

Invading sea squirts are 'sliming' the Sound

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Invading sea squirts are 'sliming' the Sound

State acts to eradicate species off Edmonds

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By DEBERA CARLTON HARRELL

SEATTLE POST-INTELLIGENCER REPORTER

Invasive sea squirts threatening to "slime" Puget Sound are being ousted from their underwater perches off Edmonds' shores -- or so state authorities hope.

Volunteer divers applied chlorine tablets Saturday to a site at Edmonds Underwater Park in an effort to kill a recently discovered, highly invasive species of "colonial tunicate," or sea squirt, that is of great concern to the shellfish industry.

The state-approved use of chlorine in Puget Sound was part of an unprecedented experiment to eradicate a small colony of the mocha-colored sea creatures before they spread farther, officials said.

"We're trying to find a good way to kill these critters without killing anything else," said Pam Meacham, assistant invasive species coordinator for the state Department of Fish and Wildlife.

"The whole thing is very experimental; we're not positive it will work," Meacham said. She said concern about the tunicates' rapid growth prompted the various state departments with jurisdiction -- Fish and Wildlife, Agriculture and Ecology -- to work rapidly to grant the necessary permits and water-quality waiver. The trial ends Oct. 31 unless Fish and Wildlife asks for an extension.

Bruce Higgins of Seattle, a founder of the underwater park, was among five divers who helped cover the 4-foot-by-10-foot colony with a large plastic "tarp." The tunicates -- tiny, leathery creatures with a body structure similar to a "naked clam" -- are growing on the hull of a sunken boat.

After isolating the colony with the plastic, divers released four chlorine tablets -- similar to those used to fight bacteria and algae in swimming pools but in higher concentrations -- into an area comparable to about 32 gallons, or 4 cubic feet of water, Meacham said.

"Hopefully, the treatment will be lethal, but we won't know for a while," Higgins said.

Divers will continue to monitor the effects of the chlorine, but may not know for weeks how the siphon-feeders respond to the alien substance.

"Tunicates are ugly -- you could say we got slimed -- and are a big problem," said Kevin Anderson, aquatic nuisance species coordinator for the Puget Sound Action Team, a partnership of state and

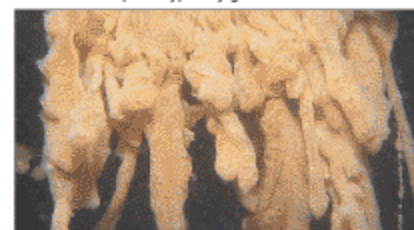
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SEA SQUIRT INVASION

An invasive marine animal known as the sea squirt, or colonial tunicate, has been discovered in Puget Sound near Edmonds. It is a marine pest that spreads rapidly and suffocates other sea life in the process.

LIFE CYCLE: Sea squirts live in groups or colonies. They are stationary animals, and their life span is relatively short. They spend their first year of life developing and then breed and die the next year.

COLONIES: Squirts typically grow in two formations:



Long, ropy or beardlike clusters that attach to docks, lines and ship hulls.



Wide, bumpy, dense mats that drape across rocky seabeds.

FEEDING: Each individual sea squirt has two spout-like openings that control the flow of water in and out of the organism. As the water flows through the squirts, they filter out and feed upon plankton.

OCCURRENCES: Native to Europe, the species has been found in coastal regions of France, the Netherlands, New Zealand, California and several New England states.

Source: USGS Woods Hole Science Center

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local agencies, and tribes.

"I think we're fortunate to have discovered it so soon; it speaks to this whole idea of early detection," Anderson said.

Tunicates have no known predators. They grow rapidly, in large colonies, spreading like goo across clam and scallop beds or choking off the habitats and food supplies of other fish and shellfish. The type of tunicate found about 750 feet offshore in Edmonds is called *Didemnum lahillei* -- the same "stringy" form of tunicate that has wreaked havoc in New England.

Kinsey Frick, who works for National Oceanic and Atmospheric Administration, is credited with discovering the tunicates at Edmonds Underwater Park in April, when the colony was about 2 feet square. After recent dives confirmed a much larger area -- 4 feet by 10 feet -- state agencies knew they needed to take aggressive action, said Scott Smith, aquatic nuisance species coordinator for the state.

"We knew we needed to do something quickly to get rid of them while the area is still small," Smith said. "The largest concern is their impact on the state's aquaculture -- and it's a big concern."

State officials say this is the first time tunicates have been found in Puget Sound -- but it is likely not the last.

"It's good news that we caught it early, but I think it got caught early because there are a lot of eyes at Edmonds," Higgins said of the popular underwater park. "It could exist elsewhere, and it will be the state's job to figure out how to spot it in other places," Higgins said.

While no one knows how the tunicates arrived here, the most likely cause, officials say, is in the exchange of ballast water -- a global practice by which ocean-going ships enhance stability by either pumping water from or releasing water into the ports they are visiting.

Concern over the practice led the 2000 Legislature to pass a new "ballast law," requiring ships to go 50 miles offshore to dump ballast water.

FOR MORE INFO

The so-called Aquatic Nuisance Species Committee, formed by the Legislature in 2000, will meet today in Lacey to discuss how to develop an "early detection" plan for invasive species of plants and animals in the state's lakes, rivers and salt water. The meeting, open to the public, will be held from 9 a.m. to 3 p.m. at the U.S. Fish and Wildlife Service office in Lacey, 510 Desmond Drive S.E. (Off Martin Way exit).

More than 50 exotic marine plants and animals are inhabiting the Sound, according to university and government experts. They include:

- Spartina: a ribbony grass that chokes tidal mud flats, squeezing out seabirds, crabs and mollusks
- Varnish clams: an Asian clam with a shell that resembles peeling varnish on the outside and amethyst colored inside; impact unclear
- Atlantic salmon: the farmed fish escape from net pens and can be infected with sea lice that can kill wild salmon
- Shad: a type of herring from the East Coast that potentially compete with native fish for food and are infested with a parasitic worm that can sicken people

- Atlantic worms: large numbers of the worms are strewn about the bottom of muddy bays
 - Japanese oyster drill: this mollusk bores into and kills large numbers of oysters
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