

EXECUTIVE SUMMARY – Recovery Strategy for the Pugnose Shiner (*Notropis anogenus*) in Ontario

Prepared by the Ontario Ministry of Natural Resources. Adoption of the Recovery Strategy for the Pugnose Shiner (*Notropis anogenus*) in Canada (Fisheries and Oceans Canada 2012).

The *Endangered Species Act, 2007* (ESA) requires the Minister of Natural Resources to ensure recovery strategies are prepared for all species listed as endangered or threatened on the Species at Risk in Ontario (SARO) List. Under the ESA, a recovery strategy may incorporate all or part of an existing plan that relates to the species.

The Pugnose Shiner (*Notropis anogenus*) is listed as endangered on the SARO List. The species is also listed as endangered under the federal *Species at Risk Act* (SARA). Fisheries and Oceans Canada prepared the Recovery Strategy for the Pugnose Shiner in Canada in 2012 to meet its requirements under the SARA. This recovery strategy is hereby adopted under the ESA. With the additions indicated below, the enclosed strategy meets all of the content requirements outlined in the ESA.

Section 2.7 of the federal recovery strategy provides an identification of critical habitat (as defined under the SARA). Identification of critical habitat is not a component of a recovery strategy prepared under the ESA. However, it is recommended that the approach used to identify critical habitat in Section 2.7 be considered when developing a habitat regulation under the ESA.

EXECUTIVE SUMMARY

Prepared by Fisheries and Oceans Canada

The Pugnose Shiner is a small minnow that is distinguished from similar species by its tiny, upturned, mouth and black stomach cavity lining. Colouration is mostly silver with yellow and olive tints above the lateral black band where scales are heavily outlined. Male Pugnose Shiner can reach total lengths (TL) of 50 mm, while females can reach up to 60 mm TL. This species is found in highly vegetated, clear, slow-moving water, and its distribution and recovery potential is believed to be limited by the distribution and abundance of these habitat types. The Pugnose Shiner is considered globally rare to uncommon (G3), and was designated as Endangered in Canada in November 2002 by the Committee on the Status of Endangered Wildlife in Canada. Status at state levels varies from extirpated (SX – Ohio) to vulnerable (S3 in Michigan and Minnesota).

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. The species was known historically from Lake Erie

(Point Pelee National Park, Rondeau Bay and Long Point Bay) and the St. Lawrence River (Gananoque). Recent captures have confirmed that the species is extant in the following areas:

- Teeswater River,
- Old Ausable Channel,
- Mouth Lake,
- Canard River,
- Lake St. Clair (including Walpole Island) and two of its tributaries (Whitebread Drain/Grape Run Drain and Little Bear Creek),
- St. Clair National Wildlife Area,
- Long Point Bay/Big Creek (including Long Point National Wildlife Area [both Thoroughfare Point Unit and Long Point Unit] and Big Creek National Wildlife Area [Big Creek Unit only]),
- Wellers Bay (including all occasionally exposed lands of Wellers Bay National Wildlife Area lying between the high-water mark and the water's edge of Wellers Bay, which forms the boundary of Wellers Bay National Wildlife Area and which varies with water level fluctuations of Lake Ontario),
- West Lake,
- East Lake,
- Waupoos Bay, and,
- St. Lawrence River (from Eastview to Mallorytown Landing, including the St. Lawrence Islands National Park).

Extant populations in Ontario occur in areas that are vulnerable to declining habitat quality. Habitat loss and degradation is the principal threat to Pugnose Shiner and may be the result of various factors, such as poor agricultural practices leading to siltation and turbidity, increases in lakeshore development and the removal of aquatic vegetation, as well as human-induced changes in water quality/quantity. The fragmented nature of preferred habitat prevents connectivity of existing populations and may prevent gene flow and/or inhibit colonization of other suitable habitats. Changes in fish communities where Pugnose Shiner are found may have negative effects on the species due to increased predation and/or interspecific competition for resources. Increases in some exotic species, such as Common Carp and Eurasian watermilfoil, may also affect Pugnose Shiner, due to the negative impacts these species can have on native aquatic vegetation.

The long-term recovery goal (over the next 20 years) for Pugnose Shiner is to maintain self-sustaining populations at existing locations and restore self-sustaining populations to historic locations, 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:

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

The recovery team has identified several approaches necessary to ensure that recovery objectives for Pugnose Shiner are met. These approaches have been organized into three categories: Research and Monitoring; Management and Coordination; and, Stewardship, Outreach, and Awareness. Research and Monitoring strategies are crucial to the recovery of Pugnose Shiner because many aspects of its life history and biology are not well known, including its capacity to rebound demographically. Initial surveys will verify extant and uncorroborated accounts of Pugnose Shiner across its range, while a detailed, permanent monitoring program will observe the health of the species and its habitat, as well as potential predators, competitors and exotic species. Research projects will help resolve some uncertainty related to specific habitat requirements, feasibility of population repatriations, and threat mitigation. Management and Coordination strategies include working with other relevant groups, recovery teams and aquatic ecosystem-level recovery strategies that are currently being implemented within a number of the watersheds where Pugnose Shiner is known to occur, namely the Old Ausable Channel, Lake St. Clair (Walpole Island) and the Essex-Erie region. This will allow relevant groups and teams to share information and implement recovery actions. Lastly, through the broad approaches of Stewardship, Outreach and Awareness, the importance of the recovery of Pugnose Shiner will be conveyed to the community at large and stakeholder groups in particular, to obtain support for recovery implementation.

Critical habitat has been identified to the extent possible based upon the best available information for extant Pugnose Shiner locations in the following areas:

- Teeswater River,
- Old Ausable Channel,
- Mouth Lake,
- St. Clair National Wildlife Area,
- Little Bear Creek (Lake St. Clair tributary),
- Long Point Bay/Big Creek (including Long Point National Wildlife Area [both Thoroughfare Point Unit and Long Point Unit] and Big Creek National Wildlife Area [Big Creek Unit only]),

- Wellers Bay (including all occasionally exposed lands of Wellers Bay National Wildlife Area lying between the high-water mark and the water's edge of Wellers Bay, which forms the boundary of Wellers Bay National Wildlife Area which varies with water level fluctuations of Lake Ontario),
- West Lake,
- East Lake,
- Waupoos Bay, and,
- St. Lawrence River (from Eastview to Mallorytown Landing, including the St. Lawrence Islands National Park).

A schedule of studies has been developed that outlines necessary steps to obtain the information to further refine these critical habitat descriptions.

A dual approach to recovery implementation will be taken combining an ecosystem-based approach with a single-species focus. This will be accomplished through coordinated efforts with relevant ecosystem-based recovery teams (Ausable River, Essex-Erie region, Walpole Island) and their associated Recovery Implementation Groups. The recovery strategy will be supported by one or more action plans that will be developed within five years of the final strategy being posted on the public registry. The success of recovery actions in meeting recovery objectives will be evaluated through the performance measures provided. The entire recovery strategy will be reported on every five years to evaluate progress and to incorporate new information.