

HOW DOES HABITAT DEGRADATION IMPACT WALLEYE IN THE SOUTHERN GRAND RIVER?

Hillary Quinn-Austin, Lake Futures MSc. Candidate
Supervisors: Dr. Mark Servos, and Dr. Rebecca Rooney
Partners: Tom MacDougall (OMNRF), and Sandra Cooke (GRCA)



Image Source: <http://www.post-gazette.com/life/outdoors/2018/06/15/A-Lake-Erie-walleye-population-boom-begins-in-shallow-Ohio-waters-fishing-Port-Clinton-Sandusky-Toledo-walleye/stories/201806150115>



Mature walleye

Young-of-the-year walleye

Lake Erie Walleye

- Important top predator
- Highly valued sport and commercial fishery
- Must protect and restore river-spawning stocks of walleye to maintain healthy and diverse walleye fishery

Grand River Stock

- Priority management area for walleye conservation
- Genetically distinct river spawning stock
- Blocked access to 97% of historic spawning habitat by Dunnville Dam
- Highly degraded water quality impacts habitat quality and food web dynamics

Project Goals

- 1) Investigate changes in the food web structure of young-of-the-year walleye using stable isotope analysis, and see whether walleye growth and condition are impacted
- 2) Tag walleye with acoustic tags to track their movements and investigate how they use the potentially available spawning habitat above the Dunnville dam



Boat electrofishing



Southern Grand River

Research Applications

- 1) Develop biomonitoring endpoints to improve water quality and ecosystem diversity for walleye
- 2) Locate spawning areas to prioritize for protection
- 3) Inform decisions for repairing the Dunnville fishway, and/or modifying or removing the Dunnville Dam