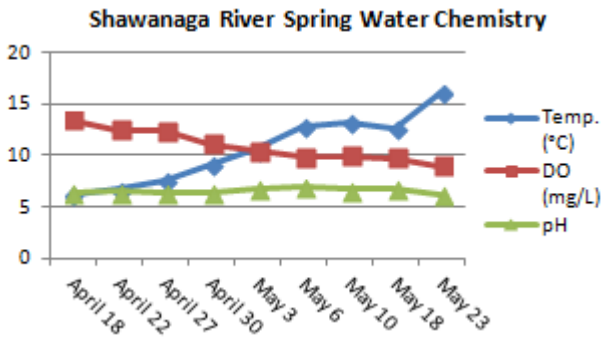
2016 Spring Spawning Survey Summary
Shawanaga River
Eastern Georgian Bay Stewardship Council

MONITORING OVERVIEW

During the 2016 spring spawning and egg incubation period (mid-April to early June), EGBSC monitored spawning habitat for Walleye, Lake Sturgeon and Sucker species at the Shawanaga River. The goal of the assessment was to document environmental (water chemistry) and hydrologic features (water levels & flow) as well as spawning population observations (fish and eggs) to determine if restoration of the spawning area is required.

As part of the survey, EGBSC monitored water chemistry (temperature, dissolved oxygen, pH, total dissolved solids and conductivity), water levels and speed of water flow. All measurements were within the normal range for the region and were suitable for successful fish spawning and egg incubation.



Aerial view of the Shawanaga spawning bed

In addition to water level measurements, aerial photographs were taken to track changes in the spawning and egg incubation area as water levels and flow decreased over the survey period. This information will be available at a later date.

Eleven visual surveys and two snorkelling surveys were completed during the day. Walleye were present at the site during all site visits and in abundance. Common White Sucker were found to be moderately abundant, and in late May, Redhorse Sucker species were observed at the site. In addition, Logperch and Smallmouth Bass were observed in large numbers and one Northern Pike was seen. No Lake Sturgeon were observed.

Walleye at Shawanaga River

Walleye eggs in abundance

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KEY OBSERVATIONS

Four blue mats (furnace filters) were used to collect eggs, which were placed at the downstream end of the spawning bed, on both the north and south shore. Egg mats were counted on April 29th and May 3rd. Walleye egg deposition on the mats was extremely dense and averaged 14,000 eggs per mat. Only 35 Common White Sucker eggs were counted on the mats.

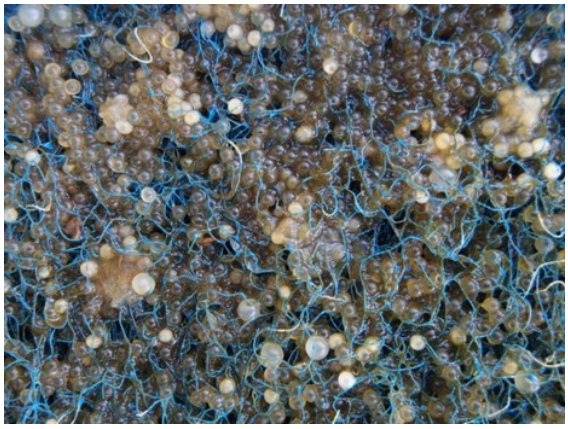

Photo of egg density on the egg mats

Once eggs incubate and hatch, the fish enter their larval stage. This stage is critical for Walleye and most other fish species. Larval Walleye have limited mobility and typically move by water flow and wave action. Shortly after hatching, Walleye need to feed on zooplankton to ensure survival, growth and development. The availability of zooplankton is a major factor in surviving this life stage. To help evaluate the amount of zooplankton downstream of Shawanaga River spawning bed, five samples were collected in late May. Relative to other sites (Sucker Creek, Shebeshekong, Magnetawan and Seguin Rivers), the Shawanaga sample had the highest density of zooplankton.

Five plankton samples taken in the Shawanaga River

This spawning assessment is part of a larger project EGBSC is conducting in the Parry Sound District. Between 2015 and 2017, EGBSC is undertaking spawning and nursery habitat assessments for Walleye, Lake Sturgeon and Sucker species on eight rivers flowing into Eastern Georgian Bay. Project partners include Georgian Bay Forever, Georgian Bay Biosphere Reserve, Ministry of Natural Resources & Forestry Upper Great Lakes Management Unit, and Environment and Climate Change Canada.

Georgian Bay Biosphere Reserve

Ontario

Environment and Climate Change Canada | Environnement et Changement climatique Canada

Separate from EGBSC's habitat work, the Ministry of Natural Resource and Forestry's Upper Great Lakes Management Unit finished a two year Walleye netting and tagging project at the downstream end of the spawning area. During the 2016 spawning season, they had caught more than 4,000 Walleye.

Snorkeling surveys

CONCLUSION

In summary, the Shawanaga River spawning bed provides excellent habitat for both spawning and egg incubation for Walleye and Sucker species. The Walleye population is exceptional, and large numbers of Common White Sucker and smaller numbers of Redhorse Sucker species were observed.

A better understanding of the exceptional success of the Shawanaga Walleye population could be a key component in rehabilitating other Georgian Bay Walleye and Sucker populations that are experiencing decline.

This project was undertaken with the financial support from the Government of Canada. Ce projet a été réalisé avec l'appui financier du gouvernement du Canada.