

Aquatic and Marine Weeds

CDFW conducts Weed Risk Assessments (Harbors and Navigation Code §64.5) for Delta invasive species when requested by State Parks Division of Boating and Waterways (DBW) to assess whether the plant species is invasive and presents a threat to the environment, economy or human health.

- Ribbon weed (Vallisneria australis) weed risk assessment completed July 2022. Species forms dense underwater meadows in the Delta and is rapidly spreading.
- Mapping Delta aquatic weeds with remote sensing in the Interagency Ecological Program.
- Leading eradication effort for marine alga Caulerpa prolifera.



Royal Botanic Garden, Victoria. Australia

Quagga and Zebra (QZ) Mussels

Freshwater mussels (Dreissena rostriformis bugensis & Dreissena polymorpha) that produce 1 million eggs/year. High filtering rate disrupts the food chain. Clog water infrastructure and damage boats. CDFW focuses on prevention, control, and coordination:

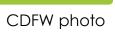
- <u>Monitoring lakes</u> and training local agencies.
- Reviewing Prevention and Control Plans.
- Responding when mussels found.
- Reviewing applications for DBW QZ Mussel grant program. \$22 million to 95 projects since 2014.
- Quagga and Zebra Mussel webpage

Nutria Eradication

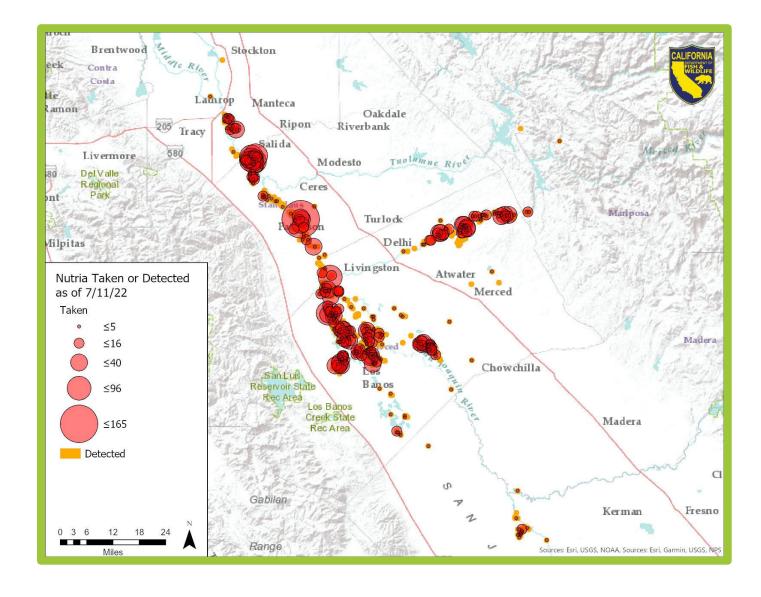
Large aquatic rodent (Myocastor coypus) from South America invading waterways from Merced County to San Joaquin County. Destroys wetland vegetation and could damage levees. CDFW has led statewide eradication program since 2018:

- Captured >3000 nutria in six counties
- Installed >6000 camera stations
- Assessed 1.8 million acres
- Time series map of captures











Managing invasive species from cities to wildlands for wildlife, plants, and habitat Elizabeth Brusati¹ and Krista Hoffmann² ¹California Department of Fish and Wildlife.ca.gov; ²CDFW Lands Program, krista.hoffmann@wildlife.ca.gov

The California Department of Fish and Wildlife (CDFW) conducts prevention, control, monitoring, and public outreach on invasive species as part of our mission to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and their use and enjoyment by the public.

Nerodia Watersnake Eradication

Nerodia sipedon & N. fasciata: native to eastern U.S., formerly sold as pets in CA. Predators on fish and amphibians, could harm the state and federally threatened giant garter snake.

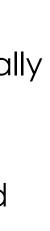
- Eradicating from waterways in Sacramento and Placer Counties to prevent spread into Central Valley.
- 110 removed from Roseville 2015-19. None captured 2020-22. Eradicated?
- o 162 removed from Folsom since 2017.
- Next: Test feasibility of eDNA
- o <u>Species profiles</u>

California Invasive Species Action Week

- 10th anniversary Saturday, June 3 to Sunday, June 11, 2023
- Highlight your organization's work!
- Consider social media, invasive species bioblitz, open house/site tour, in-person or online presentation.
- Video about invasive plant volunteers.
- Past CISAW activities



Learn more at the Invasive Species Program website or invasives@wildlife.ca.gov





CDFW photo



Golden Gate Audubon

Invasive Plant Management on CDFW Lands

State Wildlife Areas and Ecological Reserves are managed for the benefit of species and ecosystems, public use and enjoyment, and to enhance wildland resilience to wildfire. CDFW's Integrated Pest Management (IPM) Program encompasses:

- 733 properties (1.1 million acres) & private lands conservation incentive programs.
- Preventing, monitoring, and treating invasive plant species using a combination of methods to enhance efficacy, minimize non-target impacts, and reduce resistance from the overuse of one method alone.
- Prioritizing treatments based on ecological, recreational, or other impacts; threat of spreading; and eradication potential.
- >4500 ac treated in 2022. High priority species: European beachgrass (photo, right), perennial pepperweed, cheatgrass, thistle species.
- Visit the Lands Program webpage.

New Zealand Mudsnails

New Zealand mudsnails (Potamopyrgus antipodarum) are tiny aquatic snails 4-6mm long. Asexually reproducing females invade lakes and rivers, displace and outcompete native species, and reduce food resources for fish.

- Conducting surveys statewide.
- o 2019-22: 323 surveys, 54 sites with NZMS, 20 new locations.
- Installing educational signs at fishing access points.
- Learn more about New Zealand mudsnails

How CDFW Can Help You

- Invasive species profiles
- Free aquatic invasive species posters
- Aquatic IS Decontamination Protocol (updated 2022)
- Options to report sightings
- <u>CDFW Invasive Species Hotline</u>
- <u>EDDMaps app</u> (California species list)
- Grant programs for habitat improvements





CDFW photo

