

SAUGEEN RIVER WATERSHED REDSIDE DACE MONITORING PROJECT



PROJECT GOAL

The Redside Dace Recovery Team was formed in 2000. This team consists of representatives from the Ontario Ministry of Natural Resources and Forestry, Fisheries and Oceans Canada, several conservation authorities, the Royal Ontario Museum, the Toronto Zoo, and Ontario Streams. Their goal was to develop a strategy to save the Redside Dace.



This Stream with Tall Grasses Overhanging a Large Pool is an Excellent Example of Redside Dace Habitat

The long-term goal of this strategy was to restore viable populations of Redside Dace in a significant

portion of its historic Canadian range. This initiative has been designed to target a variety of outcomes including: protecting any remaining suitable habitat, protecting the remaining self-sustaining populations of Redside Dace, improving and restoring degraded populations and habitat, re-introducing the Redside Dace to its former range where feasible, carrying out research and monitoring efforts, and educating and involving the public in this cause.

The Saugeen River was known to provide historic habitat to the Redside Dace. In 2004, it became necessary to undertake a study to determine its status as many of the sites had not been surveyed in decades.

THE NEED

The Redside Dace (*Clinostomus elongatus*) is a small minnow whose importance has often been overlooked. This colourful dace once populated small, cool water streams throughout the Lower Great Lakes, Upper Mississippi, and Upper Susquehanna River drainage basins. In Canada, the Redside Dace can only be found in Southern Ontario. Their ideal habitat consists of clean cool waters between 16 and 24°C, shallow pools with rocks, fallen woody debris, and overhanging streamside

vegetation to provide cover and a source of terrestrial insects for food.

Over the past 50 years, populations of this minnow have dramatically declined. In 1987, the Reside Dace was nationally identified as a species of "special concern" by COSEWIC (Committee on the Status of Endangered Wildlife in Canada). In 2000, Ontario listed the species as "threatened", and in 2009, the Redside Dace was up-listed to "endangered" at the provincial level.

Some factors that may have contributed to habitat loss for this sensitive species include: development, pollution, introduction of invasive species, and instream access for livestock. Urban development is thought to have the greatest impact on Redside Dace as it often results in increased turbidity, temperature, and pollution as well as changes to channel structure.

Redside Dace have been lost completely from several tributaries of Western Lake Ontario, and the remaining populations have been in decline within individual watercourses. As part of the Redside Dace Recovery Strategy, the Midhurst District of the Ontario Ministry of Natural Resources and Forestry in collaboration with Ontario Streams conducted the Saugeen River Redside Dace Monitoring Project. The goal of this project was to determine whether populations in this watershed had suffered a similar fate.

ACCOMPLISHMENTS

The Saugeen River Redside Dace Monitoring Project consisted of 27 extensive surveys throughout the Saugeen watershed. The sampling sites were chosen based on historical evidence that Redside Dace had occupied the area. The extensive surveys conducted at each site followed the Redside Dace Survey Methodology developed by the Redside Dace Recovery Team. The methods were tested in the summer and fall of 2003 by Ontario Streams staff. Electrofishing, seining, and standardized habitat assessments were completed at each site.

This study, conducted in 2004, covered an area that extended across the townships of Westgate, Grey Highlands, Southgate, Minto, South Bruce, Brockton, and Neustadt. The survey sites were located on several streams including: the Main Saugeen River, Meux Creek, Formosa Creek,

Teeswater, Greenock Creek, and two unnamed tributaries of the Saugeen River.

At the end of intensive sampling in August and September of 2004, only 3 of the 27 sites were proven to still support Redside Dace. These 3 sites were all located on Meau Creek and consisted of narrow, cold water streams with gravel substrate and meadow grasses with cedars and smaller shrubs along the shore.



Redside Dace Prefer Cool Streams with Grasses and Shrubs Overhanging the Banks. This Provides Habitat for Flying and Terrestrial Insects which are a preferred Food Source

Additional monitoring was conducted in 2005 with one site on Meux Creek, and one at the headwaters of the Saugeen River. We captured one redside dace at the Saugeen River site which led to Ontario Streams performing further sampling in this area.

In total, 9 kilometers of stream was monitored using a S.W.A.T survey monitoring technique, where the surveyors move quickly while electrofishing a reach and spend very little time in any one area. Surveyors only stop to record data when a redside dace is captured. This technique may result in missed individuals, but allows us to confirm if the species lives in a reach and the microhabitats being used.

While the intent of the Redside Dace Monitoring Project in the Saugeen River was to identify current Redside Dace habitat, some remarkably pristine cold water streams and excellent fish habitat were discovered as well. One such sampling site, located in the headwaters of the Saugeen River near the

town of Wareham, was originally chosen for this study because of historical records of Redside Dace presence and suitable habitat that remains. As it turns out, this is a critical cold water area, heavily shaded by the cedar swamp and fed by numerous groundwater sources. At the time of sampling, the temperature was recorded at 13 to 15°C.

The main source of the baseflow in this area is from the Osprey Wetlands. This is a 731 acre wetland that sits in a depression left in the bedrock of the Dundalk Plain Region. It is a class 1 Provincially Significant Wetland that feeds not only the Saugeen River, but also the Mad, Beaver, and Grand River systems. Sampling found a surprising number of Brook Trout at this site. Almost all the fish sampled were young-of-the-year or one-year of age, indicating that this area provides vital spawning and rearing habitat to populations of Brook Trout in the Saugeen River.

PARTNERS

The Ministry of Natural Resources and Forestry and Ontario Streams worked in partnership to complete this study. Funds and in-kind support were provided by the Ministry's Midhurst District. Staff from the Royal Ontario Museum also participated in the field study.