



Best Management Practices for Controlled Exotic Species Disposal

Exotic species such as zebra mussels and aquatic plants can foul water supply, water control, and power generation infrastructure as well as private water intakes, requiring routine maintenance involving possessing, transporting, and disposing of controlled species that may not lawfully be possessed or transported. These species can also foul garbage collected from infested waterways and it may not be feasible or realistic to remove all of the prohibited species prior to transport for disposal. For a complete list of controlled exotic fish, shellfish, and aquatic plants, visit: https://tpwd.texas.gov/huntwild/wild/species/exotic/prohibited_aquatic.phtml

The Texas Parks and Wildlife Commission adopted rule changes effective January 27, 2021 to address the need for possession, transport, and disposal of controlled exotic species resulting from these activities. Governmental or quasi-governmental agencies; operators of power generation, water control or water supply facilities, or private water intakes; entities removing garbage from public water bodies; or contractors working on their behalf may now without a permit, possess and transport for the purpose of disposal controlled exotic species removed during standard operations, maintenance, or testing provided they are in compliance with these best management practices published by the department [31 TAC §57.113(I)]. These best management practices seek to ensure that these species are not inadvertently introduced into other water bodies during transport and disposal.

Private Water Intakes

On infested lakes, zebra mussels and their microscopic larvae in the water often infiltrate, foul, and damage private water intakes requiring removal and disposal of the mussels to maintain equipment using methods such as scraping and scraping with suction. Some controlled exotic aquatic plants may also clog water intakes, requiring removal. These species can simply be removed and left on the infested waterbody's shoreline to dry; when this is not possible and transport for disposal is necessary, best management practices must be followed to ensure that these species are not inadvertently introduced into another water body. Removed zebra mussels and aquatic plants should be securely contained in black plastic garbage bags prior to disposal. The controlled exotic species should be covered securely during transport to prevent accidental dispersal (e.g., in covered garbage cans or in a trailer securely covered with tarps) and in compliance with Texas Department of Transportation Requirements. Controlled exotic species may be disposed as landfill waste and should not be disposed adjacent to water. Equipment used during transport, including trailers and vehicles, should be thoroughly cleaned to remove any exotic species and allowed to dry completely.

Removal of nuisance aquatic vegetation for purposes other than pump maintenance such as water body access issues requires a [nuisance aquatic vegetation treatment proposal](#) be approved by the department and may require an exotic species permit if large quantities will be removed or if the plants are being removed for hire.

Water Body Garbage Removal Events

On infested water bodies, zebra mussels attach to most available hard surfaces, including garbage and other debris in or floating on the water. Similarly, controlled exotic aquatic plants may become intertwined in garbage and other debris. When possible, exotic plants inadvertently collected during garbage removal events should be placed into black plastic garbage bags prior to transport for disposal. When possible, garbage fouled with controlled exotic species should be allowed to dry for one week prior to transport to limit survival; three days may be adequate for zebra mussels during summer months. If drying is not feasible or can only be accomplished for a shorter period of time, the controlled exotic species should be

covered securely during transport to prevent accidental dispersal (e.g., trailer securely covered with tarps or in a covered dump truck) and in compliance with Texas Department of Transportation requirements. Controlled exotic species may be disposed along with garbage as landfill waste but should not be disposed adjacent to water. Equipment used during transport, including trailers and vehicles, should be thoroughly cleaned to remove any remaining individuals or plant fragments and allowed to dry completely.

Power Generation and Water Supply/Control Infrastructure Maintenance

On infested lakes, zebra mussels and aquatic plants can foul water supply, water control, and power generation infrastructure, requiring maintenance and removal and disposal of these species. Controlled exotic aquatic plants and zebra mussels can be removed and allowed to remain in the source body of water (i.e., without attempting to capture and remove the organisms), with no additional precautions necessary. If removed, possession and transport for the purposes of disposal is allowed, provided compliance with the following Best Management Practices. Controlled exotic fish may be encountered during dewatering activities and disposed without special measures, provided they are killed by some means.

Zebra Mussels

When possible, zebra mussels removed from infrastructure or fouled equipment removed for replacement or maintenance should be allowed to dry in a location away from waters without zebra mussels for at least one week prior to transport to limit survival; three days may be adequate for zebra mussels during summer months. Zebra mussels may be disposed along with garbage as landfill waste or as otherwise authorized by the Texas Commission on Environmental Quality (e.g., drying on land and burying or tilling under). Zebra mussels transported for the purposes of disposal should be covered securely during transport to prevent accidental dispersal (e.g., trailer securely covered with tarps or in a covered dump truck) and in compliance with Texas Department of Transportation requirements. It is recommended that tarps be placed under zebra mussels on trailers to facilitate cleaning and prevent mussels from becoming trapped between trailer flooring planks and being difficult to remove and thus being inadvertently transported elsewhere. Equipment used during removal, transport, and disposal, including trailers and dump trucks, should be inspected, thoroughly cleaned (e.g., pressure washed) at the site of disposal or a location away from water to remove any remaining individuals, re-inspected—and re-cleaned if necessary, and then allowed to dry completely before use at another water body. Pre-cleaning with pressurized air to remove mud, plants, and debris from wheels, wheel wells, tracks, bumpers, etc. can reduce water use for subsequent cleaning using pressure washing.

Mussel-fouled equipment (e.g., gates, valves, pumps, and structural components) should be decontaminated and dried prior to transport for disposal or maintenance/refurbishment. Pressure washing with heated water (140°F) with at least ten second contact time is recommended to decontaminate equipment and remove and kill zebra mussels. Equipment should be dried completely—for a week or more (longer during winter months) to ensure any remaining mussels are killed. If decontamination and/or drying are not feasible, equipment fouled with zebra mussels should be covered securely during transport to prevent accidental dispersal (e.g., trailer securely covered with tarps or in a covered dump truck) and in compliance with Texas Department of Transportation requirements. Fouled equipment should not be used in another water body without having first been decontaminated and dried completely.

Controlled Aquatic Plants

When possible, removed controlled exotic plants should be fully dried prior to transport for disposal. However, fully drying removed controlled exotic aquatic plants may not be feasible due to the time required nor adequate to render all parts of the plants nonviable. Controlled exotic aquatic plants should always be covered securely during transport (e.g., trailer with tarps, covered dump truck). Controlled exotic aquatic plants may be disposed as landfill waste, including as compost, or as otherwise authorized by the Texas Commission on Environmental Quality (e.g., drying on land and burying or tilling under), but should not be disposed or left to dry aboveground adjacent to any water body other than that from which the plants were removed. Equipment used during plant removal, transport, and disposal, including trailers and dump trucks, should be inspected, thoroughly cleaned to remove any mud, soil, or plant fragments, re-inspected—and re-cleaned if necessary, and allowed to dry completely before use at another water body. Special attention should be paid to inspecting and cleaning wheels, wheel wells, tracks, bumpers, grills, axles, shock absorbers, suspension, exhaust, and other undercarriage elements. Pre-cleaning with

pressurized air to remove mud, plants, and debris can reduce water use for subsequent cleaning using pressure washing and enhance effectiveness. It is recommended that tarps be placed under controlled exotic plants on transport trailers to facilitate cleaning and prevent fragments or other reproductive parts from becoming trapped between trailer flooring planks and being difficult to remove and thus being inadvertently transported elsewhere. Equipment used in the water where invasive plants are present should be cleaned at the source location prior to transport; transport vehicles should be cleaned at the disposal site or at a location away from water.

Reference on cleaning equipment and vehicles:

U.S. Department of the Interior Bureau of Reclamation. 2012. [Inspection and Cleaning Manual for equipment and Vehicles to Prevent the Spread of Invasive Species](#). Technical Memorandum No. 86-68220-07-05

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