

Dragon Lake Goldfish Control and Assessment Project. Year 2 of 3 Project Update

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A three-year project was awarded funding (\$25,000/year) from the Freshwater Fisheries Society of British Columbia (FFSBC) to evaluate the possibility of controlling goldfish numbers in Dragon Lake using boat electrofishing. The project also requested funds (\$10,000/year) from the Ministry of FLNRO, Cariboo Region, but was unsuccessful due to reduced budgets. The first two years of the study were completed in 2020 and 2021. A contract crew of three staff operated an electrofishing boat for four, 10-hour days on Dragon Lake from May 26-29 2020 and June 1-4 2021. In 2020, 2,629 goldfish were captured and killed, of which 246 were sampled to collect biological data (length, weight, sex, maturity, age). In 2021, 1,865 goldfish were captured and killed, and biological data was collected from 100 goldfish. Age estimates have been provided and preliminary analysis was conducted to evaluate maturity schedules, growth rates, and presence of age classes. Preliminary analysis has found that there is approximately 5,000 to 15,000 goldfish in Dragon Lake. The range of this estimate will be reduced with additional years of removals. Goldfish size ranged from 50 to 290mm and 7 to 750 grams. Females first mature at approximately 200mm in length and age 3. Males mature at approximately 150 mm in length or age 2. All age classes up to age 10 were found. The final year of the project is planned to occur in 2022. Once this final year of data has been collected, all three years of information will be used to parameterize a population viability model which will estimate population size and growth rates as well as the effect the three years of suppression efforts. This information will be used to describe how many goldfish need to be removed each year to keep goldfish suppressed to a low level where competition with rainbow trout will be negligible. A cost estimate will also be provided. It should be noted that four days of goldfish removals per year for three years is the base minimum needed to conduct this study on Dragon Lake. The population modelling will not be possible if efforts in 2020, 2021, and 2022 did not reduce the population (e.g. more goldfish are captured in 2022 than in previous years). The study will have collected important biological information for Dragon Lake goldfish (size, age, growth rates, maturity schedules) but maybe unable to assess the feasibility of controlling the goldfish population aside from saying more that 4 days/year is necessary.