

Barriers have been constructed to block the upstream migration of spawning sea lampreys, while allowing other fish to pass with minimal disruption. Various types of barriers have eliminated lampricide treatment on some streams and reduced the area of the stream requiring lampricide treatment on others.



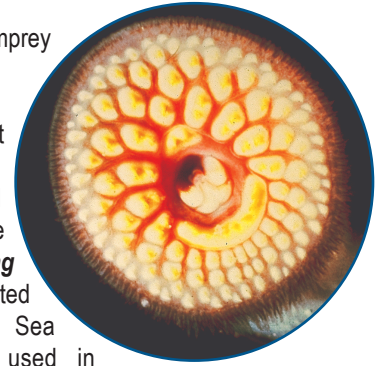
A comprehensive **assessment program** allows biologists to better understand the ecology and population dynamics of the sea lamprey at all stages of its life cycle. The information gathered allows DFO to track long-term trends in lamprey populations, to monitor the effectiveness of the of the lampricide control program and to identify alternative ways of controlling sea lamprey populations. The ultimate purpose of collecting and analyzing the data is to develop and implement the most efficient and effective control program at the lowest cost and with the least possible negative effect on the environment.

The assessment program monitors abundance of **larval sea lampreys** in Great Lakes streams to determine where lampricide treatments should occur, when treatments are required and how effective past treatments were. Measuring the size and age of the larvae collected provides biologists with information about how well the populations grow and survive in each stream. New technologies, such as geographic positioning systems (GPS) and geographic information systems (GIS), are being used to map the exact distribution of larvae and to target control efforts.

Through a cooperative program, charter boats and commercial fishers provide government agencies with data on the occurrence of **parasitic-phase sea lampreys** in the open waters of the Great Lakes. Fisheries and Oceans Canada uses these data to predict the extent of damage caused to fish

communities by sea lamprey parasitism.

Biologists monitor adult sea lamprey spawning migrations in spring and early summer to estimate the number of **spawning sea lampreys** in selected Great Lakes streams. Sea lamprey traps, often used in association with barriers, are fished to catch adult lampreys as they travel upstream to spawn. These assessment data provide an accurate measure of lakewide sea lamprey populations and are used to assess the overall success of the sea lamprey control program. Male lampreys caught in the traps are used for the sterile-male-release technique; most females are used for continuing research.



Sea lamprey control in the Great Lakes has been tremendously successful. Ongoing control efforts have resulted in a 90 percent reduction of sea lamprey populations in most areas, creating improved conditions for fish survival and spawning. Although it is impossible to completely rid the Great Lakes of sea lampreys, through continued cooperation and support, their populations can be kept at levels that lessen their impact to the fishery.

For more information on sea lamprey control in the Great Lakes, contact the Sea Lamprey Control Centre at 1 Canal Drive, Sault Ste. Marie, ON, P6A 6W4; by phone at (705) 941-3000; or visit our regional website at:

www.dfo-mpo.gc.ca/regions/central/CENTRAL/home-accueil_e.htm



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