

Nasty invasive species turns up in Drakes Estero

'Marine vomit' can smother other species, including oyster beds

By GUY KOVNER, THE PRESS DEMOCRAT

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A newly discovered invasive species capable of blanketing shallow bay bottoms has turned up in Drakes Estero, prompting calls for immediate action to curb the biological threat and entering the debate over the future of a commercial oyster farm in the scenic Marin County estuary.



Francisco Manzo works on a barge filled with oysters pulled from Drakes Estero, many of them covered with the sea squirt *Didemnum vexillum*. (June 2012).

Photo: Christopher Chung / The Press Democrat

A fast-growing sea squirt, *Didemnum vexillum*, is actually thousands of tiny animals that cluster under a common membrane. It is called “marine vomit” for its unappealing gelatinous mass and has been likened to “The Blob” for its capacity to smother other organisms, possibly including the estero's \$1.5 million a year oyster crop and its abundant eelgrass beds.

Tan blobs of *D. vex* appear on the Pacific oysters hauled from the estero's cold, clear water by workers for Drakes Bay Oyster Company, and a scientific survey in 2010 found it on the wooden oyster growing racks and eelgrass that forms the base of the estero's food chain.

“We have the opportunity to nip this in the bud,” said Rick Johnson, a Marin Audubon Society member from Inverness. He cited studies that suggest the invader species may use the oysters and racks as a springboard into the estero's relatively pristine ecosystem.

The society, with 1,855 dues-paying members, wants the oyster farm removed from the 2,500-acre estero, designated by Congress 36 years ago as potential wilderness in Point Reyes National Seashore.

A nasty dispute over the farm's fate erupted about five years ago, and legislation by California Sen. Dianne Feinstein granted Interior Secretary Ken Salazar sole discretion to renew for 10 years the permit that expires Nov. 30.

A 500-page draft environmental report issued by the National Park Service last year discussed *D. vex* in one paragraph, calling it “an aggressive colonizer” of places like oyster farms and noting that it can “cause serious ecological consequences” for small organisms as well as harming eelgrass.

“This is a very serious matter,” said Amy Trainer of the West Marin Environmental Action Committee, which opposes renewal of the oyster farm permit.

The Park Service largely overlooked *D. vex*'s threat to the estero, she said, and should “give it the attention it deserves” in the final report, expected sometime this fall.

Two marine biologists familiar with the situation declined to comment, with one citing in an e-mail the “charged political atmosphere” surrounding the oyster farm.

Ted Grosholz, a UC Davis marine ecologist who conducted the estero survey, said that oyster farm structures provide a base for “fouling species” like *D. vex*, but the consequences have not been calculated.

“It would take a decade of heavily funded work to begin to answer these questions in the sufficient detail needed,” he said in an e-mail.

The Park Service's evaluation of the oyster farm's impact, like many other natural resource issues, “cannot be made entirely on science alone, period,” Grosholz said.

His report to the Park Service noted the “relative abundance (of *D. vex*) on oyster racks and in adjacent seagrass beds.”

Research on control of the invader and the risk of its spread is “urgently needed” in Drakes Estero and worldwide, the National Academy of Sciences said in a 2009 report on the oyster farm.

D. vex covers many of the hard surfaces provided by oyster shells, racks and other structures in the estero, the report said.

Kevin Lunny, who runs the family-owned oyster company, said that people who want his operation terminated are exaggerating the species' impact.

Since he took over the company in 2005, Lunny said he has observed *D. vex* growing only on oysters, and not on racks, eelgrass or the estero's soft bottom.

“We've seen it pretty thick, hanging like goo” on oysters, he said. “The oysters are doing fine.”

Drakes Estero, which is mostly about six feet deep, contains 750 acres of eelgrass beds — 7 percent of the state's total, Lunny said.

D. vex, known to science for about 10 years, has cropped up in New Zealand, northern Europe, British Columbia and both U.S. coasts.

Its discovery in Sitka, Alaska, in 2010 prompted concern over a “significant risk” to the state's valuable fisheries industry, a scientific report said.

Whether or not the oyster farm remains in Drakes Estero, the Park Service will undertake monitoring to “understand the density and distribution” of the *D. vex*, said Melanie Gunn, spokeswoman for the Point Reyes National Seashore.

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