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## Scientists alarmed by spread of sea squirts

By BECKY W. EVANS, Standard-Times staff writer

A growing population of invasive sea squirts on Georges Bank could threaten commercial fish and sea scallop stocks by smothering their feeding and breeding grounds, according to scientists.

A new survey released yesterday shows that sea squirt colonies are spreading rapidly over an 88-square-mile study area in Georges Bank. Since last year, the area covered by the colonies has doubled at 75 percent of the observed sites, according to the survey.

Sea squirts are tunicates, or invertebrates that have a firm, flexible covering that resembles a tunic. They form thick mats when thousands of the tiny filter-feeding creatures attach themselves to gravel, ship hulls, docks and other hard surfaces. The squirts found on Georges Bank are known to scientists as a species of the genus Didemnum.

Scientists first noticed the squirts attached to gravel on Georges Bank in 2003. The observed expansion of the colonies over the past three years is proof that the invasion is not a short-lived phenomenon, said Page Valentine of the U.S. Geological Survey.

Didemnum has no known predators and will likely continue to spread across the sea floor, Dr. Valentine said.

"It's very aggressive," he said. "As far as we know, nothing eats it. It's not going to go away."

Scientists fear that sea squirt mats could prevent groundfish from

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feeding on worms, crustaceans and other tiny organisms that live on the sea floor. They also are concerned that the mats will keep scallop larvae from attaching to the gravel bottom where they live and grow until becoming mobile.

Local fishermen are somewhat familiar with sea squirts, but few are aware of the threat they present to the industry, seafood consultant Jim Kendall said.

"It's probably not on their horizon as much as it should be," he said.

Fishermen may have less interaction with sea squirts since fishing regulations designed to revive depleted groundfish stocks have cut the number of days they may go to sea, Mr. Kendall said.

Deb Shrader, executive director of Shore Support and the wife of a scallop fisherman, called for scientists to take "immediate action" to study sea squirts and the threat they pose to the fishing industry.

"We need to address the issue seriously and immediately so we don't lose biomass," she said, referring to the total amount of scallops in a given area.

# invertebrates are protected by a firm, flexible covering that resembles a tunic.

named because the tiny

Sea squirts are tunicates,

SEA SQUIRTS

They attach themselves to ship hulls, docks and other hard surfaces, including gravel at the bottom of the sea.

MORE INFO

- Thousands of the tiny filterfeeding creatures create mats on the ocean bottom, blocking groundfish from feeding and possibly preventing scallop larvae from attaching to gravel.
- The sea squirts found on Georges Bank were first detected in the area in 2003. They likely arrived from Europe in the ballasts of ships.
- They have no known predators and are likely to continue spreading.

Ms. Shrader admitted she worries that New Bedford's scallop fleet — which is thriving now that scallop stocks have been rebuilt from depleted levels in the early 1990s — could face another slump if the sea squirt mats prevent new scallops from growing. She also fears that fishermen could be penalized for the sea squirt invasion by yet another cut in fishing days.

Fishing activity could contribute to the further spread of sea squirt colonies, Dr. Valentine said. If the mat is broken up — as can happen when fishing vessels drag their nets or dredges across the sea floor — sea squirts can resettle in different areas and start new colonies, he said. Didemnum also moves into new areas by traveling on ships' hulls or when tadpole larvae are swept up in strong currents.

"One way to live with it is to not disturb it," said, Dr. Valentine, who will continue to study Didemnum.

But whether fishing should be banned in areas where sea squirts live is a decision that fishing regulators should make, he said.

The annual sea squirt survey was conducted in Georges Bank aboard the National Oceanic and Atmospheric Administration ship Delaware II. In addition to Dr. Valentine, researchers included NOAA Fisheries biologist Robert Reid and Dr. Jeremy Collie, a biologist with the University of Rhode Island.

Closer to shore, Didemnum has proved a nuisance to Cape Cod's aquaculture industry for many years. The organisms grow on the outside shell of oysters and mussels that are farmed in coastal waters. Labor costs

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It's an outrageous outrage

Prosecutors offered too lenient a deal

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have increased because of the time it takes to wash the sea squirts off the shellfish before they can be sold, Dr. Valentine said.

Scientists believe Didemnum — which is native to Europe — hitched a ride to the United States in the ballast of ships and flourished once it was dumped into local waters.

Contact Becky W. Evans at

mailto:revans@s-t.com?subject=Scientists alarmed by spread of sea squirts

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