

Invasive Non-Native Golden Mussel Discovered in California

Golden mussel (*Limnoperna fortunei*), an invasive, non-native freshwater/brackish bivalve, was recently discovered in the Sacramento - San Joaquin Delta. This discovery is the first known occurrence of golden mussels in North America. The species poses a significant immediate threat to the natural ecosystems, water conveyance systems, infrastructure and water quality in California and across the U.S. Golden mussels are similar in appearance, biology, and impacts to quagga and zebra mussels, but can establish in waters with considerably lower calcium levels than required by quagga and zebra mussels.

Identification

- These mussels are similar in shape and size to quagga and zebra mussels
- Small, typically under 1.5 inches in length
- Firmly attached to hard/semi-hard surfaces
- Upright, shell margins opposite of attached side
- Shell color is light golden to darker yellowish-brown to brown color
- Freshwater and brackish water



Golden Mussel shells collected in October 2024 at a water quality station at Rough and Ready Island near Stockton in San Joaquin County, California, USA. Photo: Elizabeth Wells, Ph. D. (DWR)

The Facts

Golden mussels have been discovered at Rough and Ready Island, just west of the Port of Stockton and further downstream at a location known as Turner Cut in October 2024.

Non-Native Range: Hong Kong, Japan, Taiwan, Brazil, Uruguay, Paraguay, and Argentina, probably the result of ballast water releases and/or as biofouling on the hulls of ships.

Native Range: Rivers and creeks of China and Southeast Asia

Golden mussels are a freshwater/brackish species that inhabit shallow (<10 meters) aquatic environments. They tolerate wide ranges in temperature, pollution, salinity, pH, and calcium levels. They can establish in considerably lower calcium waters compared to quagga and zebra mussels.

Impacts

Environmental: Golden mussels are filter feeders that can consume large quantities of the microscopic plants and animals that other species depend on. As a result the ecological balance of an entire waterbody can be disturbed, displacing native species and sport fish.

Economic: Golden mussels pose an economic threat to California's infrastructure and recreation industries. Mussels may impede water distribution clogging water intakes, fish screens, impede distribution of municipal water supplies, agricultural irrigation, and power plant operation. Mussels can also impact recreation by limiting recreational opportunities, encrusting docks and beaches, colonizing recreational equipment including watercraft hulls, engines, and steering components.

Actions Taken if Found

If you observe this species take clear, close up photos, using some suitable object to show scale (size) and immediately report online, or email us at Invasives@wildlife.ca.gov, or call (866) 440-9530.