



Prevention Program Elements

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Quagga and Zebra Mussel
Water Agency Summit

CALIFORNIA DEPARTMENT OF
Fish and Wildlife



Prevention Programs

FGC § 2302



Quagga and Zebra Mussel Prevention

- Program Elements
 - Vulnerability Assessment
 - Monitoring
 - Public Education
 - Management of Recreation



Vulnerability Assessment



Risk Factors

- Recreational use
 - Boating
 - Fishing/tournaments
- Water access
 - Marinas
 - Number of boat ramps
- Nearby infestations



Vulnerability Assessment



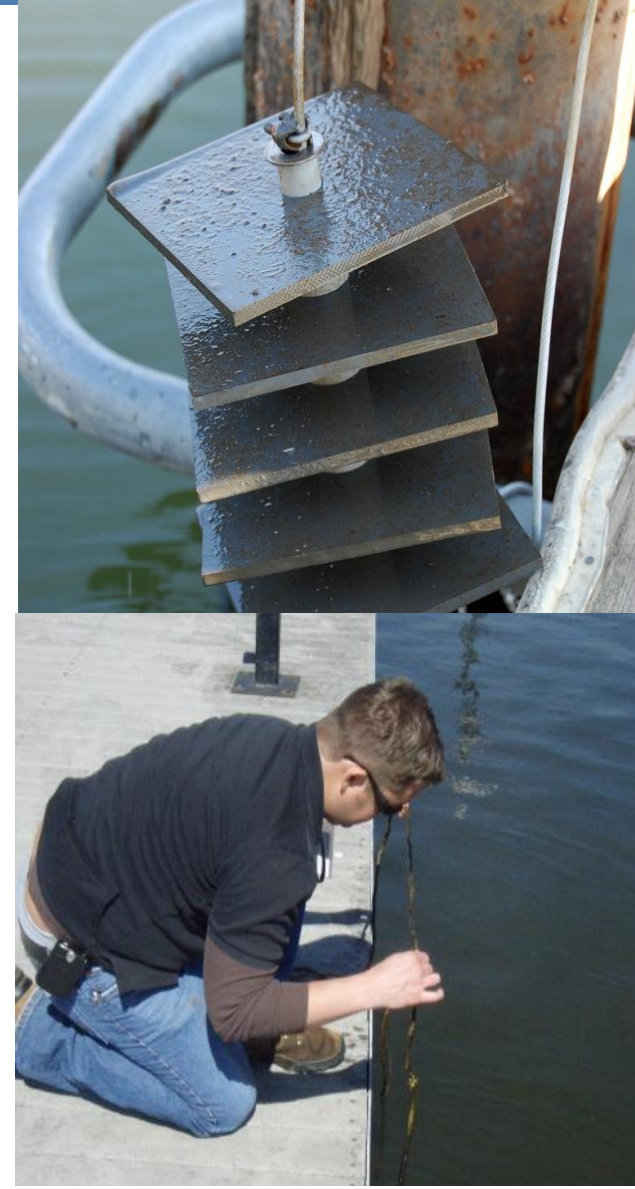
Risk Factors

- Water Quality Parameters
 - Calcium
 - pH
 - Mean Summer Temperature
 - Dissolve Oxygen
 - Salinity
- For further assistance in determining vulnerability consult with the Department's Regional Scientist

Monitoring



- Early Detection Monitoring
 - Visual Surveys
 - Substrates
 - Plankton Tows
- Sample Analysis and Identification
 - UC Davis Bodega Marine Laboratory
- Decontamination
 - Protocols



Public Education



Posters and Rack Cards

THE MUSSELS ARE HERE!
What you can't see will ruin your boat. **DON'T MOVE A MUSSEL!**

This...  Microscopic

Mussels will ruin your boat, fisheries and California waters!

When leaving the water:

- Inspect all exposed surfaces - small mussels feel like sandpaper to the touch.
- Wash the hull of each watercraft thoroughly.
- Remove all plants and animal material.
- Drain all water and dry all areas.
- Drain and dry the lower outboard unit.
- Clean and dry all live-wells.
- Empty and dry any buckets.
- Dispose of all bait in the trash.
- Wait 5 days in hot weather and up to 30 days when cool and moist. Keep watercraft dry between launches into different fresh waters.



Smartphone scan for more information.

REPORT MUSSEL FINDS TO 866-440-9530
VISIT www.dfg.ca.gov/invasives/quaggamusel

LOOK FOR MUSSELS HERE



CHECK YOUR BOAT, TRAILER AND VEHICLE

DON'T MOVE A MUSSEL!
Clean, drain, dry boat.
Dispose of live bait.
Dry 5 days in hot weather & up to 30 days when cool and moist.
Protect your boat, fisheries and the environment.
MUSSEL HOTLINE 866-440-9530
www.dfg.ca.gov/invasive

DON'T MOVE A MUSSEL!
Quagga/zebra mussels
ruin boats and destroy waters

DON'T LET THEM RIDE WITH YOU!

Watercraft and equipment can move quagga and zebra mussels from infested waterbodies to uninfested waterbodies. If spread, these mussels can:

- Encrust boat hulls, clog cooling systems, steering equipment.
- Alter aquatic ecosystems, resulting in native species and sportfish.
- Litter beaches with sharp, foul smelling shells.
- Clog water distribution systems, result in higher utility bills.




YOU CAN STOP THEM!
For more information
866-440-9530
www.dfg.ca.gov/invasives/quaggamusel




DON'T SPREAD INVASIVE SPECIES

You can prevent the spread of quagga and zebra mussels using this checklist every time you exit a waterbody:

- ☒ Inspect all watercraft and equipment
- ☒ Clean any visible mud, plants, fish or animals from watercraft and equipment
- ☒ Drain all water, including from lower outboard unit, ballast, live-well, buckets, etc.
- ☒ Dry all areas
- ☒ Dispose of debris and live bait in the trash



STOP AQUATIC HITCHHIKERS!
Prevent the spread of invasive species.
Clean all recreational watercraft.
www.ProtectYourWater.com



Smartphone scan for more information.

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Management of Recreational Activities



- Uniform Minimum Protocols
 - Levels I, II, III
- Trainings
 - Watercraft Inspection Trainings Level I and II
- Shore Fishing
- Gear Cleaning
- Live Bait



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