

Endako Weir Effectiveness Monitoring Plan

Updated Apr 6 2021

Water Quantity Monitoring

Four hydrometric stations were established in the fall of 2015. These stations are described below and mapped in Appendix A. The Burns Lake stations will allow the UFFCA to monitor lake level following weir construction and compare this data to pre-weir conditions to ensure the weir is operating as designed. The Endako River stations will allow the UFFCA to monitor stream discharge in important salmonid spawning areas following weir construction and compare this data to pre-weir conditions to ensure the weir is operating as designed. These are long-term monitoring stations; therefore, the intent is for them to remain operational in 2022 and beyond.

1. Burns Lake West
 - a. This station is active and will remain active following weir construction.
 - b. Water pressure is logged every 15 minutes at this location, which is correlated to water level (stage).
2. Burns Lake East
 - a. This station is active and will remain active following weir construction.
 - b. Water pressure is logged every 15 minutes at this location, which is correlated to water level (stage).
3. Endako River at the outlet of Burn Lake
 - a. This station is active and will remain active following weir construction.
 - b. This location was identified as an important kokanee spawning area and is located approximately 50 m downstream of the proposed weir location.
 - c. Water pressure is logged every 15 minutes at this location, which is correlated to water level (stage). Following several years of routine station visits, a stage-discharge rating curve has been developed for this station.
4. Endako River at Shovel Creek confluence
 - a. This station was decommissioned due to access safety concerns in 2018, but will be reinstalled in the summer of 2021. The goal is to reinstall this station prior to weir construction.
 - b. This location was identified as an important chinook spawning area.

Water Quality Monitoring

- Temperature is collected at all of the hydrometric stations listed above. This data will continue to be collected following weir construction to monitor any changes in lake and river temperature before and after weir construction. This monitoring program will continue in 2022.
- Dissolved oxygen, turbidity, pH, and specific conductance are measured each time the crew is on site. This will continue post construction and will occur at least monthly until October of 2021 then resume in the spring of 2022.

Weir Stability

- Photographs of the weir will be taken from the same location(s) monthly following weir construction to monitor for weir stability (shifting rocks) until October then pre, during, and post freshet in 2022.
- Accumulated debris will be removed from the weir during monthly site visits until October then the weir will be inspected and maintained in compliance with the applicable dam safety regulations. This will include debris removal.

Salmonid Spawning

- The Carrier Sekani Tribal Council (CSTC) has enumerated spawning chinook on the Endako River for the past 10+ years, including at the Endako River spawning reach at the Shovel Creek confluence. The CSTC survey will be used to determine if chinook spawning was observed in this location in 2021. It is assumed that CSTC will continue to enumerate chinook in this location in future years as well.
- The UFFCA will do a kokanee spawning survey in September of 2021 to determine if adult kokanee spawn in the first 1 km of the Endako River (as recorded during a 2016 survey).

Fish migration

- Water velocity will be measured in the fishway in April of 2022, which is when kokanee fry are expected to migrate up the fishway.
- If adult kokanee are observed spawning below the weir in 2021, a kokanee fry survey will also be conducted below and within the fishway in April 2022. This survey will determine if kokanee fry are able to successfully migrate through the fishway and into Burn Lake.



Legend

- Cities and Towns
- ★ Water Level Monitoring Locations
- Major Roads
- Watercourses

**UPPER FRASER FISHERIES
CONSERVATION ALLIANCE**

**ENDAKO WEIR WATER
LEVEL MONITORING LOCATIONS**

Drawn:
D. Wiens

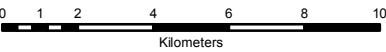
Checked:
A. Sterling

Date:
01/12/2015

Data Sources:
Refer to References Section

EDI Project Number:
15P0382:ENDAK

Map Projection:
NAD 1983 UTM Zone 10N



Map Scale = 1:200,000 (printed on 11" x 17")

