

POLICY STATEMENT

Requirements for Fish and Aquatic Animal Imports from Zebra Mussel Endemic Areas

(DRAFT)

This draft policy has not been reviewed or approved by the FWP Fish Health Committee

This policy will be included as part of Montana Fish, Wildlife & Parks Comprehensive Fish Health Policy.

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To satisfy import requirements, all suppliers of aquatic animals to be shipped into Montana from areas endemic to the zebra mussel *Dreissena polymorpha* shall follow this protocol prior to the shipment of water and/or aquatic animals to Montana. Importation of aquatic animals from waters, drainages or areas of the country where zebra mussels are known to occur is strongly discouraged. Import of aquatic animals from these areas will only be allowed with an import permit issued by Montana Fish, Wildlife and Parks, which has been approved by the Administrator of the FWP Fisheries Division, with recommendation of the FWP Fish Health Committee. In reviewing any import permit for fish or other aquatic animals from areas endemic to zebra mussels, the FWP Fish Health Committee will consider the value of the importation and will consider all possible alternatives. **Only when no other reasonable alternatives are available can aquatic animals be considered for import from these areas and the following protocol must be observed.**

Importation of fish from a source or fish culture facility at which zebra mussels have been detected will not be considered for import into Montana, unless the mussels have been successfully removed from the facility. Presence or absence of zebra mussel must be demonstrated an established monitoring protocol, which is acceptable to Montana FWP.

Conditions requiring treatment:

1. The supplier's hatchery facilities are located within 100 miles of waters containing the zebra mussel; and
2. The aquatic animals at the hatchery facilities have been reared in open water supplies (non well water) during one or more life stages;
3. Treatment is required even if no dreissenids have been shown to be present at the facility in question;
4. Fish will not be considered for import from a facility with a water supply known to contain zebra mussels, unless the facility filters all incoming water with a minimum of a 20-micron filter and treats incoming water with ozone or UV.
5. **Fish will not be considered for import from a facility in which zebra mussels are known to occur.** Fish culture facilities located within the known geographic distribution of the zebra mussel, from which fish are proposed for import into Montana, must follow a documented zebra mussel monitoring protocol or provide evidence that no zebra mussels are present in their facility.
6. Montana FWP's zebra mussel import treatment requirements are intended only for fish from a facility in a drainage or area of the country where zebra mussels are known to occur, which utilizes well water or filtered and treated water, and at which no zebra mussels have been found.

Treatment protocol

1. Transport fish in clean disinfected distribution trucks, which are known to be free of any potential nuisance species.
2. Prior to loading fish in distribution trucks fish must be treated with 750 mg/L potassium chloride (KCl) (0.63 lb of KCl per 100 gallons of water) for 1 hour in a static bath with aeration.
3. Fish must be transported in well water if possible. If well water is not available water should be pumped through a 20 µm mesh screen. Veligers will be trapped on the screen.
4. Treat fish during transportation with 25 mg/L formalin (9.5 ml or 0.33 fluid oz of 37% formaldehyde per 100 gallons of water) for a minimum of 2 hours.
5. Veligers, the microscopic mussel larval form, may be associated with the fish; therefore, treatment is required even when the fish are transported in well water;
6. After the minimum 2-hour treatment with formaldehyde, salt may be added if desired for transport. Note: do not add salt to transport water during the two-hour formalin treatment; salt may reduce effectiveness of the formalin treatment. Following the two-hour formalin treatment, the fish may be transferred into fresh water. However, this is not required and may result in added stress to the fish.
7. Transport water may not enter the receiving body of water. Fish must be netted out of transport water into receiving water.

8. Transport water may not be unloaded into any body of water. Water must be transported away from the stocking site. It may be drained onto flat dry ground away from any open water, where no possibility exists that the water could drain into or be washed into any open water.

This strategy will help prevent the overland dispersal of zebra mussel veligers and protect the receiving waters from infection. This treatment has been shown to be safe for use with walleye *Stizostedion vitreum* and saugeye (sauger *S. canadense* X walleye) (Edwards et al. 2002). Personnel at the Gavins Point National Fish Hatchery have also successfully treated largemouth bass, yellow perch, black crappie, bluegill, rainbow trout and pallid sturgeon with this treatment protocol. (reference)

References:

Edwards, W.J., L. Babcock-Jackson, and D. A. Culver. Field testing of protocols to prevent the spread of zebra mussels *Dreissena polymorpha* during fish hatchery and aquaculture activities. North American Journal of Aquaculture 64:220-223.