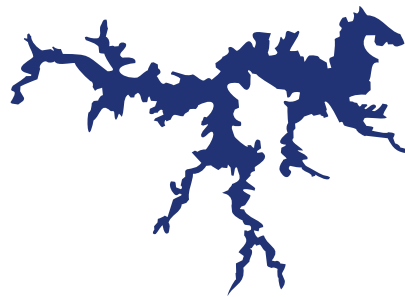


NRWMAC

Nacimiento Regional Water Management Advisory Committee



LAKE NACIMIENTO



Watercraft Inspection Handbook 2012

NRWMAC • www.vivaeldragon.org

Who we are

The Nacimiento Regional Water Management Advisory Committee – **NRWMAC** represents visitors, property owners and outdoor enthusiasts that enjoy all that Lake Nacimiento has to offer. **NRWMAC** is a volunteer based non-profit organization.

We are a collective voice of the lake area property owners. NRWMAC has a seat on the board of the Monterey County Water Resource Agency's Reservoir Operations Committee. This Committee, which meets in Salinas, controls the outflow of water from the lake and consequently the lake elevation.

Our goal is to maximize the water level in Lake Nacimiento throughout the summer. The **NRWMAC** web site (www.vivaeldragon.org) provides current information about the Lake, as well as projects and happenings in, on, or about Lake Nacimiento in a easy to find, easy to understand format.



2012 NRWMAC Board of Directors

Nielsen, Mark President nrwmac@gmail.com	<i>Lake property owner, water sports and nature enthusiast, mechanical engineer, striving for the highest possible consistent water levels.</i>
Kopack, Tim Treasurer tkopack@mac.com	<i>Long time lake enthusiast, Owner of Yesterdays Sportswear located in Paso Robles.</i>
Capps, Bill Director pasoflyer@gmail.com	<i>Retired businessman and has owned lake home for 28 years. Wants to keep working with the county and public to keep the lake open and usable for everyone.</i>
Gustafson, Kris Director kris@vsmarine.com	<i>Proud owner of VS Marine since 1964 and a true boat professional. Kris has been a Nacimiento native and continues to support a place that supplys so many families with such a peaceful lifestyle.</i>
Humfrey, Phil Director philhumfrey@aol.com	<i>Retired businessman, lives at Lake Nacimiento and has been using the lake for over 30 years.</i>
Kispersky, Phil Director pmkispersky@yahoo.com	<i>Supporter of a healthy, vibrant Lake Nacimiento.</i>
Pruitt, D.J. Director dapruitjr.yahoo.com	<i>Newest and youngest member of the board. San luis Obispo county native, who hopes to preserve Lake Nacimiento for generations to come.</i>
Pellandini, Rob Director	<i>Retired business owner, 10 year Nacimiento resident. Has been using this lake since the '60s. Wants to keep it pristeen for future generations.</i>



Lake Nacimiento
Rancho Del Lago and Oak Shores



Lakes Nacimiento and San Antonio face a serious threat - dreissenid mussels. Here are basic guidelines on what's at risk, what's planned for 2012, and what you can do to keep area lakes dreissenid mussel-free.

What would happen if Lake Nacimiento or San Antonio got infected?

The lake ecosystem would never be the same. There is no known means of eradication without killing everything else in the lake(s). In other words, once mussels get a foothold, there is no known way to get them out of our lakes. The balance of fish and other species in the lake would be noticeably impacted. Clumps and clusters of mussels would develop and their carcasses would accumulate on the shore.

We would have to declare ourselves an infected water body, a deterrent to boating and a negative impact on the local economy. Boats based at an infected lake would no longer be welcome on other lakes seeking to remain mussel-free.



DON'T MOVE A MUSSEL



Mussel-Infested California Lakes as of April 2012



**Been on Any of These Lakes in the Last 10 Days? ... DON'T Launch!
Last 30 Days? ... MUST Pass Inspection Before You Launch!**



Tierra Redondo on pristine Lake Nacimiento

Just Two Hours North of here Lake San Justo is CLOSED because it is INFESTED with Zebra Mussels.



This is what we are trying to prevent from happening at Nacimiento.



We do not want the shoreline at Nacimiento to look like this.



They smell bad. They attach themselves to everything.



What is being done to contain the Quagga/Zebra?

State and federal agencies have joined forces to avert further infestations of Quagga/Zebra mussels and are urging boaters to help stop the spread of Quagga/Zebra mussels in California.

A multi-agency taskforce, including the California Departments of Fish and Game, Boating and Waterways, Water Resources, Parks and Recreation, and Food and Agriculture as well as the U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, National Park Services, and many local governments and water agencies, has launched a statewide outreach campaign to alert the public – and particularly boat owners – about the Quagga/Zebra mussel threat.

Boaters should be aware that the Lacy Law now makes it illegal to transport Quagga/Zebra mussels, even unknowingly. And, it carries a \$2,00.00 fine. Boats found with evidence of the mussels may be quarantined and boat owners may face fines in some states. Many local authorities have instituted mandatory inspection programs at their lakes and reservoirs. Contaminated or suspect boats are being turned away.



California Department of Fish and Game

1416 9th Street, 12th Floor
Sacramento, CA 95814
(866) 440-9530

www.dfg.ca.gov/invasives/quaggamussel



Help protect our lake.

Protect Your Boat!

Keep Freshwaters Open to Boating and Fishing!

How can you help fight the Quagga/Zebra mussel invasion?

Boater and watercraft users can stop the mussels from spreading.

This guide was compiled specifically for boat owners and watercraft users. The information contains general guidelines for all boaters and a basic checklist for inspecting and cleaning boats and recreational equipment for Quagga/Zebra mussels. There are also additional inspection and cleaning checklists for specific types of boats and equipment. By taking the time to inspect and clean your boat, you can:

- Protect your boat, the aquatic environment, and the boating facilities you use (marinas, gas docks, piers).
- Keep waterways open for recreational boating and fishing.
- Prevent an economic disaster resulting in millions of dollars in damage to water transport facilities.
- Comply with state and federal laws regarding the spread of Quagga/Zebra mussels.



What do they look like?

Quagga/Zebra mussels vary in color and often have dark and light stripes on their shells. They differ in size, from microscopic young to adults an inch or two in length. These invasive mussels cluster in huge colonies.



Zebra mussels next to dime.



Zebra mussels at San Justo Reservoir (right/below)



Various sizes of Quagga/Zebra mussels.



Photos San Benito County Water District

Quagga/Zebra mussels could severely reduce recreational boating and fishing activities if more waters become infested.

Don't Move a Mussel!

Quagga/Zebra mussels pose serious threats

Quagga/Zebra mussels may be tiny, but are highly destructive in freshwater systems because they can:

- Reproduce quickly and in very large numbers, up to 1 million larvae per spawning season.
- Colonize on both hard and soft surfaces, from the water's surface to more than 400 feet down, including boat hulls, propellers, anchors, docks, and boat trailers.
- Coat submerged surfaces such as piers, pilings, rocks, cables, boat ramps, docks, lines, pipes and fish screens, increasing maintenance costs.
- Infiltrate and damage boat engines, bilges, live wells, and steering components.
- Threaten the state's water treatment plants, hydroelectric plants, and reservoirs.
- Clog municipal water intake structures and obstruct the flow of drinking water.
- Cost taxpayers millions of dollars to repair damaged pipes and water transport facilities.
- Wreak havoc on the environment by disrupting the food chain by filtering the water column of phytoplankton and out-competing other species, including sport fish and endangered species.
- Change water conditions, causing heavier aquatic plant growth, oxygen loss, and fish kills.
- Result in infested waters being closed to boating and fishing altogether.

Once Quagga/Zebra mussels are established, in most cases it is impossible to eradicate them with current technologies.



Yes, even kayaks need an inspection form.

PROTECT YOUR BOAT! FIGHT QUAGGA AND ZEBRA MUSSELS

A GUIDE TO CLEANING BOATS



AND PREVENTING MUSSEL DAMAGE

DON'T MOVE A MUSSEL



An Infested boat taken out of Lake Mead.

What is **NRWMAC** doing?

On February 6th, 2012 **NRWMAC** sent Phil Humfrey, Rob Pelladini & Tim Kopack to a Level II Responder and Trainer training held at Lake Mead, Nevada. The class was hosted by the Pacific States Marine Fisheries Commission. **NRWMAC** now has three directors that can train mussel inspectors.

Lake Mead is infested with mussels. During the class on decontamination, the most heard comment was, "I would never put my boat in these waters".



Phil Humfrey, **NRWMAC** Director, learning decontamination process.



Rob Pelladini, **NRWMAC** Director, listens to our instructor Wen Baldwin.

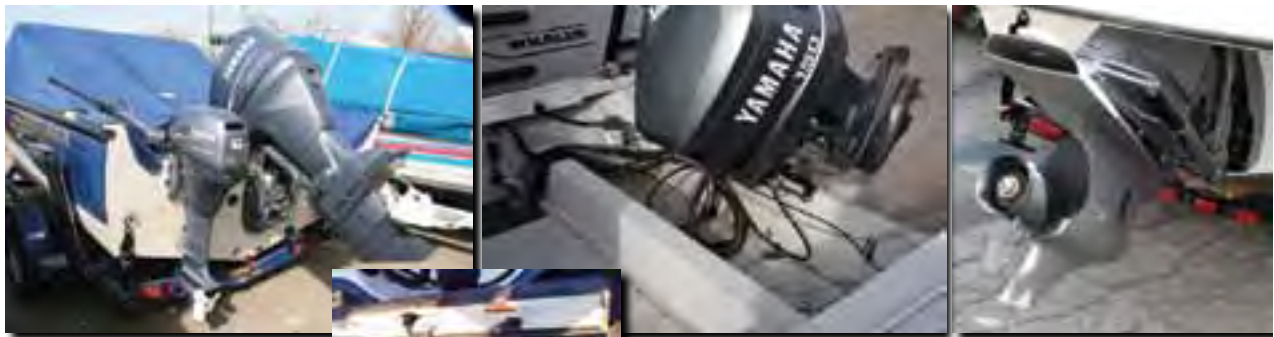
General Inspection and Cleaning

Boat Exterior: Entire hull, floor, transom wall, ballast tanks, ropes and lines, anchors, lights, pitot tube, depth sounders, trim tabs, cavitation plates, thru-hull fittings, depth transducers, water intakes and outlets

Motor: Entire exterior housing, propeller, propeller shaft, propeller shaft support, propeller guards, propulsion units, lower unit, gimbal area, water intakes and outlets

Boat Equipment and Contents: All fishing nets and other fishing equipment, lines and ropes, float belts, life jackets, float cushions, water skis and tow ropes, ski gloves, equipment lockers, waterfowl decoys and camouflage blinds, clothing and footwear, floats, fenders, dock guards inner tubes and other inflatable items, downriggers and other fishing equipment, bait containers/buckets and live wells, trolling motors, and internal ballast tanks

Trailer: Trailer frame, axles, license plate and holders, lights and wiring, fenders, hangers, trailer tires and wheels, rollers and bunks, wiring, springs, pockets and hollow spaces



Photos Utah State Parks and California Department of Fish and Game

Drain the engine, dry the motor well, check the prop and system components, clean trolling motors, make sure everything is drained and dried. Remove all aquatic weeds.



Be sure to check the trailer for aquatic weeds and other areas on the boat like bow lights.

All vessels should be cleaned, drained, and dried!

Don't Move a Mussel!

Do Not Launch a Vessel Until You Have Cleared the Mussel Inspection

Our lake is clean of Zebra and Quagga Mussels.
With your help we'd like to keep it that way.

Please check your watercraft to make sure it's CLEAN, DRAINED and DRY.

There is a \$2,000.00 fine for not having an inspection form with you at all times.
You may get pulled over and asked for this form.

***There may be Mussels on your boat.
Please don't bring them into our lake.***



Keep Nacimiento free of mussels. Our future generations are counting on us.

Basic Inspection and Cleaning Checklist: All Watercraft

Whenever you leave freshwater, take the following actions:

- 1. Remove the boat from the water and away from the launch ramp** for vessel inspection and cleaning.
- 2. Thoroughly inspect all exposed surfaces on your vessel and trailer.** If you find any mussels, scrape them off and kill them by crushing them. Dispose of the remains in the trash. Alert the Department of Fish and Game at 866-440-9530.
- 3. Remove all plants and mud** from your boat, trailer, and all equipment. Dispose of all material in the trash.
- 4. Carefully feel your boat's hull** for any rough or gritty spots, which may be young mussels that have settled on your vessel and cannot be seen. Microscopic Quagga/Zebra mussels will feel like sandpaper.
- 5. Away from the waterway, wash your boat's hull,** trailer, equipment, bilge, and any other exposed surfaces with high-pressure, hot water. When possible use water at a temperature of 140 F (60 C) at the hull – or about 155 (68 C) at the nozzle – which will kill the mussels. Dry the boat as much as possible.
- 6. Drain all water from your boat** (pull all plugs) and **dry all areas,** including the motor, motor cooling system, live wells, ballast tanks, bladders, bilges, and lower outboard units. Make sure that all life jackets, water skis or other items that have been in the water, including anchors, ropes, etc., are inspected, cleaned, and dried.
- 7. Empty and dry all buckets** and **dispose of all bait** in trash receptacles before you leave. Do not take bait home, or leave it on the ground or dump it in any waterway.
- 8. Thoroughly clean all fishing and recreational equipment** (fishing nets, etc).
- 9. Clean and dry personal belongings, clothing, and footwear** that have come in contact with the water.
- 10. Wash, dry, and brush pets** that have been in the water.
- 11. Keep your watercraft dry for at least 10 days in warm, dry weather and up to 30 days in cool, moist weather before launching into a freshwater**

Day boats or those that "come and go" and spend only a few hours in the water are still at risk for picking up and transporting mussels that may be attached to aquatic weeds. The basic cleaning steps apply to any and all watercraft.

Additional steps for specific boats follow.

Vessels that are slipped and moored at infested waters run greater risk of having settlers and adult mussels.

Don't Move a Mussel!

Personal Watercraft

1. **Avoid running craft through aquatic plants** because this may damage the craft, plug water intakes, and increase mussel contamination.
2. **Stop the engine** when water activities cease.
3. **Push or winch craft** onto the trailer, without running the engine.
4. **Remove the craft from the water and away from the launch ramp** for vessel inspection and cleaning.
5. **After completing the basic checklist, inspect and clean** all of the systems and components that apply specifically to the craft.
6. **Start and run the engine** for five to 10 seconds to blow out water and contaminants from the underbody jet drive system.
7. **Stop the engine and remove all plants, mud, and other contaminants** from the steering nozzle and the rest of the hull.
8. **Check underneath the craft for Quagga/Zebra mussels**, especially the water intake area (including the edges of the intake grate).
9. **Dry any pockets** that may be wet or holding water.
10. **Drain any ballasts** on the craft, **rinse with hot water**, and **allow to dry**.

Personal watercraft should be drained of all water, washed, and dried.



The steering nozzle should be inspected for aquatic weeds that might have mussels.

Photos Utah State Parks



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Nobody wants smelly mussels in the lake.

Check all of these places for hitchhikers:

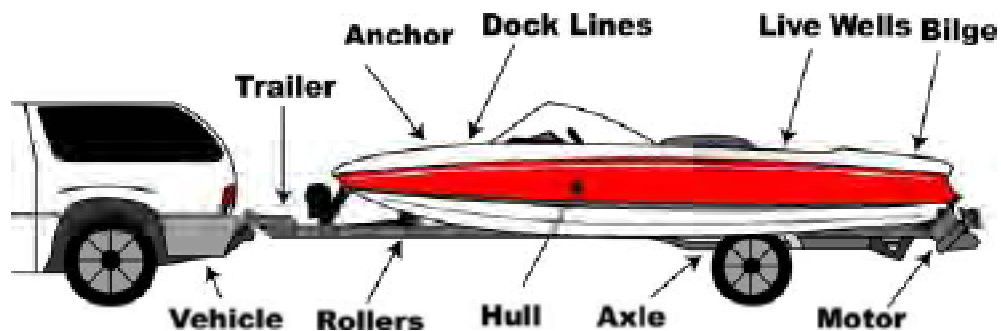


Diagram courtesy of California Department of Fish and Game, 6/2008

Before and after launching your watercraft, be sure to decontaminate your vessel as described below:

- ✓ **CLEAN** - remove any visible mud, plants, fish or animals from your boat motor, live wells, trailer, anchors, kayak components, storage hatches, fishing gear, and dive gear
- ✓ **DRAIN** - water from your boat motor, live well, bilge, or kayak on land where it will not drain into the lake
- ✓ **DRY** - anything that comes into contact with water (boats, trailers, equipment, clothing, anchors, etc.)
- ✓ Never release plants, fish or animals into a body of water unless they came out of that body of water

NOTICE - DO NOT LAUNCH your vessel unless it is **CLEAN, DRAINED, and DRY.**

Water Ski Boats

1. **After completing the basic checklist, drain water** from every internal ballast tank system as much as possible.
2. **Resume normal ballast system operation** when you go boating again. Be sure to winterize the vessel when boating season ends.



Ski boat covers open.



Ski boat ballast water lines.



Ballast system water pump, water lines, and caps should all be flushed and cleaned.



Trim tabs on transom.

Follow these actions to stop mussels from growing inside the entire system. Failure to do so could result in restriction of water lines, overheating and pump damage, as well as the increased likelihood of needing to replace expensive system components.

Don't Move a Mussel!

Houseboats, Pontoon Boats, and Other Large Vessels

1. **After completing the basic checklist, completely drain and dry all water systems that use lake water** including air conditioning, personal sanitation, and washdown systems. Note: Vessel sewage must be disposed of at a pump-out facility or dump station. The longer the boat has been in the water, the higher the chance these systems have been contaminated.
2. **Take special care to protect system components** including water supply and discharge lines, filter screens, pumps, valves, and associated parts. Small passages in the air conditioning radiator core are highly susceptible to being plugged by mussels.



Southern California Marine Association

All areas that can hold water should be drained and dried. Pontoons should be inspected for mussels, settlers, and aquatic weeds that may have mussels attached.



Photos Utah State Parks



Vessels should be thoroughly cleaned. Those contaminated with mussels should be washed, scraped, drained and dried. Dry time may be between 10 days in hot, dry California summers and up to 30 days in cool moist weather.

Vessels that are slipped and moored at infested waters run greater risk of having settlers and adult mussels.

Don't Move a Mussel!



Photo by Trina Anthony

Hulls should be inspected; all motors, intakes and any equipment that comes into contact with the water should be flushed, washed, drained and dried whether the equipment is attached to the boat (like a slide) or unattached like skis or floatation devices.



Since large vessel water systems are located deep within the hull, they require extra effort to access, clean, and dry to protect them. Failure to properly clean could result in costly replacement of system components if infestation occurs.

Don't Move a Mussel!

Lake Nacimiento Apparel Online

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California Codes that Apply to Quagga/Zebra Mussels

- Fish and Game Code § 2301
 - Specific to Dreissenid Mussels
 - Includes both adults and water that may contain them
- Title 14 CCR § 671 (F&G Code § 2118)
 - Places restrictions on Importation, Possession and Transportation of Live Animals
- Title 14 CCR §230 (f) and (h)
 - Special conditions on tournaments to provide for welfare of fish

The law gives the California Department of Fish and Game the authority to:

- Stop and inspect conveyances
 - vehicles
 - boats and other watercraft
 - containers
 - trailers
- Order conveyances that contain water be drained, dried, or decontaminated
- Impound or quarantine conveyances
- Revoke or deny permits for failure to comply

Don't Move a Mussel!



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General Guidelines: All Boaters

It is important for all boaters to cooperate with vessel inspections conducted at California Department of Food and Agriculture Border Protection Stations and on waterways around the state. Remember, you do not want to transport any Quagga/Zebra mussels from an infested water body to another location currently free of Quagga/Zebra mussels. In addition, California law makes it illegal to transport these aquatic species, even if done so unintentionally.

Trailered boats are the primary way that Quagga/Zebra mussels are introduced to unconnected water bodies.

After boating in any freshwater system:

Carefully inspect, clean, and drain your boat when you leave the water, using the checklists provided in this guide.

All areas must be dry (including live wells) and clear of debris, and no standing water should be on board your boat in any manner (including bait cans or buckets).

Before traveling to any freshwater for boating:

Inspect your boat for Quagga/Zebra mussels, which can survive 10 days out of water in California's hot summer and up to 30 days in cool, wet weather.

If any residual water or mussels are discovered upon an inspection, clean your boat and all equipment using the same checklist procedures and let the vessel dry for 10 to 30 days, depending on the weather, before you enter the water.

Calculate your drying time at:

<http://www.100thmeridian.org/Emersion.asp>

Failure to clean your vessel can result in it being quarantined.



Quagga mussels on boat hull found at California Border Protection Station.

Photo California Dept. of Fish and Game

Don't Move a Mussel!

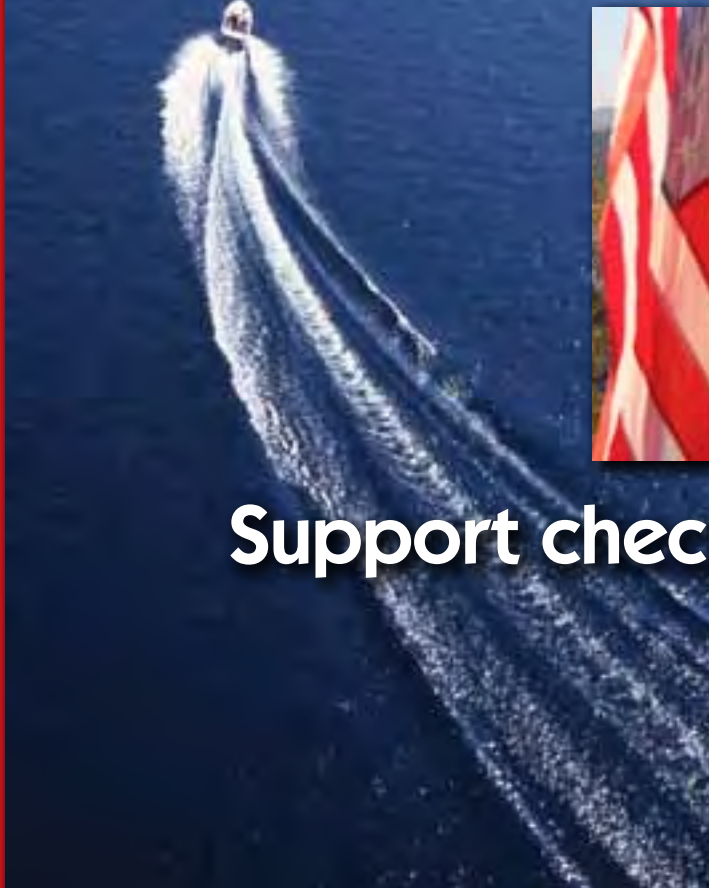


Enjoy your boating at Lake Nacimiento.



If you want to see the history of the Nacimiento Dam visit www.vivaeldragon.org.

DON'T MOVE A MUSSEL
Enjoy the water and the fishing!



Support checkpoints!



Help keep our waters clean!