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United States Department of the Interior

BUREAU OF RECLAMATION

Lower Colorado Regional Office
P.O. Box 61470
Boulder City, NV 89006-1470

DEC 10 2007



MEMORANDUM

To: All Lower Colorado Region Employees

From: Lorri Gray
Regional Director

Subject: Implementation of Measures for the Prevention of Zebra and Quagga Mussel Migration

Since their discovery early this year, Quagga mussels have been spreading rapidly in the Lower Colorado Region water systems. As good environmental stewards in the midst of this situation, I want to make clear our procedure to eliminate migration via boat and equipment transport that could otherwise result from our water-related work efforts.

Effective immediately are the following directions for cleaning of all Bureau of Reclamation equipment being transported among bodies of water.

Remove all visible mud, plants, fish/animals.

Before leaving any body of water, it is important to examine all your equipment, boats, trailers, clothing, boots, buckets, etc. and:

- Remove any visible plants, fish, or animals.
- Remove mud and dirt since it may contain zebra and quagga mussel larvae¹.
- Remove plant fragments as they may contain zebra and quagga mussel larvae¹.
- Do not transport any potential larvae, even back to your home. Remove and leave them at the site you visited.

Eliminate water from all equipment before transporting anywhere.

Much of the equipment used in water contains many areas where water can collect and potentially harbor these aquatic larvae. Thus, make sure that you:

- Eliminate all water from every conceivable item before you leave the area you are visiting.

¹ The larvae (immature forms) of an animal can be so tiny that you cannot see it. However, it can live in mud, dirt, sand, and on plant fragments.

- Remove water from motors, jet drives, live wells, boat hulls, scuba tanks and regulators, boots, waders, bait buckets, and seaplane floats.
- Once water is eliminated, follow the cleaning instructions listed below.

Clean and dry anything that came in contact with the water (boats, trailers, equipment, boots, clothing, etc.). Basic procedures include:

- Use hot (>40° C or 104° F) or salt water to clean your equipment.
- The following recipes are recommended for cleaning hard-to-treat equipment that cannot be exposed to hot water:
 1. Dipping equipment into 100% vinegar for 20 minutes will kill harmful aquatic hitchhiker species.
 2. A 1% table salt solution for 24 hours can replace the vinegar dip. This table provides correct mixtures for the 1% salt solution in water:

Gallons of Water	Cups of Salt
5	2/3
10	1 1/4
25	3
50	6 1/4
100	12 2/3

- If hot water is not available, **spray** equipment such as boats, motors, trailers, anchors, decoys, floats, and nets **with high-pressure water**.
- **Dry Equipment.** If possible, allow for 5 days of drying time before entering new waters.

For more information see these web sites:

100th Meridian Initiative at <http://www.100thmeridian.org/Documents/ZTZ2007.pdf>

Protect Your Waters at <http://www.protectyourwaters.net/prevention/#general>