

California Department of Fish and Wildlife News Release

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Cutting Edge Technology Identifies Invasive Species

Biologists with the California Department of Fish and Wildlife (CDFW) have a new weapon in their fight against invasive species in state waters. Researchers are now using DNA typing in tandem with physical identification, the traditional method, to identify exotic organisms that threaten our ecosystems.

“It’s great to have cutting-edge technology to help confirm our results,” said CDFW Senior Environmental Scientist Steve Foss.

The new approach allows researchers to detect cryptic species that appear physically similar but are unrelated, such as worms and certain sponges that are hard to distinguish from each other with the naked eye.

The information was collected by researchers from Moss Landing Marine Labs and the Smithsonian Environmental Research Center, which searched for invasive species at 267 sites along the California coast. Their findings were catalogued by CDFW’s Marine Invasive Species Program (MISP).

Researchers use settling plates to sample bay, harbor and estuarine waters. Settling plates are small panels (about the size of a serving plate) hung off the side of a pier or dock. At each site, 10 plates are deployed for three months, giving organisms time to attach and grow. DNA analysis helps the researchers identify the plants and animals on the plates before the information is added to the MISP database.

The MISP database has information on 347 invasive species that have established populations in California coastal waters. MISP files a report with the California State Legislature every three years, most recently in January 2015. The report can be found online at <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=91995&inline=true>.

Invasive species affect local ecosystems through the loss of fisheries, parasite threats to native species and humans and physical habitat changes. Approximately 40 percent of the species forced to extinction in aquatic ecosystems are due to these biological invaders.

MISP monitors marine and estuarine waters of California for new introductions of invasive aquatic species entering state waters by ship ballast, which is water stored in the bottom of a ship used to help stabilize the vessel, or through hull-fouling where organisms attach themselves to the hull of a ship and are then transported over long distances.

A photo is also available at <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=93489> (Caption: A settling plate after three months in the water inhabited by different types of species.)

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When you file your California income tax return, please consider making a voluntary contribution to the California Sea Otter Fund (line 410) or the Rare and Endangered Species Fund (line 403). Thank you!

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