

NEW MEXICO DEPARTMENT OF GAME AND FISH
AQUATIC INVASIVE SPECIES
REQUIREMENTS FOR DECONTAMINATING WARNING TAGGED
CONVEYANCES AND EQUIPMENT INFESTED WITH
QUAGGA OR ZEBRA MUSSELS

Introduction of nonnative wildlife, commonly termed aquatic invasive/nuisance species (AIS), into the United States is a growing problem that costs the nation an estimated \$137 billion annually. When transplanted outside their native ranges, nonnative species are freed from the controlling effects of competitors, predators and pathogens, and experience rapid population growth and expansion. AIS often displace native species, degrade ecosystems, impede municipal and industrial water systems, reduce recreational and commercial fishing opportunities, and can cause public health problems. Of immediate threat to NM are zebra and quagga mussels, which are native to eastern Europe and Eurasia. Over the last several decades those species have been spreading throughout the US via attachment to boats and other water related equipment. Zebra and quagga mussels are currently found in neighboring states.

During the 2009 Regular Session of the New Mexico State Legislature House Bill 467, the Aquatic Invasive Species Control Act was passed and signed into law. The bill provides the Director of the Department of Game and Fish, with the concurrence of Director of the New Mexico Department of Agriculture, and in consultation with the Secretary of the Energy, Minerals and Natural Resources Department, the authority, to designate: AIS species; infested water bodies, and; decontamination requirements for conveyances and equipment. In May 2009, the State Game Commission passed a rule implementing those provisions of the law for which they have authority. These decontamination requirements shall serve as interim guidance until such time as they are amended or rescinded. The Department from time to time will issue policies/requirements concerning designation of species and waters, and other procedures for implementing House Bill 467 as these decontamination requirements are only a single component of a comprehensive AIS detection and decontamination program.

Detection and Determination of AIS Infestation

Any conveyance or equipment on or in which there are signs of any quagga or zebra mussels (AIS) alive or dead, or “tagged” by this or another state and lacking proof of having been decontaminated is considered infested. Any conveyance or equipment arriving from known contaminated waters shall be considered infested unless it is inspected by an individual that has successfully completed the US Fish and Wildlife Service’s Aquatic Invasive Species Watercraft Inspection and Decontamination Training, Level I or Level II and determined to be free of AIS infestation.

All conveyances and equipment determined to be infested shall be warning tagged and decontamination shall be required prior to entry into any waterbody in the State of New Mexico. The warning tag shall not be removed except as provided by law.

The determination that decontamination is required shall be made by a Level I or II Inspector.

DECONTAMINATION REQUIREMENTS FOR CONVEYANCES & EQUIPMENT

Decontamination shall be conducted or supervised by a Level II Inspector.

Decontamination

The following steps and methods shall be used for conveyance and equipment decontamination:

1) Site Selection

Decontamination sites shall be located where risk is adequately managed to reasonably avoid the potential for runoff of waters or by-products into storm drains, groundwater, waterways, or wetlands. All decontamination will take place only in compliance with all applicable federal, state and local laws and rules and regulations including obtaining any permits that may be required.

2) Drain and Dry

Drain all water from the conveyance or equipment, including every space or item that can hold water. Follow manufacturer guidelines for eliminating water from engines. Remove the drain plug from boats and place on an incline or elevate the front to facilitate drainage. Drain live-wells, bilge, ballast tanks and transom wells. Empty water out of kayaks, canoes, rafts, etc. All drainage shall be appropriately contained.

3) Remove Visible Infestation

Physically remove (manually or as described below) and contain all visible AIS attached to any surface, regardless of viability.

4) Conventional Decontamination

Decontaminate contaminated accessible surfaces with a power wash unit capable of spraying water **140° F** or hotter. The unit must run at least 4 gallons/minute with a nozzle pressure of 3,000 psi or greater (not to exceed 3,500 psi) to remove attached AIS from all exposed and contaminated surfaces. Surfaces must be washed for a minimum of 10 seconds. Longer application is necessary for mature animals, up to 10-minutes for large clusters of mussels. Care must be given to avoid damaging equipment such as fragile surfaces, electronic components, electrical wiring, and certain mechanized equipment. Care must be exercised to not remove decals, paint or labels from any surface.

A flushing attachment may be used to rinse all hard to reach areas and those areas where pressure may damage the watercraft or equipment with **140° F** water (such as the rubber-boot in the gimbal area). When flushing hard to reach and sensitive areas, maintain a contact time of 2-3 minutes to assure that mussels are dead since it may not be possible to remove them from these areas. Spray all small nooks and crannies where mussel larvae may be lodged.

5) Chemical Decontamination

Chemical treatment may be necessary if the Inspector determines that conveyance or equipment is heavily infested or infested areas on the conveyance or equipment cannot be reached with the power wash and/or flushing methods using **140° F** water. If chemical treatment is necessary the following products may be used:

- Quaternary ammonium may be used at a recommended concentration of 5-20% for conveyances, gear and equipment. *Sparquat 256*[®] (by Spartan), also called Virkon[®]

DECONTAMINATION REQUIREMENTS FOR CONVEYANCES & EQUIPMENT

Aquatic, is available from GSA or local supplies (see below for more information). Follow integrated pest management requirements, including pesticide use protocols. Consult the product label and Material Safety Data Sheet for additional information.

5% cleaning solution using *Sparquat 256*[®]

Volume of tap water	Volume of <i>Sparquat 256</i> [®]
1 gallon water	4.12 liquid oz.
1 gallon water	8.2 tbsp
1 gallon water	0.51 cups
5 gallon water	2.55 cups
100 gallons water	3.22 gallons
1000 gallons water	32.2 gallons

- When quaternary ammonium products are not available, a 5% solution of “household bleach” (sodium hypochlorite: 3 liquid ounces per 5 gallons of water; 100ml bleach per 20l of water) may be used. This can be effective, however, it is caustic if not diluted and used properly.
- Drain any water-holding equipment then circulate the 5% decontamination solution for 10 minutes. Float portable pumps in the disinfection tank and pump cleaning solution through for 10 minutes. Pump cleaning solution through hose then rinse with water. Used cleaning solutions must be properly contained and disposed (see below).
- Where feasible, dip gear or equipment into the cleaning solution. Alternatively, place the 5% cleaning solution in backpack spray pumps to clean portable equipment. The solution must be in contact with the surface being sanitized for at least 10 minutes and then rinsed with water.

6) Engine Decontamination

Use the appropriate attachment and run the engine circulating 140° F water for 2-3 minutes to kill mussels in the engine cooling system. **WARNING:** Using less than 5 gallons per minute when flushing the engine cooling system may cause engine damage if the 2-3 minutes recommended is exceeded.

7) Disposal

All removed AIS must be disposed of in a manner that precludes the possibility of AIS remains coming in contact with any waterbody, or consumption by wild or domestic animals. Non-chemically treated wastewater must be contained and evaporated (excluding all wildlife that could transmit AIS), or reclaimed using techniques that ensure all AIS are dead.

Disposal of used cleaning solution must be in compliance with all local, state, and federal regulations. Cleaning solution must not enter into any stream, ephemeral drainage, standing waterbody, or area where it can migrate into any storm drains, dry hydrants, ephemeral drainage, groundwater, waterbody or wetland. Disposal of chemically treated water must be transported to a municipal wastewater treatment facility. Consult the facility operator/manager prior to disposal.

DECONTAMINATION REQUIREMENTS FOR CONVEYANCES & EQUIPMENT

Re-inspection

Upon completion of the decontamination process the conveyance and equipment will be re-inspected by a Level I or II Inspector. If the conveyance and equipment does not pass inspection, it will be required to undergo further decontamination. Only when the conveyance and equipment successfully passes inspection will the tag be removed and the conveyance and equipment may legally enter a waterbody.

Sources: *Boat Inspection and Cleaning Procedures For All Water Craft Owners*, UT, May 5, 2009; *Colorado Department of Wildlife AIS Watercraft Inspection Handbook 2009*; US Army Corps of Engineers- various publications 2009; *Draft Recommended Protocols and Standards for Watercraft Intervention Programs for Dreissenid Mussels in the Western US* by Bill Zook and Stephen Ohillipos, 5/09; and personal communication with Bob McMahon, Wen Baldwin and Jim Foust 6/09; *It Only Takes One, The Battle to Prevent the Spread of Zebra Mussels on Trailered Watercraft*, Pacific States Marine Fisheries Commission, DVD video and Watercraft Inspection Training Guide, 2006, page 13. Arizona, California, and Nevada were added after discovery of quagga mussels in those states in January 2007).

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