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The blob that's invading the Sound

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HOOD CANAL — Like knights heading into battle, two dozen people in rubber-coated diving suits and 40-pound air tanks clanked down the gravel beach.

They each clutched weapons: windshield ice scrapers, barbecue tongs, a spatula nabbed from the kitchen.

Their hated enemy lay beneath Hood Canal's frigid waters, a creature that had scorned a previous assault, expanding its territory at a ferocious rate.

It's a 6-inch-long blob of goo called a tunicate, a siphon-feeding animal much like a clam without a shell.

Around Puget Sound, the appearance of the tenacious, fast-spreading breed of sea creatures, also called sea squirts, is alarming divers, biologists and government officials.

While their impact on the Sound's troubled ecosystem is unknown, some of the same species have wreaked havoc elsewhere, coating miles of underwater habitat in slime, smothering farmed shellfish, displacing native species and proving extraordinarily hard to fight off. One species found here has already damaged shellfish farms in eastern Canada.

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Invasive tunicates, such as these seen in Hoodsport, are taking over parts of Puget Sound. Their presence may be further evidence that the Sound is under stress and vulnerable to invaders.

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A group of volunteer divers prepares for a tunicate-gathering expedition in Hood Canal near Hoodsport last month.

What to do if you spot a tunicate

Call, don't kill It can be hard to tell a native tunicate from a non-native. Alert the Washington Department of Fish and Wildlife at 360-902-2724.

Their presence may be further evidence that the Sound is under stress, making it particularly vulnerable to invaders, like a bulldozed piece of land overrun by blackberries and dandelions.

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Gov. Christine Gregoire's budget request seeks $500,000 to track and remove tunicates.

Invasion spotted

Not every tunicate causes trouble. The Sound has long been home to a variety of the siphon-feeding creatures, many resembling delicate little tubes of blown glass.

But in 1998, scientists saw the first sign of trouble. They discovered two non-native varieties of tunicate at marinas. In 2004, a third kind showed up, at a popular diving spot near Edmonds.

It's not known how they got here. Two species originally come from Asia. The origin of the other is unclear. Scientists think ocean-going ships might have brought some species here. One species might have come from industrial shellfish operations using contaminated equipment or shellfish.

These invasive tunicates have cropped up at more than 20 places throughout the Puget Sound and Hood Canal. In some spots there are just a handful. But in the southern reaches of Hood Canal, the bottom is coated with a forest of tiny, pale white tubes.

"It was like on an alien planet. This stuff was just everywhere. It was the creepiest thing I'd ever seen," said Janna Nichols, a diver who leads volunteer efforts to destroy the tunicates.

No one really knows how widespread they are. That's because the tunicates can thrive in deep, hard-to-reach water, and there hasn't been a concerted effort to track them.

That appears to be changing. Fearful of the potential impacts on the Sound's ecosystem and the local shellfish industry, the state for the first time last year dedicated $250,000 to tracking and removing the tunicates. Gov. Christine Gregoire is asking in her current budget proposal for $500,000 to continue the work.

Teams of volunteer divers, meanwhile, have taken to the water to track and attack the creatures.

The blob that grew

In November of 2005, divers noticed a tiny clump of one species, Ciona savignyi, at Sund Rock, a popular Hood Canal diving area and protected marine reserve north of Hoodsport.

When divers returned 11 months later, the tunicates numbered in the thousands. The divers tried to scrape off as many as they could but made only a dent.

So in January they returned, armed with their makeshift weapons.

Steve Sutton spent the night before at his house in Tumwater cutting off a short section of PVC pipe and sharpening one end to scrape the tunicates off the rocks.

"If it doesn't work, I have barbecue tongs," he said.

That day, the divers killed between 1,500 and 2,000 tunicates.

But Jason Hammers held out little hope. He often drives from his Longview home to Sund Rock and has watched the tunicates spread.

"Whatever those guys take away today, it will be back in a year," he said as he watched the other divers splash into the water.

People around the world have tried virtually everything to get rid of non-native tunicates, with limited success.

In this state, they've turned a blowtorch on patches of one species exposed at low tide, wrapped part of a sunken boat in plastic and dropped in chlorine tablets, washed docks with high-pressure water jets, and hand-picked the creatures.

But Gretchen Lambert, a Seattle-based tunicate expert, is pessimistic. She said she doesn't know of a case where a major infestation was eradicated.

"I know they're making some very valiant efforts, but there are so many millions and they seem so widespread," she said.

Stories of the tunicates sound like something out of a science-fiction horror movie.

On the Georges Bank, a massive underwater shelf in the Atlantic Ocean critical to the New England fishing industry, it took just three years for one kind of tunicate to go from a few patches to 88 square miles of slime — enough to coat all of Seattle.

This tunicate lives in colonies composed of millions of the tiny creatures, each about 2 millimeters

long. In other places, it has fouled oyster beds, forcing shellfishers to scrub off the slime.

A similar tunicate now dwells in spots throughout Puget Sound and Hood Canal, including several commercial mussel farms.

A different breed, the club tunicate, has hurt the Prince Edward Island shellfish industry in eastern Canada. It weighs down strings of shellfish and can grow so thick it smothers the mussels beneath. The same tunicate has shown up at three Puget Sound marinas.

Then there is Ciona savignyi, the tunicate found at Sund Rock. It's not clear what impact this species is having, Lambert said. But it could crowd out other species, sucking up nutrients and covering habitat.

Kevin Anderson, who is coordinating the state government campaign against the tunicates, said they aren't sure how to get rid of them. But with a valuable local shellfish industry and important ecosystem at stake, they have to try.

"It's like weeding a garden. You keep on weeding until they go away," he said. "Until some new seeds blow over."

Warning sign

The growing presence of tunicates, which appear to thrive in polluted water, is another sign that something is awry in the Sound, Lambert said. Hardy, versatile species can push out native animals more sensitive to environmental changes such as pollution.

"They like sewage, to be blunt," Lambert said of the tunicates. "And I should be blunt because sewage is a big issue in Hood Canal and Puget Sound."

Nichols, the diver, saw evidence of how tough tunicates are. Last September, when low oxygen levels in Hood Canal suffocated thousands of fish, she watched wolf eels and ling cod hovering in the shallows, gulping for air.

When Nichols swam deeper, she saw few signs of life. Except for the tunicates. They seemed to be doing just fine.

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