

## Aquatic Species at Risk



# The Wavy-rayed Lampmussel... a *Species at Risk* in Ontario

as designated under the federal *Species at Risk Act*

COSEWIC Status – ENDANGERED October 1999

SARA Status – ENDANGERED  
June 2003



*Lampsilis fasciola* (Rafinesque, 1820)  
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 Wavy-rayed Lampmussel (*Lampsilis fasciola*) is one of five species of the genus *Lampsilis* that occur in Canada and has the following characteristics:

- Easily distinguished from other mussels by its yellow or yellow-green colour with numerous thin, wavy green rays
- Rays may be narrow and individual or thin and coalesced into wide rays, but always wavy with multiple interruptions
- Inside of shell may be white or bluish white
- Males are quadrate-ovate in shape; females ovate
- Shells are usually less than 75 mm long but may reach 90 to 100 mm
- Shell is heavy and strong, moderately inflated; mid-anterior shell-wall thickness of about 7.5 mm
- Smooth shell surface except for concentric wrinkles and growth rests
- Indistinct posterior ridge
- Beak (raised part at the top of the shell) is elevated and beak cavities are moderately excavated
- Shell is rounded at both ends while top and bottom edges are nearly parallel
- Triangular teeth at the front edge of the hinge are short and divergent; two teeth in each half of the shell



## Distribution

The Wavy-rayed Lampmussel was historically known from 13 states and the Province of Ontario. In Ontario, this species was found in western Lake Erie, Lake St. Clair and the Maitland, Sydenham, Thames, Detroit, Ausable and Grand rivers. The Great Lakes populations have been reduced by the Zebra Mussel (*Dreissena polymorpha*), and populations in the Thames, Sydenham and Ausable rivers are disappearing or have been lost. It is now listed as endangered, threatened or special concern in six states.

## Habitat and Life History

The Wavy-rayed Lampmussel lives mainly in gravel or sand bottoms of riffle areas in clear, medium-sized streams. As it usually burrows into the substrate, it may be particularly sensitive to siltation. The Wavy-rayed Lampmussel is a moderately long-lived, sexually-dimorphic species with a lifespan of at least 10 years, but rarely more than 20 years. It is believed that spawning occurs in late summer and the glochidia (larvae) are released the following May-August. In females of the genus *Lampsilis*, the edge of the mantle has evolved into a minnow-shaped lure that is used to attract potential fish hosts when glochidia are ready to be released.

## Host

Two hosts for this species have been identified in Ontario: the Smallmouth Bass (*Micropterus dolomieu*) and the Largemouth Bass (*Micropterus salmoides*).

## Diet

Like all species of freshwater mussels, the Wavy-rayed Lampmussel uses bacteria and algae as its primary food source.

## Threats

Riverine populations are particularly vulnerable to increased siltation and declining water quality resulting from intensive agricultural activity and expanding urbanization across its historical range. Great Lakes populations are threatened by Zebra Mussels (*Dreissena polymorpha*), which inhibit feeding, respiration and reproduction. There is some evidence that this species' most probable fish host, the Smallmouth Bass, is declining in the Grand River due to fishing.

## Similar Species

Does not closely resemble any other mussel in Canada.

Text Sources: Metcalfe-Smith *et al.* 2000.

For more information, visit the SARA Registry Website at [www.SARAreistry.gc.ca](http://www.SARAreistry.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](http://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.”