

## **Fish Study and Galway Lake Fisheries Management**

July 2023

### **Introduction**

The Galway Lake Campers' Association is investigating the feasibility of conducting a study of Galway Lake's fishery. The Association last stocked the lake in 2009. Stocking was halted as an annual process as there was no true plan to stock fish in the lake and there was no data being collected to determine whether it was beneficial to the lake or not. Over the last 15 years the fishery in the lake has succeeded without the benefit of stocking and the Association has saved over \$30,000 in stocking fees.

During this time the Conservation Committee has worked to ascertain the health and vitality of the fishery through surveys provided by fisherman on the lake, inspection of certain species during the spawning season and through direct fishing research throughout the lake. This data, though not conclusive, has provided indications into the health of the fishery in Galway Lake.

The following observations have been made:

- 1) Galway Lake remains productive and natural reproduction is taking place for all fish species. These are as follows:
  - a. Black Crappie
  - b. Bluegill
  - c. Brown Bullhead
  - d. Chain Pickerel
  - e. Largemouth Bass
  - f. Pumpkin Seed Sunfish
  - g. Rock Bass
  - h. Smallmouth Bass
  - i. Redbreast Sunfish
  - j. Walleye
  - k. Yellow Perch
- 2) The last fish stocked into the lake were trout and they failed to succeed within the lake's ecosystem.
- 3) There are still Walleye reproducing within the lake with 24" plus fish taken annually.
- 4) There is debate as to the number of Walleye relative to other species within the lake and they are an apex predator within the lake, thus important to the overall fish population and density of specific species.

- 5) It appears that the Pickerel population has been greatly depleted by the program from the 1980's to remove Pickerel from the lake. This is another apex predator within Galway Lake and helps to control over population of specific species.
- 6) The Largemouth Bass population is doing well, there are great numbers within the lake, and they may be suffering from the removal of apex predators as there are a great number of fish of 15" or less within the lake.
- 7) The Smallmouth Bass population is doing well within the lake and reproducing without issue.
- 8) The feeder fish (Sunfish etc.) within the lake reproduce in great numbers and add to the success of the fishery.
- 9) Sufficient nutrients in the lake provide for the invertebrates to thrive and feed the feeder fish.
- 10) The fish food chain in the lake appears to be stable while remaining dynamic.

### **Why?**

So why would the Association consider putting the time and expense into a multi-year study of fish within the lake?

- 1) We want to ensure that the fishery is healthy and in balance.
- 2) We are always worried about primary nutrients entering the lake. Fish are a factor in the movement of the elemental phosphorus and nitrogen within lake waters. Fish tissues contain these elements and thus are a reservoir for a portion of this nutrient load.
- 3) Feeder fish help to maintain the clarity of lake waters by consuming microscopic green plants.

The fourth reason is contained within the Association's charter, and that is to provide and maintain the health and recreational quality of the lake. Fishing is a significant recreational activity, and we want to ensure we protect the lake from both health and recreational standpoints.

### **How would we accomplish this?**

The plan is in the final draft stages and will be presented to the Board, but will need to address the following:

- 1) How to assess the type and quantity of fish within the lake?
  - a. This is a topic of much discussion and there is no singular way to fully understand with confidence the population of each species within the lake. This will take a multimethod approach to ensure accurate and reliable data.

- b. We are reviewing Electrofishing in concert with other methodologies. Electrofishing can provide information and insight into the fish population as well as developing problems so that action can be taken before it becomes an apparent problem to the lake members. Electrofishing does have limitations, and these will need to be addressed. Electrofishing can be done in different ways, and we are examining these now as some of the methods involve internal combustion engines and the Board is aware of the problems this method presents.
  - c. Additional fish sampling methods under consideration range from complex and long term to perhaps simple and focused on a single fish species. Examples might include gill nets, fish traps, scuba, and underwater camera/recording.
  - d. The Conservation Committee has been collecting data from members fishing on the lake and this is a valuable method of data collection. The plan would include continuing this practice and working to expand its use and data collection.
- 2) Once we have accurate data, what if anything, should be done with that data.
- a. In the absence of human input fish food chains will tend to naturally stabilize over time, but perhaps with more of one feeding type than desired by campers. The goal in all instances is to improve the sustainability of the lake fish population while increasing the enjoyment of fishing.
  - b. The Conservation Committee can attempt to control the presence of a fish species in one of two ways: modify its food source or alter the number or variety of its predators.
  - c. Increasing or decreasing a species food source, or similarly increasing or decreasing a specific species predator is an imprecise action that impacts the entire fish food chain, and only a multiyear fish study can confirm if the desired result has been attained.

## Cost

The Board has encumbered \$11,000 within the budget for the 2023 – 2024 business year. This money will only be used if a multiyear plan is approved by the Board. There are still several steps that need to occur for this to happen and they are outlined below.

## Next Steps & Timeline

- 1) **July 2023** - Conservation Committee to provide the GLCA Board with a detailed plan and cost for the study and plan development.
- 2) **August 2023** - GLCA Board to review, discuss and vote on the plan to proceed with final price quote or not.
- 3) **Late Summer/Fall 2023** - If approved the Board will bid out any work that should be conducted by an outside entity and receive back bids for review.

- 4) **Fall 2023** - Final review by the Board and decision on how and if to proceed or not with this work.