

Ministry of Environment & Climate Change Strategy
#401 - 333 Victoria St., Nelson, BC
V1L 4K3

March 17, 2022

Attn: Albert Chirico

Memorandum: Fish collection permit CB21-625602 Timber Ridge fish salvage summary

Background

Timber Ridge is a community situated along the shores of Windermere Lake, BC (Figure 1). The Timber Ridge Property Owners Association (Timber Ridge) was incorporated in 1981, to manage the community's common and natural areas. Shoreline facilities at Timber Ridge include a marina and a beach. The marina is authorized under a Marina Lease Agreement, through the BC *Land Act* (Disposition 880473, August 2010). The marina was established in 1985 and had no record of prior dredging activity. However, the nearshore section of the marina had become very shallow over time and required maintenance dredging (the project). Lotic Environmental Ltd was contracted by Timber Ridge to provide environmental services for all aspects of the project, from environmental assessment, through permitting, and environmental monitoring. These tasks focused on identification and preservation of aquatic environmental values.

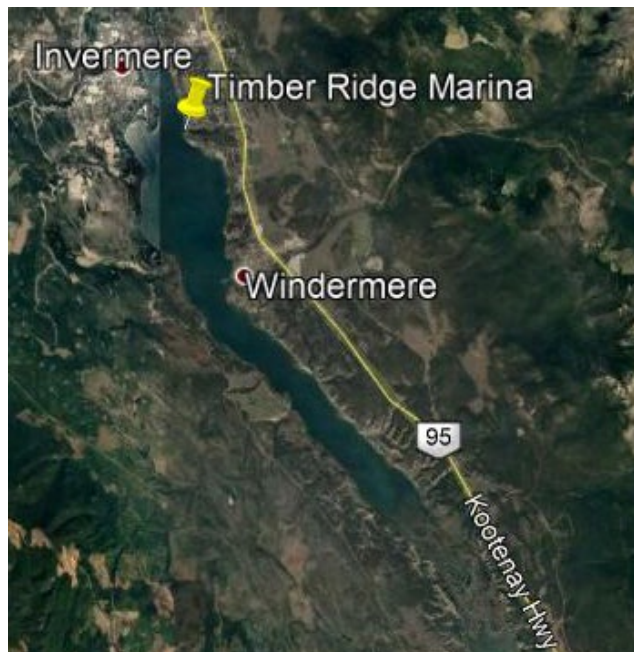


Figure 1. Project location (UTM 11U 570250.73 E, and 5594115.92 N)

In 2021, the Timber Ridge dredge activity was authorized through a BC *Water Sustainability Act* Approval, and a Fisheries and Oceans Canada (DFO) Letter of Advice. A condition of these authorizations, and as previously outlined in the project environmental management plan, was for a fish salvage to be completed prior to the dredge occurring. Lotic Environmental thus obtained a

BC *Wildlife Act* scientific fish collection permit to conduct the salvage. This memo documents the outcome of the salvage as required by the terms of the fish collection permit.

Methods

A silt curtain was set up to isolate the marina on November 3, 2021 (Figure 2). The EM salvaged fish from within the isolated marina area. The salvage involved the following techniques: electrofishing and setting baited hoop and minnow traps. Electrofishing was only conducted when water temperatures were above 5°C, from November 3 - 5. The traps were retrieved and reset daily from November 4 - 10, and then retrieved and reset every few days, with the maximum set period being 71.5 hours. Captured fish were held in a bucket of lake water and were identified to species. Fork lengths and weights were also measured. The fish were released outside of the isolation area, where there was connectivity with the larger lake body (Figure 3). Further salvaging efforts were completed on February 22 and 23, 2022, prior to dredging. A total of nine baited minnow traps were set at the back end of the marina in the isolated area that was not planned to be dredged (where depths were greater than 1.0 m).



Figure 2. Silt curtain isolating marina.



Figure 3. Isolated area (green outline) and dredged area (purple polygon).

Results

A total of 1017 fish were salvaged from the isolated marina area during the 13-day salvage period in 2021, and an additional 2 fish were salvaged on February 23, 2022, prior to dredging (Figure 4). Just over half (55%) of the total catch was comprised of the non-native Pumpkinseed, followed by Northern Pikeminnow (39%), Largemouth Bass (3%) and Peamouth Chub (2%). The fish were mainly present in habitat where there was thick aquatic vegetation. This vegetation was densest near the outer edge of the isolation in water depths of 1.6 to 1.9 m (at the time of the salvage). The majority of fish caught in the hoop traps were Pumpkinseed, while the majority of fish caught in the minnow traps were Northern Pikeminnow, Peamouth Chub and Prickly Sculpin. One burbot was caught in the hoop trap. Representative photos of fish species captured are provided in Figure 5 and Figure 6.

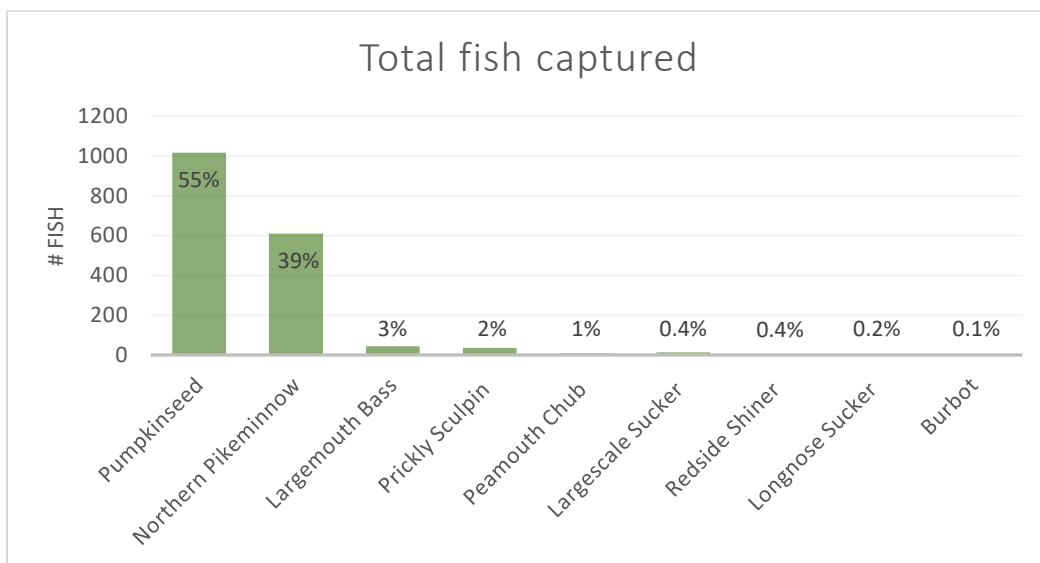


Figure 4. Total fish captured using electrofishing methods, hoop and minnow traps.



Figure 5. Pumpkinseed and Peamouth Chub salvaged at the Timber Ridge marina, respectively.



Figure 6. Burbot and Largemouth Sucker salvaged at the Timber Ridge marina, respectively.

Closing

Please let me know if you have any questions regarding the 2021 and 2022 Timber Ridge marina fish salvage findings.

Sincerely,

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