

# QUAGGA/ZEBRA MUSSEL FACT SHEET



State and federal agencies have initiated a unified response to the quagga mussel invasion in California. The involved agencies include the Departments of Fish and Game (DFG), Water Resources, Food and Agriculture, Boating and Waterways, Parks and Recreation; U.S. Fish and Wildlife, National Park Service, and Bureau of Reclamation; Metropolitan Water District and the City of San Diego Water Department; and multiple local authorities.

## History of quagga mussels in North America

- Arrived from Europe in the 1980s
- Spread to many eastern waterways, rivers and lakes
- Found in Lake Mead in Arizona on Jan. 6, 2007, and later throughout Lake Mead's lower basin
- Found in Lakes Mojave and Havasu in the Colorado River Jan. 17
- Summer 2007 in the Colorado River Aqueduct System
- Recently found in San Diego County in San Vicente Reservoir, Lake Murray Reservoir, Lower Otay Reservoir, and Lake Dixon and in Riverside County in Lake Skinner and Lake Mathews.

## Economic impact

U.S. Congressional researchers estimated that an infestation of the closely-related zebra mussel in the Great Lakes area cost the power industry \$3.1 billion in the 1993-1999 period, with an economic impact on industries, businesses, and communities of more than \$5 billion.

In California, spread of the mussel threatens water delivery systems, hydroelectric facilities, agriculture, recreational boating and fishing, and the environment in general.

## Quagga:

- Typically the same size as a fingernail but can grow up to about 2 inches long
- Common color patterns vary wildly with black, cream, or white bands
- Habitat varies – they can colonize both hard and soft surfaces in freshwater, from the surface to more than 400 feet in depth.
- Arrived in the U.S. from the Ukraine in 1989

## Zebra:

- Typically the same size as a fingernail but can grow up to about 2 inches long
- Commonly have alternating dark and light stripes
- Inhabit fresh water at depths from 4 to 180 feet (most commonly 6-12 feet) and prefer hard surfaces
- Arrived in the U.S. in 1988 from Europe

## Both mussels:

- Produce young (larva) that are too small to see with the naked eye, but newly settled young feel like sandpaper on smooth surfaces
- May release over 40,000 eggs in a reproductive cycle and up to 1 million in a spawning season
- Attach to aquatic plants, boats, motors, trailers, and recreation equipment or can be present in water (in addition to substrates, docks, piers, anchors, etc)
- As they grow, can be seen on boat hulls, especially around trim tabs, transducers, along keels, and on lower units and propellers
- Can be found in bilges, live wells and motors
- Can survive three to five days out of water depending upon temperature and humidity

## Border Protection Stations - Jan. 29 through Oct. 2

- |                                      |              |
|--------------------------------------|--------------|
| • Boats checked:                     | 74,083       |
| • Boats with water needing drainage: | 8,208        |
| • Boats quarantined for cleaning:    | more than 70 |

**For more information**

**Quagga hotline – 866-440-9530**

**<http://www.dfg.ca.gov/invasives/quaggamussel/>**