

State, feds team up to fight 'rock vomit' threat to Alaska fisheries

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By Julie Speegle | NOAA Fisheries Public Affairs

The waters of Whiting Harbor near Sitka, Alaska are icy this February morning, but "ROVer" doesn't even shiver while being lowered into it. ROVer is on a mission to find an invasive sea squirt known as "rock vomit."

Rock vomit, technically *Didemnum vexillum*, is an invasive tunicate, or sea squirt, first discovered in Alaska waters during the Sitka Marine Invasive Species Bioblitz in June 2010. It was the first confirmed occurrence of this invasive species in Alaska. The name "rock vomit" comes from the appearance of colonies of the tunicate on the sea floor, which form dense mats.

"It's a crazy organism," said NOAA Fisheries Habitat Biologist Linda Shaw. "It smothers other organisms while producing acidic toxins that in turn prevent anything from growing on it, and it creates a type of barrier between groundfish and its food. It's been causing problems worldwide."

If allowed to spread, rock vomit could pose a serious threat to Alaska's potential \$100 million mariculture business, as well as commercial groundfish fisheries. That's why state and federal agencies are working together with other partner organizations to battle the slimy invasive before it gets a firm foothold in Alaska's pristine and productive waters.

Divers from the Alaska Department of Fish and Game Dive Fisheries Stock Assessment Program and Invasive Species Program conducted dive surveys of Whiting Harbor in September and January to assess the extent of the invasive tunicate's distribution. But some areas of the harbor are too deep for human divers.

That's when ROVer - a nickname given to the Remotely Operated Vehicle from NOAA's Auke Bay Lab - took the plunge. During the last week of February, staff from NOAA Fisheries' Alaska Fisheries Science Center, Ted Stevens Marine Research Institute Marine Ecology and Stock Assessment program and Habitat Conservation Divisions conducted an ROV survey in Sitka's Whiting Harbor and the islands just outside the harbor.

"It's a great example of a cooperative effort with the NOAA Fisheries ROV survey complementing ADF&G's dive surveys," said Tammy Davis of ADF&G's invasive species program. "This has been a valuable partnership for all involved."

ROVer's "eyes" literally light up beneath the surface of the water as the machine goes in search of rock vomit. On the support vessel, NOAA scientist David Csepp remotely powers on the machine with its built-in video camera and control thrusters to start the survey. Katharine Miller fires up the navigational laptop with its survey lines to help keep track of the ROV while Keith Cox controls the vessel. It's a team effort to conduct an ROV survey on and

off the water.

Footage from the survey will be reviewed as part of the effort to determine the range and distribution of the invasive tunicate. Preliminary results are encouraging.

"I think all concerned were relieved to learn that it appears the infestation is concentrated at the head of Whiting Harbor, with the exception of one distinct population that needs to be investigated further," said Davis.

"We can say that there are no big infestations outside the harbor," said Shaw. "But there are some things we want to take a closer look at as we review the video."

Once the analysis is complete the next step will be to work with partner organizations, including the University of Alaska Southeast, the Sitka Sound Science Center and AmeriCorps, to evaluate options for control or eradication of this highly invasive species.

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