ATTACHMENT A
Aquatic Invasive Species Disinfection/Decontamination Protocols for Mill Creek Ponds

The County of Mendocino is committed to protecting its fish, wildlife, and plant resources, as well as supporting working landscapes. Since the spread of damaging aquatic invasive species (AIS), such as Quagga Mussels and Zebra Mussels, in California continues to grow each year, preventing the infestation of those species into waters within the County's borders is an important consideration requiring proactive measures.

The water bodies owned and managed by the County of Mendocino include two reservoirs (Mill Creek Ponds) at Mill Creek County Park in Talmage, and preventing potential introduction of Quagga and Zebra Mussels into the ponds is within the jurisdiction and authority of the County. As such, all departments of the County of Mendocino, contractors for the County of Mendocino, and other government agencies that perform work in or around or withdraw water at Mill Creek Ponds will be required to follow the AIS Decontamination Protocol outlined below. This protocol has been developed by the California Department of Fish and Wildlife, and represents the most current scientific knowledge on how to prevent the spread of aquatic invasive species.

California Department of Fish and Wildlife
Aquatic Invasive Species Disinfection/Decontamination Protocols (Northern Region)
Revision February 2016

Facts about Quagga and Zebra Mussels (Dreissenid mussels)

- Dreissenid mussels multiply quickly and out-compete other species for food and space.
- Dreissenid mussels attach to hard and soft surfaces, and physically disrupt water delivery systems, hydroelectric facilities, agriculture, recreational boating and fishing.
- Their presence can alter food webs and environments, negatively affecting native and game fish species.
- Adults can survive up to 30 days out of water in cool, humid conditions.
- They produce microscopic larvae that can be unknowingly transported in water, including live-wells, bilges, and motors.

General procedures to prevent the spread of AIS:

- If decontamination is not done on site, transport contaminated equipment in sealed plastic bags and keep separate from clean gear.
- Gear may be dedicated for a specific field site but should be left on site and be cleaned when moved off site.
- Sets of field gear may be rotated in and out of field per cleaning cycle.
- When practical, begin work upstream and work downstream. This avoids transporting AIS to non-infested upstream areas.

Equipment Decontamination/Disinfection Methods

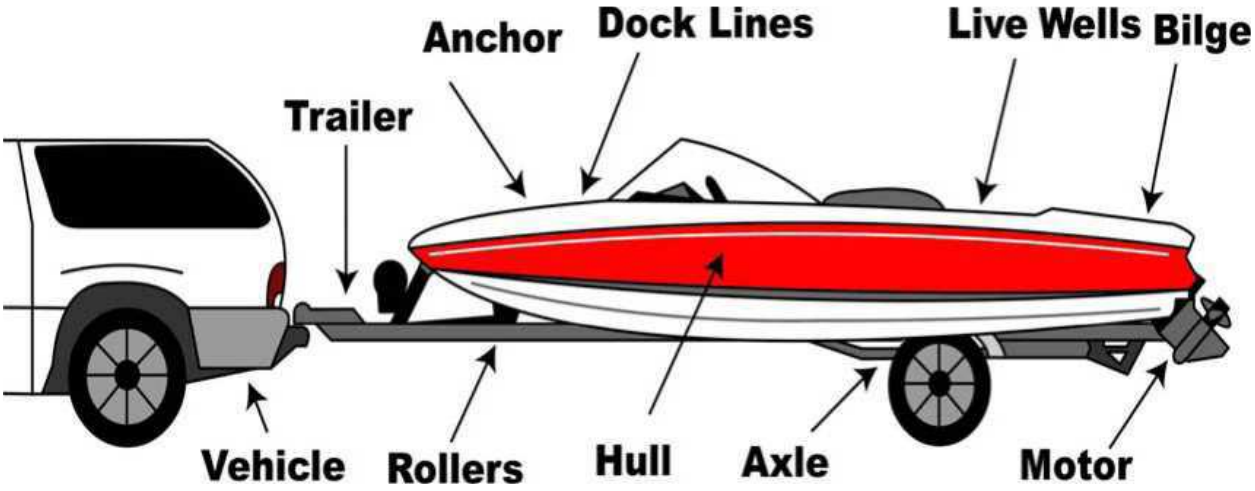
Option 1: Standard Decontamination (Office Method)
Freeze + Saltwater Immersion + Dry
This option consists of three parts, as freezing alone may not kill some organisms (e.g. chytrid fungus, Sudden Oak Death Syndrome, etc.).

• Scrub gear before leaving field with a stiff-bristled brush to remove all debris. Thoroughly brush small crevices such as boot laces, seams, net corners, etc.
• Bag gear for transport from field to office.
• Place gear and bag in a freezer below 32°F for a minimum of eight hours.
• Thaw gear and bag.
• Immerse gear and bag in 5-10% saltwater solution for 10 minutes.
• Rinse gear and hang gear to dry.

Option 2: Chemical Treatment (Field Method)
In general, chemical decontamination/disinfection should only be used when Option 1 cannot be performed, and clean gear is not available. This would be the case when conducting activities at more than one watershed or between long distances with one set of gear before returning to the base office where a freezer, saltwater immersion and drying rack are located.

• Prepare disinfection solution by diluting concentrate containing GS HD 256 (quat) in a well-ventilated space using gloves, eye protection and a NI0SH approved N95 filter mask. See Dilution Table on page 4 for dilution factors. Pour decontamination solution into a suitable holding container and submerge gear for at least 10 minutes. Gear may need to be weighed-down and/or rotated for complete and sustained immersion.
• Check field gear immersed in disinfection solution and inspect it to make sure all surfaces have been wetted for the required time.
• After treatment, rinse field gear with fresh water (not water from previous waterbody--to avoid further contamination). Dispose of rinse water at least 100 feet from any surface water.
• Make up fresh solution as needed and discard after it becomes heavily soiled with organic matter. Check with quat test strips: readings should be above 500 ppm for adequate disinfection.
• Disinfection solution should be saved to be disposed of in a wastewater sewer facility (not in a septic system) or it can be neutralized on site. For onsite neutralization of quat solution, mix the remaining working solution with bentonite clay as directed in the Dilution Table, below. Mix the bentonite/quat. decontamination solution slurry a couple of times before pouring it out on the ground at least 100 ft. away from surface water. This method will neutralize quaternary ammonium in 3-5 hours.

Watercraft Decontamination



• Prior to leaving the launch area, remove all debris from your watercraft, trailer, and equipment. Dispose of all material in the trash, on site if possible.

• Prior to leaving the launch area drain all water from your watercraft and dry all areas, including motor, motor cooling system, live wells, bilges, and lower end unit. Before leaving water body area, run motor dry for 5-10 seconds to flush water from engine.

• After leaving a ***known or suspected invasive mussel infested water*** pressure wash the watercraft and trailer at base facilities, with 140°F water, including all of the boat equipment (i.e. ropes, anchors, etc.) that had come into contact with the water.

• Flush the engine, live wells, bilges, and all other areas that could contain water with hot water that is at least 140°F. Make sure that water is contained sufficiently so that it doesn't run into storm drains or surface waters.

Activities, Equipment and Watercraft Subject to Decontamination

Water Quality Sampling
Temperature, depth, dissolved oxygen, pH, conductivity, calcium concentration, water

Biological Monitoring
Boats and other flotation devices and associated gear
Waders and boots
Dip nets, angling gear

Water Withdrawal Equipment
Intake hose: water truck or fire response helicopter
Dip bucket: fire response helicopter

Trout Stocking for Recreational Angling
Water supply at fish rearing facility must adhere to CDFW AIS Protocol

Affected Entities

Mendocino County Departments and Agencies
- Water Agency
- Transportation
- Parks and Recreation
- Environmental Health
- Public Health

California Agencies
- Department of Fish and Wildlife
- Division of Safety of Dams
- Department of Boating and Waterways
- Department of Forestry and Fire Protection

Private Companies Contracting with County of Mendocino
- Fire Response – water tender
- General Construction – water tender

U.S. Government Agencies
- USDI Bureau of Land Management

Notice of Receipt and Confirmation of Conformance

As the _____ of the _____
Official's Position *Department and Agency*

I confirm that I have read and understand the protocol described by the California Department of Fish and Wildlife, and agree to follow said protocol when representatives of the _____ _____ perform work at or associated with the two reservoirs at Mill Creek County Park in the County of Mendocino.

_____ _____
Signature Date