

Proposed Recovery Strategy for Pugnose Shiner

Plain Language Summary

BACKGROUND

The Pugnose Shiner is a small (approximately 5 cm long) freshwater fish characterized by a black line down its side and a small, upturned mouth. In Canada, Pugnose Shiner distribution is limited to four main regions of Ontario: the southern drainage of Lake Huron, Lake St. Clair, Lake Erie, Lake Ontario and the St. Lawrence River.

This species is found in highly-vegetated, clear, slow-moving water. It has a limited distribution and it is often absent from habitats that appear to be suitable. Habitat loss and degradation through siltation or changes to water quality/quantity are the main threats to Pugnose Shiner. Other threats include patchiness of suitable habitat and increases in exotic species, such as Common Carp and Eurasian watermilfoil.

The Pugnose Shiner is considered an Endangered species under the federal *Species at Risk Act*. As such, the Act requires that a recovery strategy be developed to identify actions required to stop the decline of this species.

Fisheries and Oceans Canada, in cooperation with the government of Ontario, has developed a recovery strategy to help protect and recover the Pugnose Shiner.

RECOVERY GOALS

The population and distribution objective for the Pugnose Shiner is to ensure the persistence of self-sustaining population(s) at the 12 extant locations (Teeswater River, Old Ausable Channel, Mouth Lake, Lake St. Clair and tributaries, St. Clair National Wildlife Area [NWA], Canard River, Long Point Bay/Big Creek, Wellers Bay, West Lake, East Lake, Waupoos Bay and the St. Lawrence River (between Eastview and Mallorytown Landing, including the St. Lawrence Islands National Park) and restore self-sustaining population(s) in Rondeau Bay, Point Pelee National Park, and the Gananoque River, where feasible.

The following short-term objectives have been established to assist with meeting the long-term recovery goal over the next five to ten years:

- Refine population and distribution objectives;
- Ensure the protection of critical habitat;
- Determine long-term population and habitat trends;
- Evaluate and minimize threats to the species and its habitat;
- Investigate the feasibility of population supplementation or repatriation for populations that may be extirpated or reduced;
- Enhance efficiency of recovery efforts through coordination with aquatic and terrestrial ecosystem recovery teams and other relevant or complementary groups/initiatives; and,
- Improve overall awareness of Pugnose Shiner and the role of healthy aquatic ecosystems, and their importance to humans.

RECOVERY STRATEGY

The recovery team has identified several ways to ensure that recovery objectives for the Pugnose Shiner are met. These approaches have been organized into three categories:

1. Research and Monitoring;
2. Management and Coordination; and,
3. Stewardship, Outreach and Awareness.

Completing all these tasks will likely require the participation of several specialized task groups and each of these approaches include a number of activities (see recovery strategy for full details), including those summarized below:

Research and Monitoring

- Conduct targeted surveys in areas where Pugnose Shiner is known to persist, at new and suspected locations and at historic locations.
- Develop and implement standardized index population and habitat monitoring program with specific sampling and training protocol.
- Determine seasonal habitat needs of all life-stages of the Pugnose Shiner.
- Determine the physiological tolerance thresholds of the Pugnose Shiner with respect to various water quality parameters (e.g., dissolved oxygen, nutrients) and check against existing standards.
- Identify potential areas of operation that might be contributing to siltation and nutrient loading downstream. Suggest improvements that may aid in reducing nutrient and suspended solid inputs from urban areas.
- Compare habitats of extant populations with formerly occupied sites. Investigate and evaluate the significance of threat factors. Take steps to mitigate immediate threats identified.
- Evaluate the impacts of exotic species (including Common Carp and Eurasian watermilfoil) on the Pugnose Shiner and its habitat.
- Measure sediment and nutrient loads emitted from streams.
- Develop a repatriation plan where appropriate.
- Monitor watersheds for exotic species of concern in cooperation with aquatic ecosystem recovery teams.

Management and Habitat Protection

- Work with existing relevant ecosystem recovery teams, Aboriginal communities and other interest groups to share knowledge, implement recovery action plans and to obtain incidental sightings.
- Encourage municipal planning authorities and local Aboriginal communities to consider the recovery goal and associated objectives in Official Plans and the determination of land use designations. Support that future development does not degrade habitat of the Pugnose Shiner. Suggest improvements that may aid in reducing nutrient and suspended solid inputs from urban areas.
- Address watershed-scale stressors to Pugnose Shiner populations and their habitat in cooperation with existing relevant aquatic ecosystem recovery teams.
- Develop a plan that addresses potential risks, impacts, and proposed actions in response to existing exotic species and the arrival or establishment of new exotics.
- Evaluate the feasibility of prohibitions on the use of live baitfishes.

Stewardship, Outreach and Education

- Promote stewardship among landowners and Aboriginal communities abutting aquatic habitats of Pugnose Shiner, and other local landowners with potential to have direct or indirect effects on the habitat of Pugnose Shiner.
- Collaborate with relevant groups, Aboriginal communities, initiatives and recovery teams to address recovery actions to benefit Pugnose Shiner.

- Work with landowners, Aboriginal communities and relevant interest groups to implement BMPs in areas where they will provide the most benefit. Encourage the completion and implementation of Environmental Farm Management Plans and Nutrient Management Plans.
- Develop and implement a communications strategy that identifies partners, target audiences, approaches, information products, and educational and outreach opportunities, that will assist with the recovery of the species.
- Facilitate access to federal and provincial funding sources for landowner and local community groups engaged in stewardship activities.
- Provide clear communications addressing funding opportunities as well as landowner concerns for their responsibilities under the *Species at Risk Act* (SARA).
- Provide a Pugnose Shiner information package to bait harvesters. Request avoidance of occupied habitats, and the release and reporting of Pugnose Shiner captured.
- Increase public awareness about potential impacts of exotic species on the ecosystem, including Pugnose Shiner. Discourage the emptying of bait buckets.

CRITICAL HABITAT

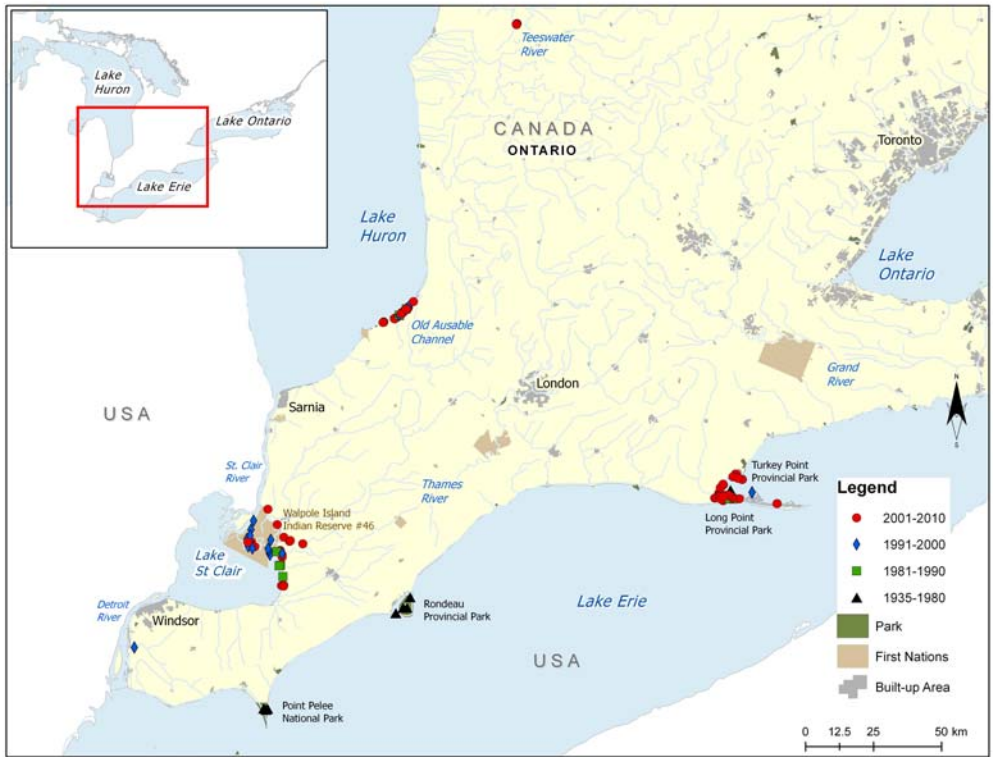
Using the best available information, critical habitat has been identified for Pugnose Shiner populations in the following locations:

- Teeswater River
- Old Ausable Channel
- Mouth Lake
- St. Clair National Wildlife Area
- Little Bear Creek (Lake St. Clair tributary)
- Long Point Bay/Big Creek
- Wellers Bay
- West Lake
- East Lake
- Waupoos Bay
- St. Lawrence River/St. Lawrence Islands National Park

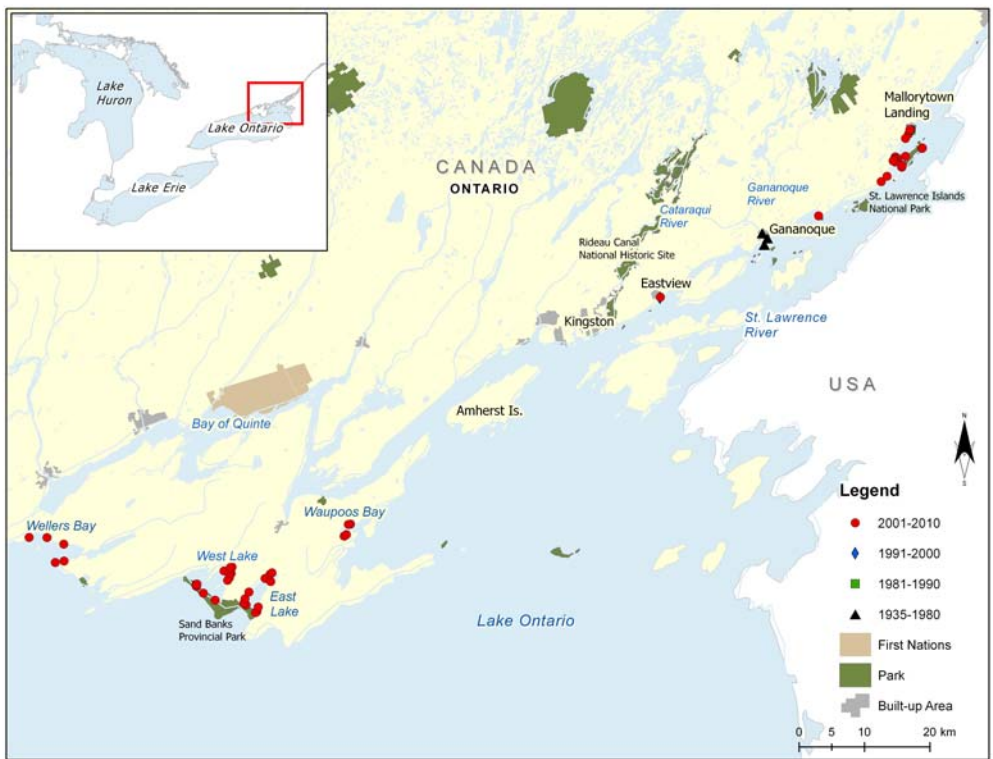
A strategic environmental assessment was conducted to ensure the strategy does not have inadvertent negative effects on other species. The assessment concluded the strategy will clearly benefit the overall environment and will have no significant negative effects.

The recovery strategy will be supported by one or more action plans that will be developed within five years of the final recovery strategy being posted on the public registry, and will provide further details on specific recovery measures to be taken to support the conservation of the species. Wherever possible, recovery action plans will be linked to existing watershed recovery teams (e.g., Essex-Erie region) to ensure that activities to protect the Pugnose Shiner are beneficial to all species at risk, and to eliminate possible duplication of effort.

The success of recovery actions will be evaluated largely by tracking changes in population distribution and abundance, and changes in habitat. The entire recovery strategy will be reported on every five years to evaluate progress and incorporate new information if necessary.



Range of the Pugnose Shiner in southwestern Ontario



Range of Pugnose Shiner in southeastern Ontario