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## Lampricide kills hundreds of salamanders in Lamoille River

By [Louis Porter](#) Vermont Press Bureau

MONTPELIER – A large number of mudpuppies, a prehistoric-looking creature that is the second rarest salamander in Vermont, were killed last week when the state treated the Lamoille River with a chemical to kill sea lamprey.

Final numbers are not in, but by some estimates as many as 512 mudpuppies died after the treatment. Only two dozen mudpuppies have been killed by previous lampricide treatments in Vermont, which are meant to kill parasitic lamprey that harm or kill fish in Lake Champlain.

The reclusive mudpuppies, which can grow to be 14 inches long and have a branching network of external gills extending from their throats, are a species of special concern and of "greatest conservation need" in Vermont. They are rare and biologists carefully watch their status. They are not legally protected or have threatened or endangered species status, although some have suggested they should be given protection in the state.

The numbers killed are higher than he is comfortable with, said Jim Andrews, adjunct professor at the University of Vermont and coordinator of the Vermont Reptile and Amphibian Atlas. The response by the state to such a die-off of mudpuppies would likely be quite different if a private company had caused it, Andrews said.

"The assumption is that there is no real cost involved" in the lampricide treatment, Andrews said. "There is a cost."

But there also is a cost in not lowering sea lamprey populations, said Vermont Fish and Wildlife Commissioner Wayne Laroche.

A variety of fish are harmed or killed by lamprey. Some, like lake trout, are valuable game fish while others – for instance the lake sturgeon – are endangered, Laroche said.

Laroche said lamprey control is not just for the economic benefit of sport fishing to Vermont but also for maintaining a balance of all species, including sea lamprey. Native to the Lake Champlain basin, sea lamprey have dramatically increased in number as more silt deposits have increased spawning grounds.

"Lake sturgeon are endangered, they have been devastated," Laroche said. "Sea lamprey, if left unchecked, could cause extinction of the natural genetic population left in Lake Champlain."

Lampricide is applied to rivers in the Lake Champlain basin by the Vermont Fish and Wildlife Department in partnership with the New York State Department of Environmental Conservation and the U.S. Fish and Wildlife Service.

According to a recent statement from the Vermont department "under the sea lamprey control program, TFM (3-trifluoromethyl-4-nitrophenol) is applied in precise concentrations to the streams in a continuous, metered manner over a 12-hour period in order to kill the immature, larval form of the sea lamprey." The application, according to that statement, should have "little or no effects on populations of other aquatic species."

But the number of mudpuppies killed a week ago raises questions about how well biologists understand the mudpuppy population, the effect of the lampricide, and the potential that other stresses put the creatures at risk during such treatments, Andrews said.

"These are complex systems we are tinkering with," he said.

"It is a large number," Laroche said of the mudpuppies killed. But, he added, "I am not alarmed."

The large number of dead mudpuppies might mean that the Lamoille, which had never before been treated with lampricide, has a very high population of the mottled brown salamanders, he said.

"We could have an abundance of mudpuppies and just have a situation where it is difficult to find them and catch them," Laroche said.

Laroche said as the data and research on the most recent lampricide treatment comes in, it will be evaluated objectively and thoroughly.

"If we find out something went wrong on this treatment we are going to make sure it doesn't happen again," Laroche said.

But lamprey control is a very political issue, Andrews said, in part because of its effect on sport fishing, and fish and wildlife scientists can be afraid to speak out.

Past lampricide applications have killed other types of lamprey that do not pose the same risk to fish, including the endangered brook lamprey, although apparently this was not the case in the most recent application.

"It doesn't distinguish between sea lamprey and the other species," said Andrews.

But Laroche said the department does what it can to avoid killing other lamprey species.

"We are doing everything we can to minimize the impact on brook lamprey," Laroche said.

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