



The Mudpuppy Mussel... a *Species at Risk* in Ontario

as designated under the federal *Species at Risk Act*

COSEWIC Status –
ENDANGERED May 2001
SARA Status –
ENDANGERED June 2003



Simpsonaias ambigua (Say, 1825)
Photo by National Water Research Institute

This species has been identified as Endangered by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). It is listed under the federal *Species at Risk Act* (SARA) and is afforded protection

under the SARA as of June 2004. Additional protection is afforded through the federal *Fisheries Act*. Under the SARA, a recovery strategy must be developed for this species.

General Description

The Mudpuppy Mussel (*Simpsonaias ambigua*) is the only member of the genus *Simpsonaias* and is the only freshwater mussel that has a non-fish host species. As the name suggests, this species uses an amphibian, the Mudpuppy (*Necturus maculosus*), as its host. The following characteristics can be used to identify the Mudpuppy Mussel:

- Shell is thin, fragile, oval to elliptical in shape, and considerably elongated
- Thicker at the anterior than the posterior end
- Shell is rounded at both ends while top and bottom edges are nearly parallel
- The beak (raised part at the top of the shell) is slightly swollen and sculptured with 4 to 5 double-looped ridges
- Maximum shell length is about 50 mm
- Outside of shell is yellowish tan to dark brown with no markings
- Inside of shell is bluish white, iridescent on the back half and sometimes tinged with salmon
- Triangular teeth at the front edge of the hinge are small, low and rounded - one in each half of the shell

Distribution

The Mudpuppy Mussel was historically known in 14 states and the Province of Ontario. In Canada, it was historically known from the Detroit, Sydenham and Thames rivers although it is now restricted to a 50 km reach of the East Sydenham River, where it appears to be reproducing. This species is believed to have been extirpated from the Detroit River due to the impact of the Zebra Mussel. It has been lost from 60% of formerly occupied rivers and streams in the United States, and is believed extirpated from three states.

Habitat and Life History

The Mudpuppy Mussel is most often found burrowed in sand or silt under large, flat rocks in shallow areas with swift current, although it can also be found in mud and on gravel bars. Habitat is dependent on areas that meet the nesting and sheltering requirements of its larval host, the Mudpuppy. Here, the glochidia (larvae) are released, infesting the gills of the Mudpuppy. When larvae have transformed into juvenile mussels they are likely released into the hiding place of the Mudpuppy, creating large clusters of mussels in one area. It is believed that spawning occurs in late summer and the glochidia are released the following spring or summer.

Host

Mudpuppy (*Necturus maculosus*)

Diet

Like all species of freshwater mussels, the Mudpuppy Mussel uses bacteria and algae as its primary food source.

Threats

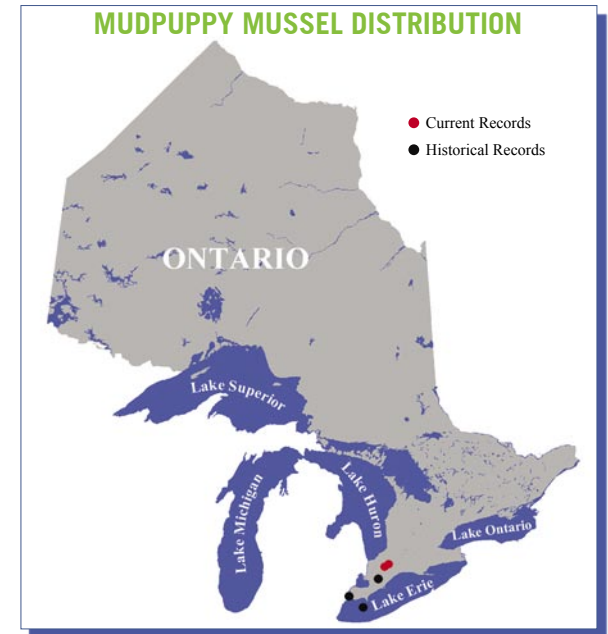
The continued existence of this species in Canada may depend on the status of its host, the Mudpuppy, which is intolerant of siltation and could be threatened by increasing sediment loads from agricultural activities in the Sydenham watershed. This species is difficult to find and may be undersurveyed.

Similar Species

Anodontooides ferussacianus - similar shell shape and beak structure to the Mudpuppy Mussel but lacks triangular teeth and grows considerably larger.

Text Sources: Watson *et al.* 2001.

For more information, visit the SARA Registry Website at www.SARAregistry.gc.ca and the Fisheries and Oceans Canada (DFO) Website noted below.



Cette publication est également disponible en français.

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www.aquaticspeciesatrisk.gc.ca

Section 32 (1) of the *Species at Risk Act* (SARA) states that “no person shall kill, harm, harass, capture or take an individual of a wildlife species that is listed as an extirpated species, an endangered species or a threatened species.”