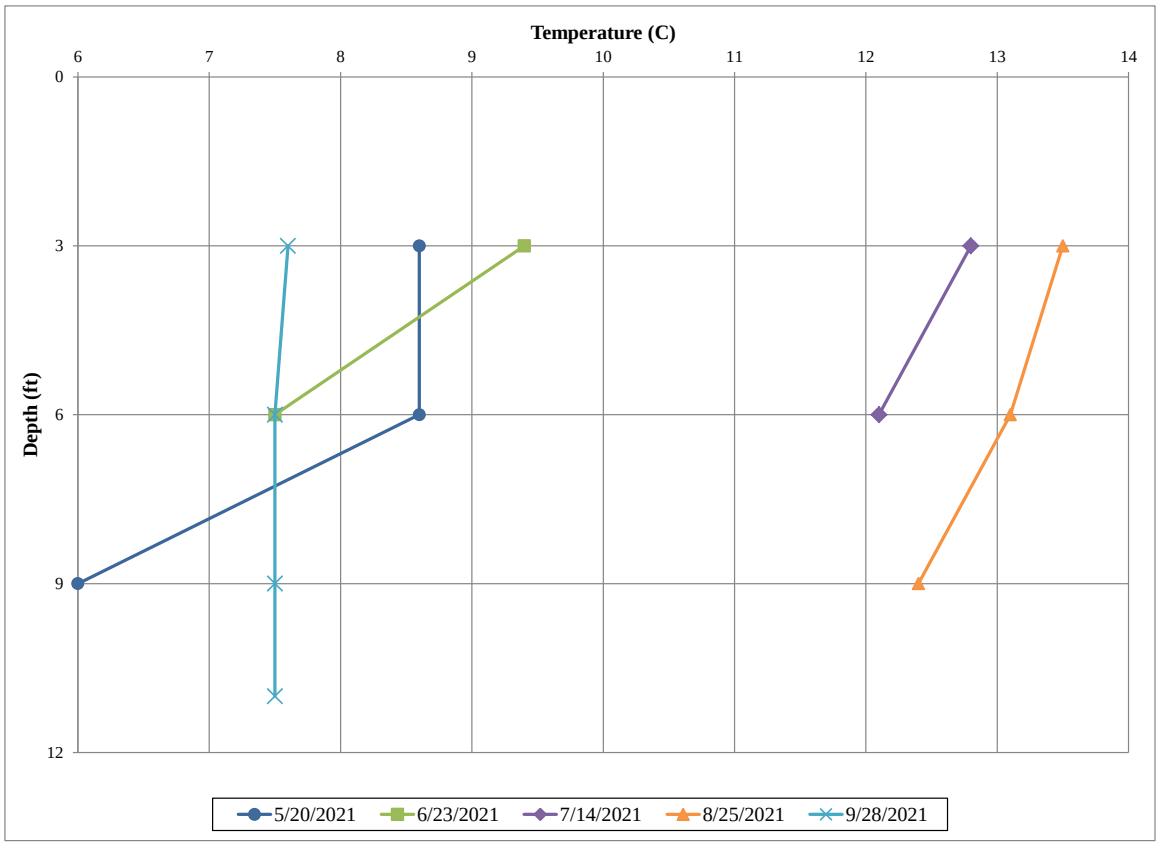

Figure 5-5. Pond water temperature depth profiles.

5.2. Dissolved Oxygen (DO) and pH

5.2.1. Eklutna River DO

Figure 5-6 shows the time series of continuous DO data recorded at Water Quality Station 1 and Water Quality Station 2. DO in the Eklutna River was above 10mg/l, at both stations except during the 150 cfs and 75 cfs study flow releases from September 13-29. At Water Quality Station 1, DO was lower than the ADEC fish criteria of 7mg/l for much of the 150 cfs and 75 cfs flow release period (September 13-29). At Water Quality Station 2, DO was lower than 7mg/l for only one day at the beginning of the 150 cfs flow release period (September 13). Given that the DO sensors rely on optical technology, it is likely these DO readings are not accurate at the high turbidity levels encountered during the study flow releases. Confirmation of erroneous data is evident in the fact that DO levels recorded during the study flow release were extremely noisy at Water Quality Station 1 and that DO concentrations returned to pre-release levels as the turbidity levels decreased.

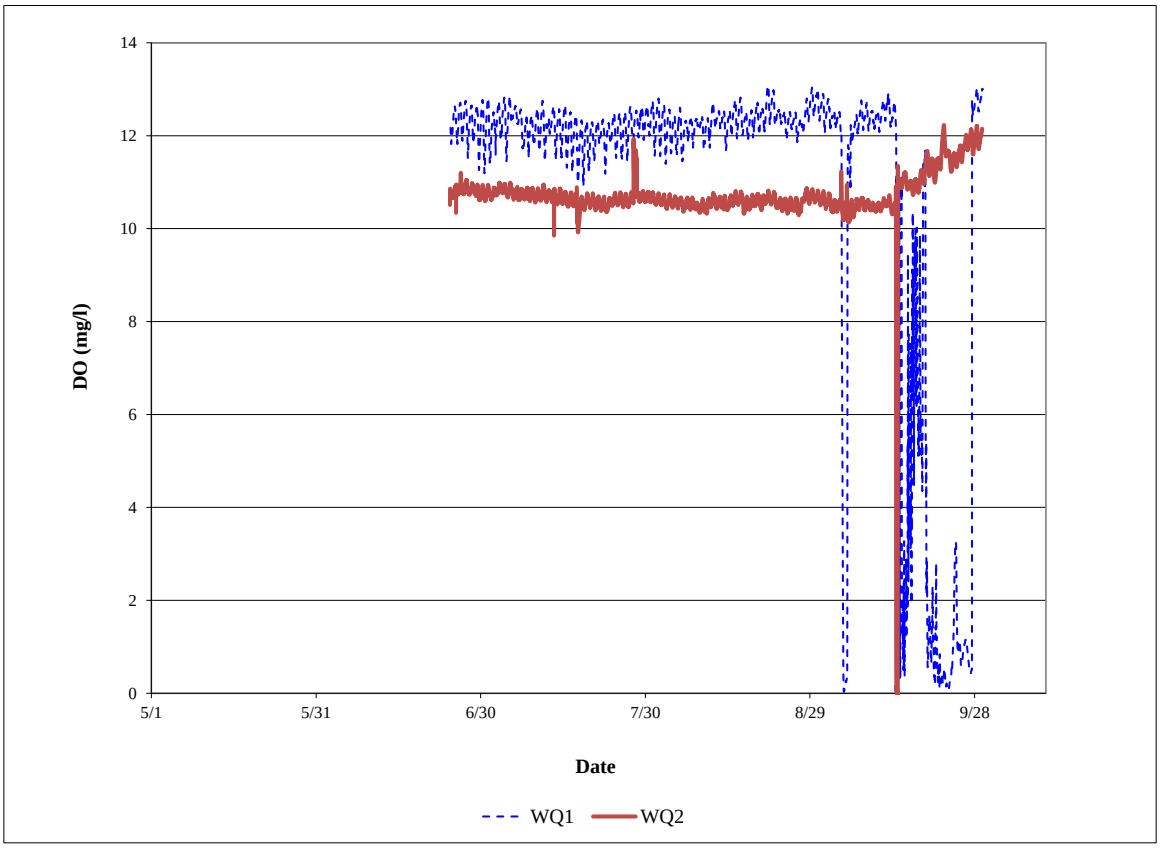

Figure 5-6. Eklutna River Water Quality Stations 1 and 2 dissolved oxygen.

5.2.2. Eklutna Lake DO

Figures 5-7 and 5-8 show DO concentration and the DO saturation profile data collected monthly at Eklutna Lake. Figures 5-9 and 5-10 show DO concentration and the DO saturation profile data collected monthly at the pond. DO levels in Eklutna Lake exceeded 10mg/l at all depths on all occasions that depth profiles were recorded. DO concentrations in the pond were lower than ADEC criteria of 7mg/l only at the drainage outlet gate (at depth) in the spring and early summer (May 20 and June 23). DO saturation ranged from 96% to 103% in Eklutna Lake, while the pond was much more variable with DO saturation ranging from 33% up to 155%.

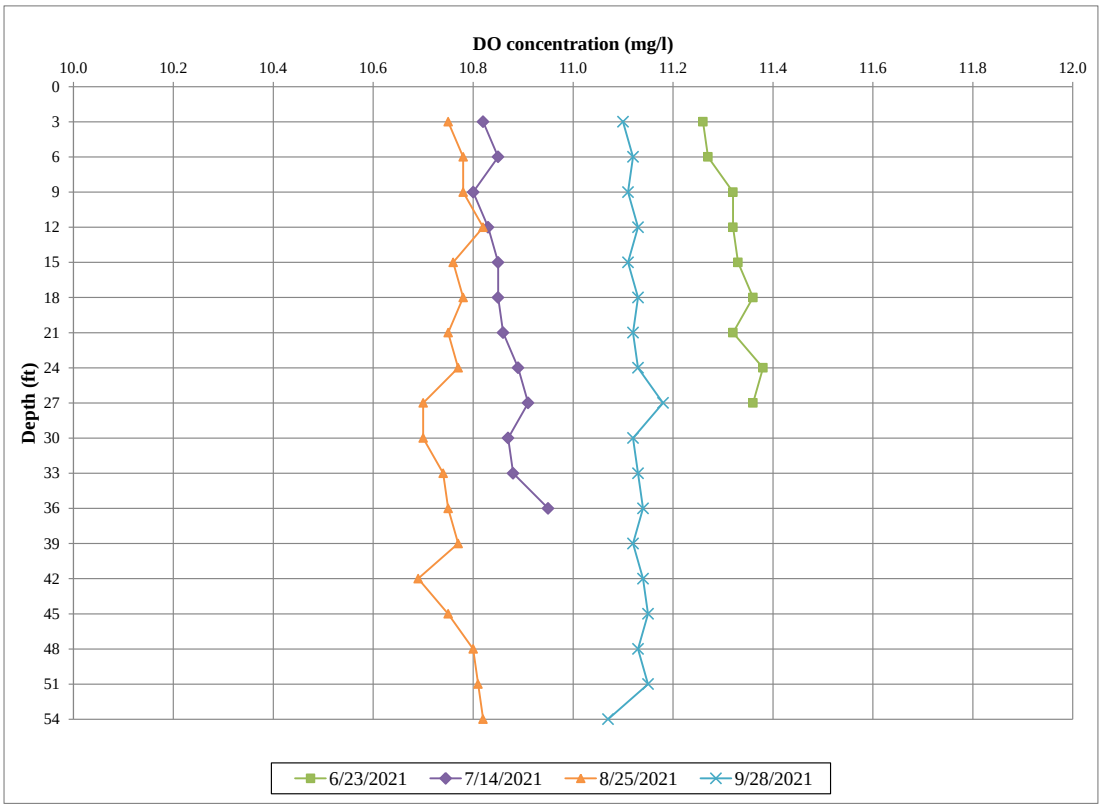

Figure 5-7. Eklutna Lake dissolved oxygen concentration profiles.

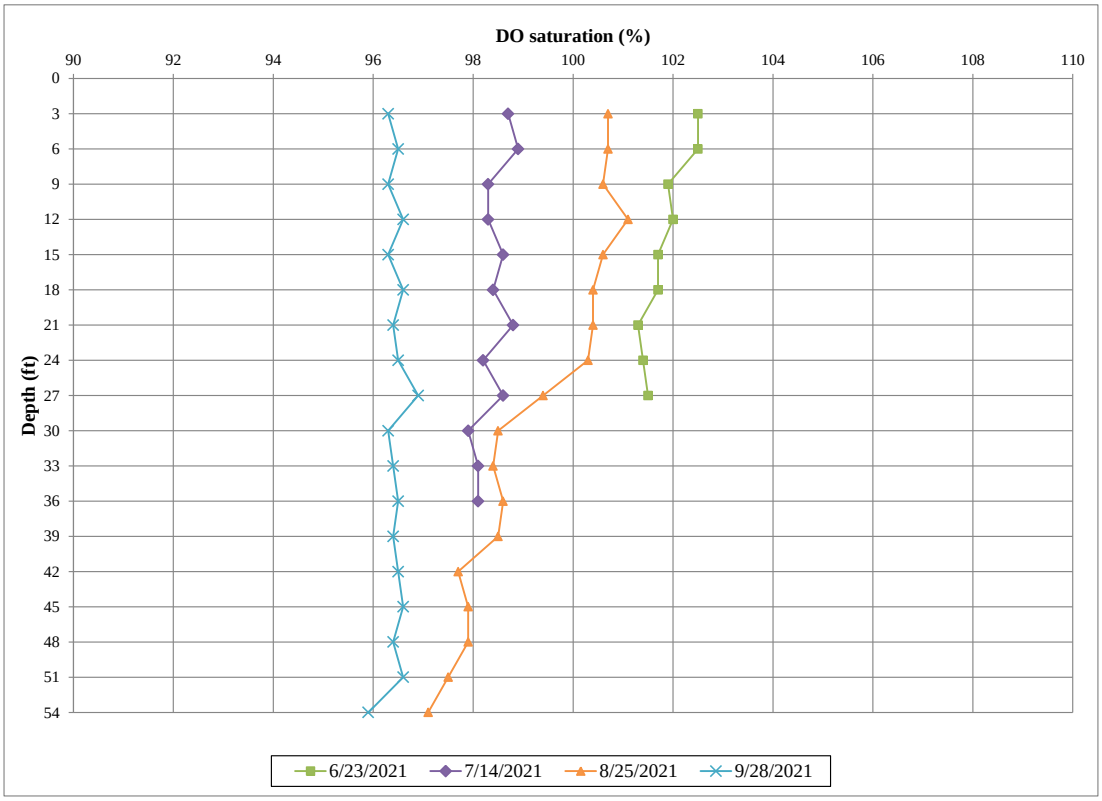

Figure 5-8. Eklutna Lake dissolved oxygen saturation profiles.

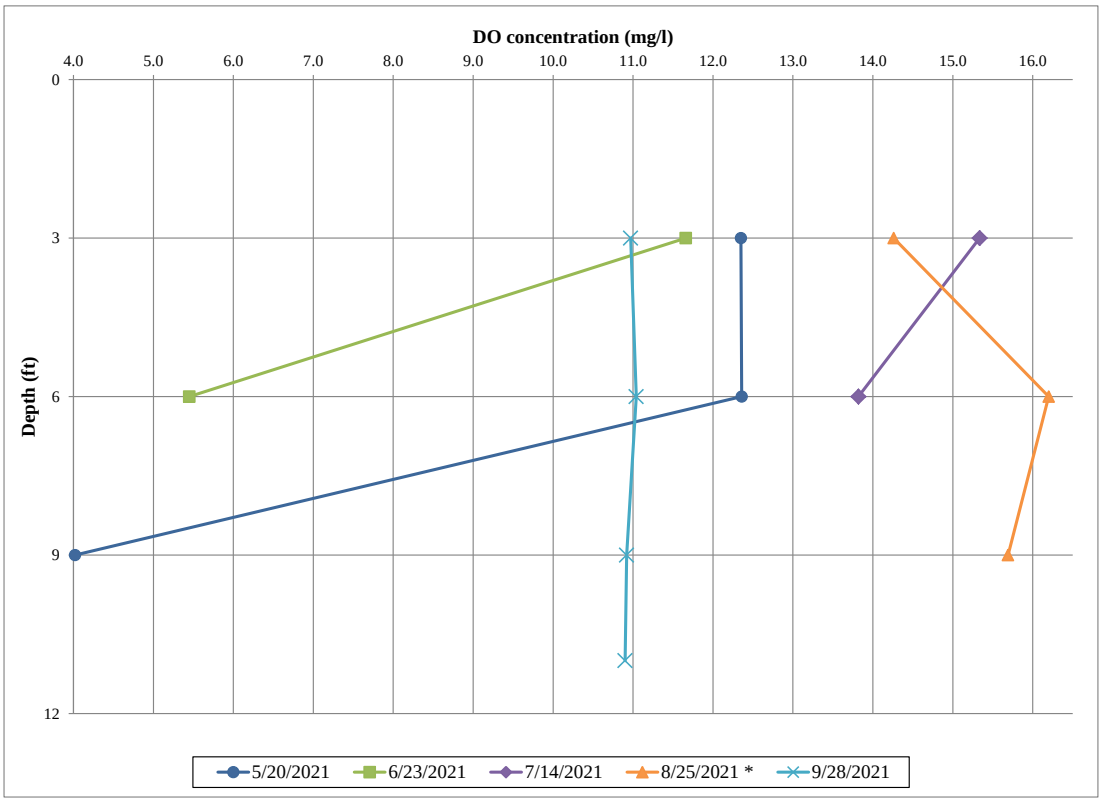

Figure 5-9. Pond dissolved oxygen concentration profiles.

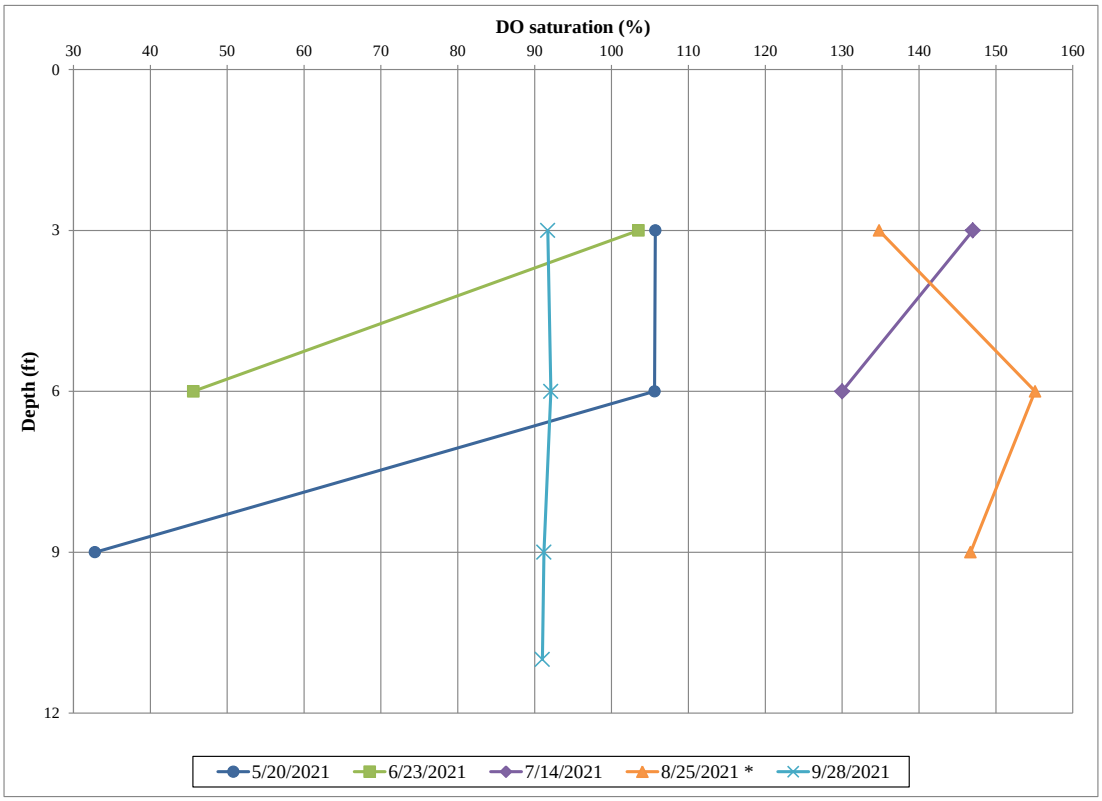

Figure 5-10. Pond dissolved oxygen saturation profiles.

5.2.3. Eklutna River pH

Figure 5-11 shows the time series of continuous pH data recorded at Water Quality Station 1 and Water Quality Station 2. Eklutna River pH values ranged from 7.8 to a maximum of 8.6, just above the ADEC fish criteria of 8.5. Readings for pH at Water Quality Station 2 never exceeded ADEC criteria of 8.5, while pH exceedances at Water Quality Station 1 occurred intermittently from mid-July to mid-September. Also, during the 150 cfs and 75 cfs study flow releases, pH at Water Quality Station 1 noticeably decreased and held relatively steady through the end of the monitoring period on September 29, 2021.

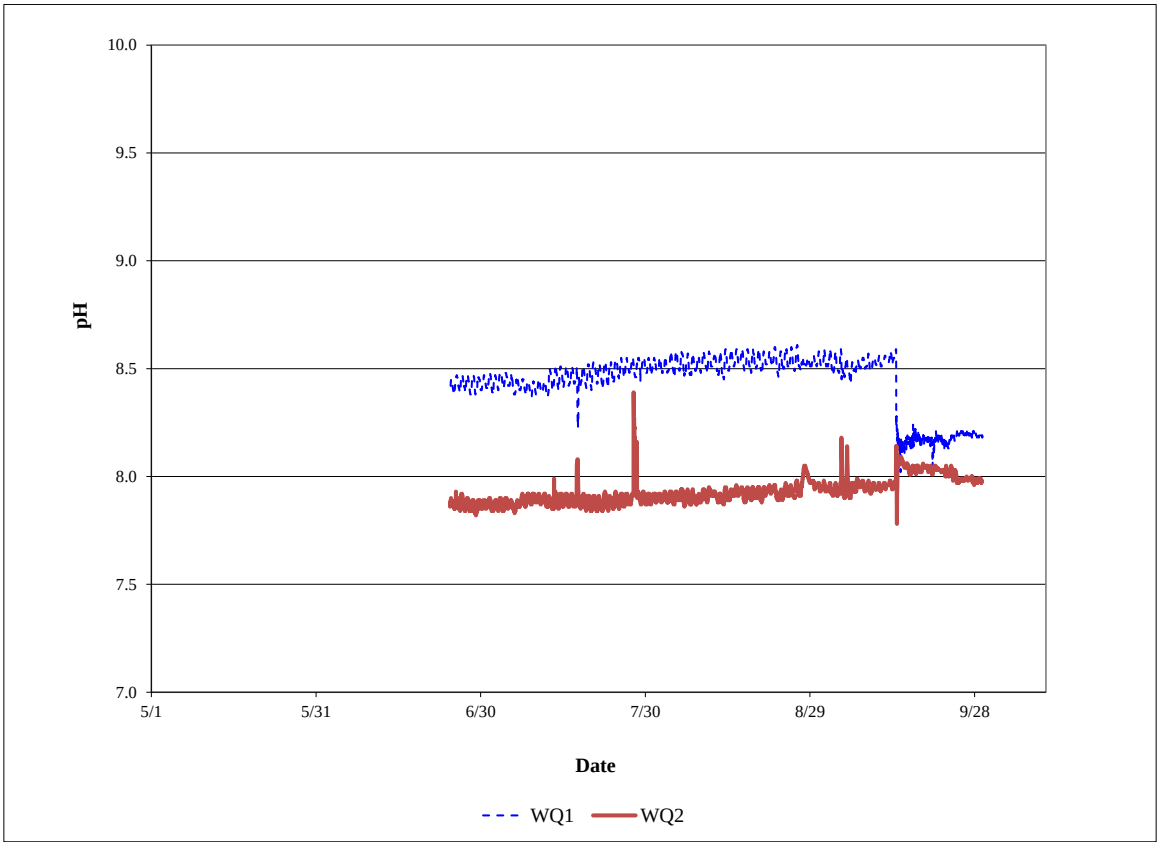

Figure 5-11. Eklutna River Water Quality Stations 1 and 2 pH.

5.2.4. Eklutna Lake pH

Figures 5-12 and 5-13 show pH profile data collected monthly at Eklutna Lake and the pond respectively. In Eklutna Lake, profile measurements recorded pH levels between 7.8 and 8.4, meeting ADEC criteria of 6.5 -8.5 at all depths on all occasions. In the pond, profile measurements recorded pH levels between 7.4 and 8.5, with the exception of surface and depth measurements on July 14 and at a depth of 6 feet on August 25. These pH readings were close to 8.6 on those two dates, slightly exceeding the ADEC criteria for fish of 8.5.

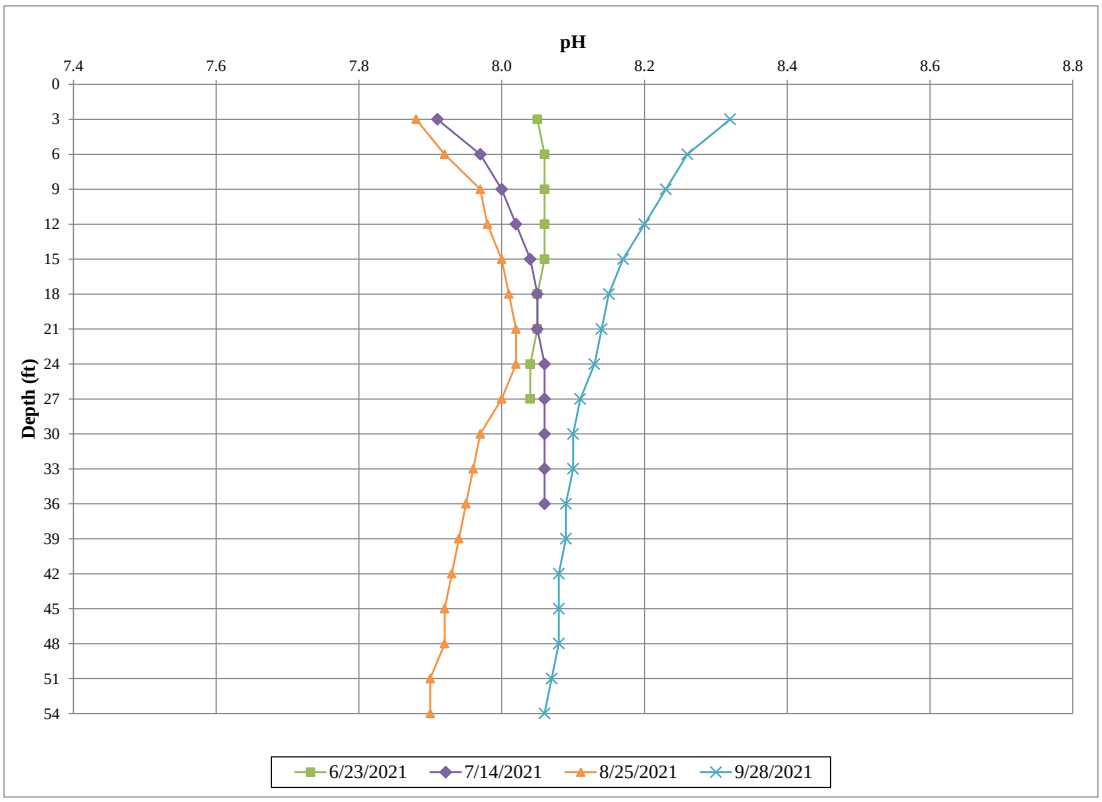

Figure 5-12. Eklutna Lake pH profiles.

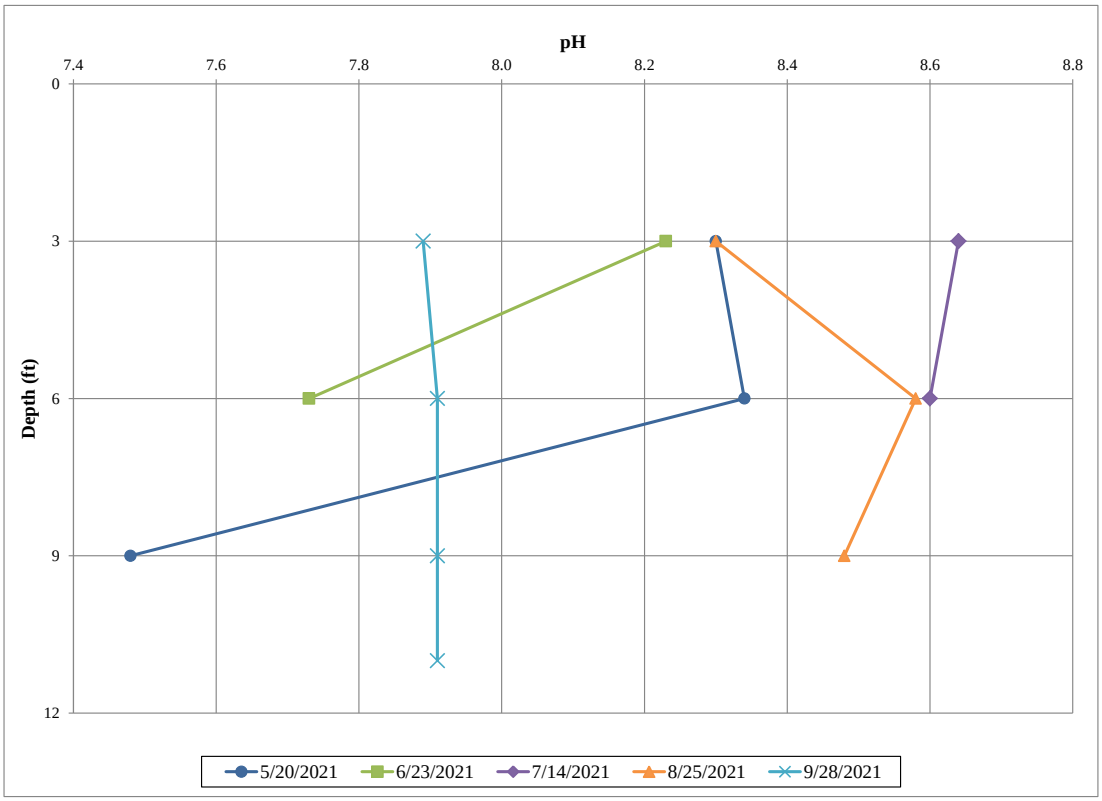

Figure 5-13. Pond pH profiles.

5.3. Eklutna Lake Trophic Status

Table 5-1 shows analysis results from samples taken for TSI assessment in Eklutna Lake and the pond. Based on the chlorophyll *a* concentrations, an average TSI score of 18.5 and 26.5 was calculated for Eklutna Lake and the pond respectively.

Table 5-1. Eklutna Lake and Pond trophic factors, July 14, 2021.

Sample Source	Chlorophyll *a* (ug/l)	Total Phosphorus (mg/l)	Secchi Depth (m)	TSI Score[1]
Eklutna Lake surface	0.29	<0.04	0.85	18
Eklutna Lake intake	0.32	<0.04		19
Pond surface	0.47	<0.04	2.04	22
Pond gate	1.02	<0.04		31

5.4. Eklutna River Turbidity and Total Suspended Solids (TSS)

Figure 5-14 shows the continuous time series turbidity data collected during the study flow releases. Tables 5-2 and 5-3 summarize the laboratory results from grab samples taken for turbidity and TSS at the beginning and end of the continuous monitoring period. For the 75 cfs to 25 cfs study flow releases (September 27 – October 6), both turbidity and TSS increased moving downstream, with a peak turbidity value and TSS concentration in excess of 250 NTU and 146 mg/L respectively.

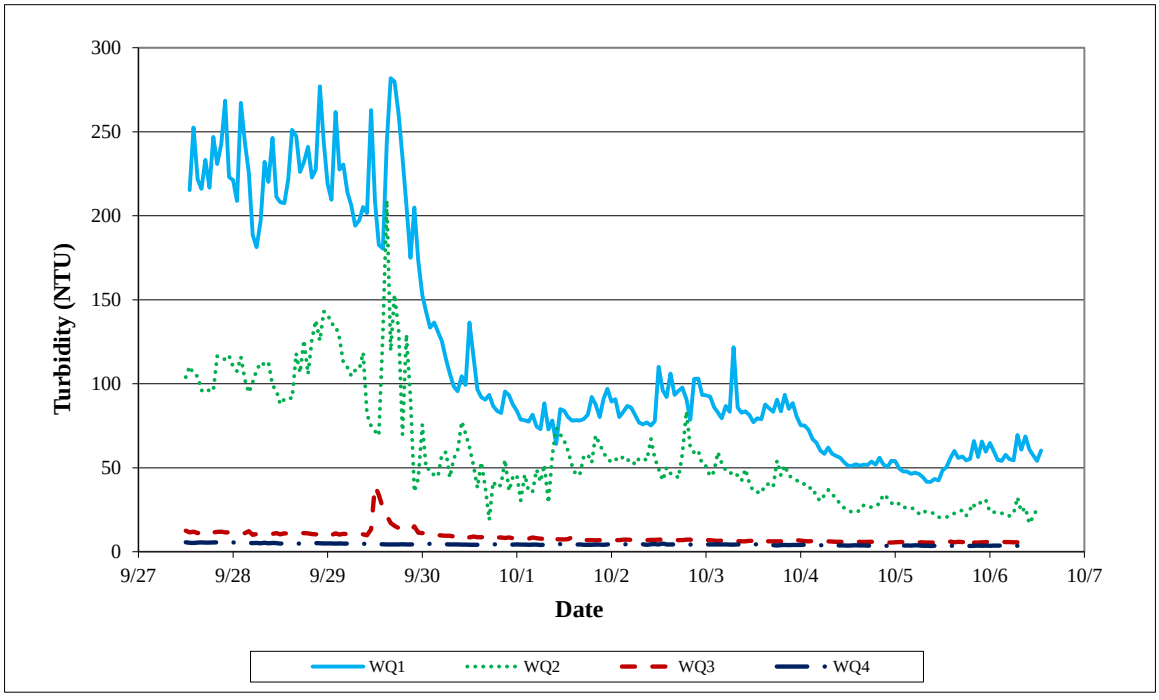

Figure 5-14. Eklutna River turbidity during scheduled flow release.

Table 5-2. Eklutna River turbidity (NTU) during study flow release.

Sample Source	9/27/21	10/6/21
WQ Station 1	140	32.0
WQ Station 2	55.0	14.0
WQ Station 3	5.10	3.00
WQ Station 4	4.40	2.70

Table 5-3. Eklutna River total suspended solids (mg/l) during study flow release.

Sample Source	9/27/21	10/6/21
WQ Station 1	146	33.3
WQ Station 2	88.1	16.3
WQ Station 3	7.35	2.23
WQ Station 4	3.77	2.18

6 INTERIM CONCLUSIONS AND YEAR 2 STUDY EFFORT

During the summer months, water temperatures in the Eklutna River upstream of Thunderbird Creek increased in a downstream direction from Water Quality Station 2 to Water Quality Station 1, at times by as much as 2-3°C (Figure 5-1). In addition, study flow releases from Eklutna Lake caused a temperature spike $\geq$ 4°C within these stream reaches. However, at no time did mean daily temperatures exceed ADEC's most restrictive criteria of 13°C for fish rearing, spawning, and incubation at either location.

In both Eklutna Lake and the pond, surface water temperatures were higher than temperatures at depth, by as much as 3-4°C in mid-summer (Figures 5-2 and 5-3). Mean daily surface temperatures exceeded ADEC fish migration route criteria of 15°C at both Eklutna Lake and the pond. At depth, Eklutna Lake met the 13°C fish rearing, spawning, and incubation criteria, but the pond exceeded 13°C for 24 days (July 18-August 10) at a depth adjacent to the drainage outlet gate.

Water temperature profiles in Eklutna Lake indicate minor stratification between the surface and intake structure in August but return to a nearly isothermal condition by late September (Figure 5-4). Temperature profiles in the pond followed a similar pattern with peak temperatures at the surface and at depth occurring in late August. In addition, the uniform temperature condition throughout the water column is detected in late September (Figure 5-5).

With the exception of noisy data during the 150 and 75cfs study flow releases, DO in the Eklutna River upstream of Thunderbird Creek was >10mg/l, well in excess of the 7mg/L ADEC criteria for fish (Figure 5-6). Similarly, DO levels in Eklutna Lake exceeded 10mg/l throughout the water column for the monthly depth profiles recorded from June-September (Figure 5-7). In contrast, DO concentrations in the pond were lower than the ADEC criteria of 7mg/l at the depth of drainage outlet gate on May 20 and June 23 (Figure 5-9). In addition, the supersaturation of

DO profiles in the pond at all depth strata on July 14 and August 25 indicates an active phytoplankton community (Figure 5-11).

Eklutna River pH data reveals a noticeable change above and below the dam removal site at RM 4.0. Upstream of the dam removal site (Water Quality Station 2), pH is primarily at 7.8 for the entire study period. Downstream of the dam removal site at Water Quality Station 1, pH consistently hovers around 8.5 and intermittently exceeds the ADEC criteria of 8.5 for fish. Given the low flow volumes (~4-6 cfs) at the two study sites during the existing condition, a tributary or groundwater source of higher pH water would influence the results. This presence of an elevated pH source between the two water quality sites is validated during the study flow releases from Eklutna Lake. During this time, pH at Water Quality Station 1 has a detectable and precipitous decrease of ~0.3 pH units that is maintained through the end of the monitoring season (September 29) during flow releases of 25 cfs. In Eklutna Lake, June-September profile measurements show that pH levels meet the ADEC fish criteria range of 6.5 to 8.5 at all depths. (Figure 5-12). In the pond, a majority of the pH profile measurements from May-September ranged between 7.4 and 8.5 and meet ADEC criteria. The exception occurs at surface and depth measurements on July 14 and at a depth of 6 feet on August 25 in which pH values increase to 8.6 (Figure 5-13). These results confirm that Eklutna Lake and the pond have a unique and isolated water quality composition.

As expected, the 75cfs to 25cfs study flow releases from September 27 – October 6 show that both turbidity and total suspended solids increased moving downstream, with substantial increases at Water Quality Station 2, below a distinctly large alluvial fan and Water Quality Station 1, below the lower removal dam site (Figure 5-14; Tables 5-2 and 4-3).

Given the glacial till in the water column, secchi depth did not represent a good TSI indicator for Eklutna Lake or the pond. In addition, total phosphorus levels in the samples taken from Eklutna Lake and the pond were below detection limits (Table 5-1) and could not be used to assign trophic levels. Therefore, TSI was calculated exclusively using chlorophyll *a* concentrations (Table 5-1). Although 2 of the 3 parameters sampled did not inform the TSI of Eklutna Lake and the pond, Carlson (1977) states that chlorophyll *a* provides the best indicator of trophic status. TSI values of 18 and 19 are calculated for Eklutna Lake surface and intake, respectively. TSI values for the pond are 23 and 31 for surface and gate, respectively. All of these calculated TSI values correspond to an oligotrophic classification representing low productivity. Based on these results, it is likely that the low biomass within Eklutna Lake could be a limiting factor for fish production, especially for resident species such as kokanee.

As mentioned in Section 1 (Introduction) of this Year 1 Interim Report, study efforts will continue over the winter and through the fall of 2022 to build upon the 2021 water temperature record. In addition, a second season of chlorophyll *a* sampling will take place to verify the TSI ranking of Eklutna Lake and the pond in 2021 and provide supporting data to the Lake Aquatic Habitat and Fish Utilization Study (Section 3.7 of FSP). Given the quality and completeness of the pH, DO, and turbidity data sets, this Year 1 Interim Report represents the final assessment of those three parameters in support of the Water Quality Study.

7 VARIANCES FROM FINAL STUDY PLAN AND IMPLEMENTED MODIFICATIONS

There were two notable variations from the final approved study plan related to turbidity monitoring and one variation to water temperature monitoring program. Based on the 30-day duration of the flow release schedule, continuous turbidity monitoring was not initiated until the 75 cfs release period began. Mass wasting events, potential equipment loss, instrument battery life and wading safety during the initial 150 cfs period were the primary considerations for delaying the deployment of turbidity instruments until the 75 cfs flow release period. This study variance was discussed and agreed to following consultation with National Marine Fisheries Service (NMFS), the lead agency requesting continuous turbidity monitoring as a part of the Water Quality Study.

The second variance from the final approved study plan was the relocation of Water Quality Station 3 from RM 8 upstream to RM 10.3. The formation of a substantial beaver pond downstream of RM 10 limited reliable access to RM 8 of the Eklutna River. Therefore, a site was chosen that had alluvial fan inputs in contrast to the stable banks and minimal alluvial sediment deposits at Water Quality Station 4.

Finally, the third variance was that thermographs at the Eklutna River and Eklutna Lake sites were left out to collect continuous water temperature data over the winter.

8 REFERENCES

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Appendix A: Supporting Data Source Files

The supporting data for this report are contained in the following spreadsheet files and are available upon request:

Data	Source file
Eklutna River temperature, DO, pH	Eklutna River pH Temp DO Data.xlsx
Eklutna Lake, Eklutna Pond temperature	Lake_Pond Temp Data.xlsx
Eklutna Lake temperature, DO, pH profiles	Eklutna Lake pH Temp DO Profiles.xlsx
Eklutna Pond temperature, DO, pH profiles	Eklutna Pond pH Temp DO Profiles.xlsx
Eklutna River turbidity	Eklutna River Turbidity.xlsx