

# Columbia River "Basin Watch" Newsletter

*A 100<sup>th</sup> Meridian Partnership Program between resource managers, marinas, resorts and other water users to prevent the introduction of zebra mussels into the Columbia River Basin.*



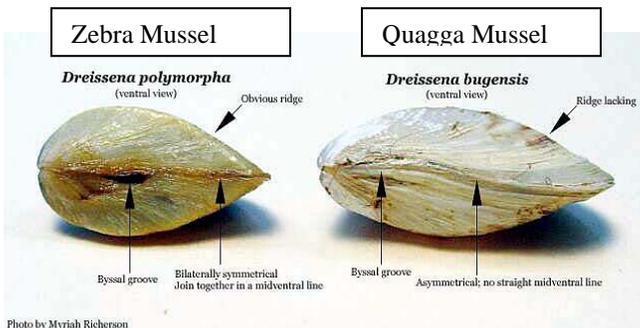
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## **Alert: Mussels "On the Move" in the West!**

Nearly everyone has heard about the discovery of **quagga** mussels (a close relative of the zebra mussel) in Lake Mead in January 2007 and subsequently in lakes Mohave and Havasu and the rest of the Colorado River Basin downstream from Lake Mead. These invasive mussels have also been on the move throughout southern California and Central Arizona in the past year. They now inhabit more than a dozen popular fishing lakes in southern California and the largest and most popular recreational lake in Central Arizona, all connected to either the Colorado or Central Arizona aqueduct systems. If that wasn't enough, **zebra** mussels were discovered in San Justo Reservoir in Central California and in Pueblo Reservoir in Eastern Colorado this January, marking the first incursion of this species west of the Rocky Mountains.

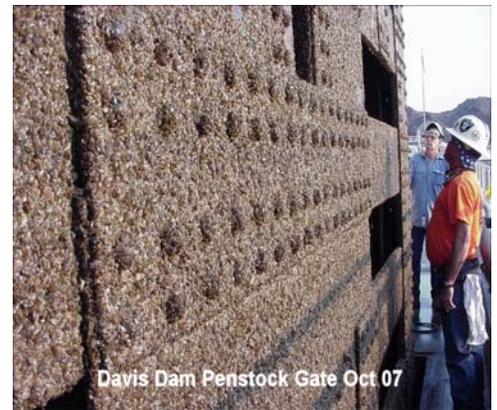
State, federal and local water, recreation and wildlife resource agencies in the west have become increasingly alarmed at the rapid expansion of these species in the relatively short time (16 months) since they were first found in 2007. The states of California, Utah, Nevada, Washington, Oregon, Colorado and North Dakota have all enacted new legislation in the past year to help prevent the spread of these mussels into their waters. Water Districts throughout the west have taken action to keep mussels from invading their water delivery systems by either closing lakes to recreation or requiring all watercraft to pass an inspection before being allowed to launch.



The Metropolitan Water District of Southern California spent ten million dollars last year trying to minimize the impact mussels are having on their ability to deliver water to their 18 million customers. That District has already raised water rates to cover those costs. The Central Arizona and Southern Nevada water projects have also been impacted and have spent millions of dollars managing the impacts of mussels on their water systems. All of this in the first year and things are expected to get much worse and more expensive in the years to come.

To date no zebra or quagga (Dreissenid) mussels have been found in the Columbia Basin, but more than a dozen watercraft have been intercepted headed either through or into the Basin with mussels on board. Every water user in the Basin should be alarmed and doing their part to prevent the introduction

of these destructive invaders into the Columbia Basin. Quagga and/or zebra mussels would have destructive, expensive and life long impacts on agriculture, fisheries, water supply, recreation, and power production in the region.



Metropolitan Water District Employees inspecting Penstock gate at Davis Dam (Lake Havasu) completely encrusted with quagga mussels.

You and your business have a stake in the future and what eventually will happen to the resources of the Columbia River Basin. This is a preventable problem! We can keep mussels out of the Columbia Basin, but it will require that you become knowledgeable about the issue and get involved in the prevention effort. You don't want to be confronted with the situation that California, Nevada and Arizona water users are now facing and find yourself asking "why didn't someone do something to prevent this when we had a chance". Now is the time to act!!

You can start by ordering a copy of "Don't Move A Mussel", a new educational video produced by the Pacific States Marine Fisheries Commission (PSMFC) for the United States Fish and Wildlife Service (See back page of this newsletter for more information about the video). This video can be obtained free of charge from the Pacific States Marine Fisheries Commission by e-mailing Stephen Phillips at [Stephen@psmfc.org](mailto:Stephen@psmfc.org) or by logging on to [100thmeridian.org](http://100thmeridian.org). Once you understand the importance of this issue to the economy, ecology and culture of this region, I know you will want to get involved and take personal and aggressive action to prevent their introduction into your waterways.

By: Bill Zook, Pacific States Marine Fisheries Commission

## *Mussel Monitoring Program Key to Early Detection in Columbia Basin*

Early detection monitoring efforts for Dreissenid mussels need to be augmented because the risk of introduction into western water bodies has increased. Current artificial substrate monitoring includes more than 300 substrates in water bodies throughout 15 western states and involves private citizens, federal, provincial, tribal, state and local government agencies, private organizations and businesses. Portland State University (PSU) has been coordinating volunteer monitoring for adult Dreissenid (quagga/zebra) mussels since 2003 as part of the 100<sup>th</sup> Meridian Initiative. Locations of current PSU monitoring within the Columbia River Basin are shown in Figure 1.

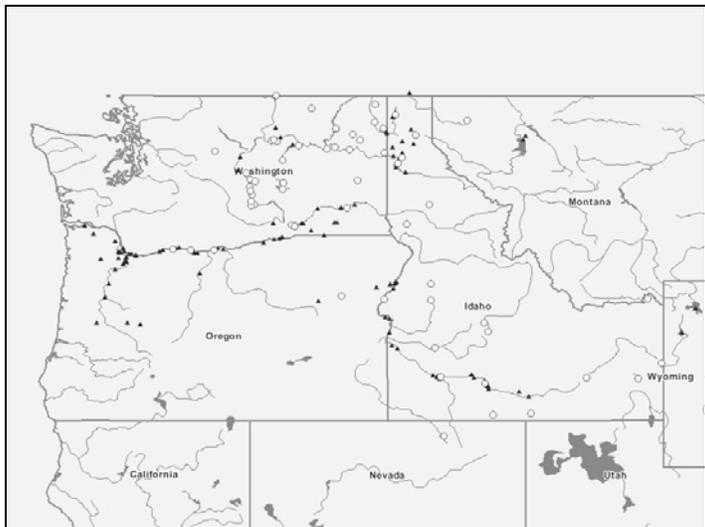


Figure 1: Dreissenid mussel monitoring locations within the Columbia River Basin, showing both artificial substrate monitoring locations (▲) and plankton monitoring locations (○). Note that many monitoring locations in Montana are not shown on map.

PSU is seeking additional volunteers to increase early detection capacity. We would like to place substrates in water bodies that lack current monitoring efforts and to increase the number of substrates in water bodies with existing efforts to augment the efficacy of early detection monitoring. The Columbia River Basin Team of the 100<sup>th</sup> Meridian Initiative has developed and tested a rapid response protocol that can be implemented if mussels are detected, but its efficacy is dependent upon early detection of new infestations, which requires increased monitoring.



PSU Monitoring Substrate - Jason Goeckler Photo

PSU artificial substrate monitoring uses sections of PVC and ABS plastic pipe suspended along an anchored rope. Substrates are generally tied to a dock, pier or other secure physical structure and are deployed in the deepest water possible and preferably near boat ramps, marinas, dams and in downstream/ downwind locations. Inspections are tactile and visual and take approximately 20 minutes to perform. Dreissenid mussels are one of the only freshwater mussels able to attach to hard surfaces like concrete, plastic and rope. Natural substrates (e.g., rocks) are inspected in addition to artificial substrates. Mussels are generally found on the sides and bottom of substrates.

If you are interested in more information or would like us to send you monitoring equipment, please contact Steve Wells, PSU, 503.725.9076, [sww@pdx.edu](mailto:sww@pdx.edu).

## *Hydrilla Invades Idaho for the First Time*

In December, 2007 the Idaho State Department of Agriculture (ISDA) identified Hydrilla (*Hydrilla verticillata*) in the Bruneau River system (Southwest Idaho). Hydrilla is a well-established weed in the southern United States where control and management costs millions of dollars each year. In the west, hydrilla has been introduced into California and Washington (and now Idaho). California has an eradication policy for hydrilla because of the plant's ability to severely impact water delivery systems. The Washington hydrilla infestation was discovered in 1995 and until the Idaho discovery, it was considered the only known occurrence of the plant in the Pacific Northwest. Washington's population appears to be on the verge of eradication following years of aggressive treatment.



Hydrilla

Idaho's noxious weed list (IDAPA 02.06.22- Noxious Weed Rules) was updated in the 2007 Legislative session and now includes three levels of noxious weeds in the state. The highest priority weeds are listed on the "Early Detection Rapid Response" (EDRR) list, the second tier of weed species are those listed on the "Control" list. The third tier weed species is the "Contain" list.

Hydrilla is now listed as an "EDRR" species on Idaho's noxious weed list. As stated in IDAPA 02.06.22: "If any of the above listed plants (Subsection 100.01) are found to occur in Idaho, they shall be reported to the Department within ten (10) days following positive identification by the University of Idaho or other qualified authority as approved by the Director. These weeds shall be eradicated during the same growing season as identified."

Idaho surveys indicate that the plant is distributed along approximately 7 miles of the Bruneau River and in two irrigation ditch systems. Unfortunately, hydrilla is in the same vicinity as the recovery area for the endangered Bruneau Hot Springsnail (*Pyrgulopsis bruneauensis*). Given the proximity to the Bruneau Hot Springsnail recovery area, hand-pulling was attempted to determine if it would be a viable treatment option. Volunteers from ISDA, the Idaho Department of Fish and Game (IDFG), Idaho Association of Soil Conservation Districts, United States Department of Agriculture Animal and Plant Health Inspection Services (USDA APHIS), US Fish and Wildlife Service (USFWS), the Bureau of Land Management (BLM) and the Mountain Home Air Force base assisted in the effort. Following two days of hand-pulling it became clear that physical removal alone was not the answer. In mid-February, Dr. Bill Haller (Director, University of Florida Center for Aquatic and Invasive Plants) toured the area and developed a hydrilla treatment plan for the state of Idaho.

ISDA worked with the Idaho Department of Environmental Quality (DEQ), the Idaho Office of Species Conservation (OSC), IDFG, the USFWS and land owners throughout the Bruneau Valley to conduct the treatment before a “looming” spring runoff. Following treatment, the USFWS assessed a Bruneau hot springsnail population directly downstream of the injection site. Initial survey results suggest snail numbers were not adversely impacted by the herbicide treatment. Post treatment hydrilla surveys indicated that the herbicide treatment reduced the living biomass by approximately 50% in the first 2 miles of river below the injection site. Overall the treatment was a success and the threat of plant fragments moving downstream has been significantly reduced.

It will take years of treatment of achieve eradication of this population. Idaho recognizes the potential threat that this plant poses to the waterbodies of the region and will continue to pursue aggressive treatment until hydrilla is eradicated from the state.

Hydrilla is transported on boat, trailers and equipment so it is vitally important that everyone clean all aquatic vegetation from boat trailers, engines and equipment before leaving the boat ramp. Please checkout <http://www.protectyourwaters.net> for more information about responsible boating cleaning.

For more information, Contact Tom Woolf, ISDA Aquatic Plants Program Manager, [twoolf@agri.idaho.gov](mailto:twoolf@agri.idaho.gov).

### *Monitoring and outreach efforts for New Zealand Mudsnaail in the Klickitat River*

Concerned biologists are searching the Klickitat River for a possible invader, the New Zealand mudsnail (*Potamopyrgus antipodarum*).

*New Zealand Mudsnaails*



The NZ mudsnail is an invasive nonnative species of concern in the Columbia River Basin and other areas due to its potential impacts on aquatic ecosystems.

The U.S. Geological Survey, Western Fisheries Research Center’s Columbia River Research Laboratory, and the Underwood Conservation District were contracted by the Washington State Salmon Recovery Funding Board to 1) initiate outreach to prevent the spread of New Zealand mudsnails and 2) develop methodologies for an early detection and monitoring program on the Klickitat River. As part of these efforts, biologists have sampled nine popular boating and fishing access points in the Klickitat River for New Zealand mudsnails. The sampling effort during 2007 revealed no New Zealand mudsnails. In the past year, the Underwood Conservation District has performed public education and raised awareness in the local community of the threat of a New Zealand mudsnail invasion and how to properly clean equipment to avoid transport of this invasive species to other watersheds. They have and will continue to provide outreach and education programs in the Basin for the Klickitat and White Salmon Rivers Fisheries and Watershed Science conference, White Salmon River Fest and Raft Guides, Trout Unlimited, and other local interest groups.

The New Zealand mudsnail spread to Australia, Europe, Asia, and North America during the 19<sup>th</sup> and 20<sup>th</sup> centuries. In the US the New Zealand mudsnail was first detected in the mid-1980s in the Snake River region of Idaho and has spread to Montana, Wyoming, California, Arizona, Oregon, and Utah. The spread of these New Zealand mudsnails into new systems is considered to be primarily human caused. In the Pacific Northwest they have been found in the mainstem Columbia River, the Oregon Coast, and more recently in the Deschutes River, which supports important anadromous and resident fisheries. The Klickitat River also supports important fisheries and is very vulnerable to an invasion due to its proximity to the Deschutes River and high recreational use. The New Zealand mudsnail has significant potential to alter river ecosystems by changing food web structure and the physical characteristics of the rivers themselves. Since the New Zealand mudsnail has been shown to colonize habitats used by threatened and endangered salmonids, there is concern about the potential effects on salmon restoration efforts. An invasion could affect the status of the Columbia River Basin ecosystem and further efforts to recover Pacific salmon.

For information go to <http://www.esg.montana.edu/aim/mollusca/nzms/>

and for local outreach and volunteer opportunities in the Columbia River Gorge area contact Underwood Conservation District, 509-493-1936.



*Researchers sampling for NZMS in the Klickitat River*

- Jill Hardiman and Tim Counihan, Research Fishery Biologists  
U.S. Geological Survey, Western Fisheries Research Center,  
Columbia River Research Laboratory

# New Free Zebra/Quagga Mussel Education and Training Video Now Available

The Pacific States Marine Fisheries Commission, United States Fish and Wildlife Service and Western State Fish and Wildlife Agencies have just completed a new two-part video on DVD. This video is available at no charge upon request and is “must see TV” for ALL Columbia Basin water users.

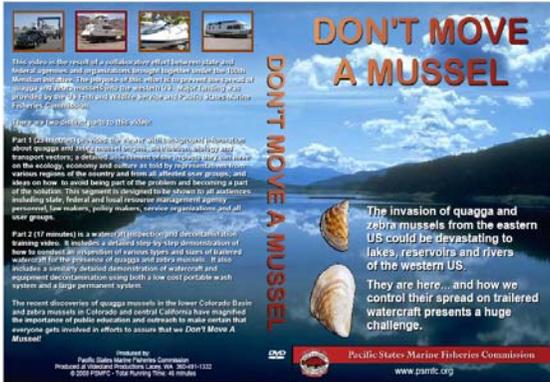
Part 1 (29 minutes) of the video provides the viewer with background information on the origins, distribution, biology, life history and methods of dispersal of zebra/quagga mussels and a detailed assessment of their impacts on agriculture, power production, water supply, fisheries, shipping, recreation and the ecosystem as described by industry experts, resource managers and scientists .

It also provides the viewer with suggestions for how they can contribute to the critical effort to keep them out of the Columbia Basin and save the region billions of dollars in the process.

Part 2 (17 minutes) is a watercraft inspection and decontamination training video that includes a detailed step-by-step demonstration of how to inspect a trailered watercraft for mussels and how to successfully decontaminate that watercraft and equipment if they are found.

This video can be obtained free of charge from PSMFC by e-mailing Stephen Phillips at [stephen@psmfc.org](mailto:stephen@psmfc.org) or by logging on to [100thmeridian.org](http://100thmeridian.org).

By: Bill Zook  
Mussel Outreach and Education Coordinator  
Pacific States Marine Fisheries Commission



## Asian Carp Update!

The U.S. Fish and Wildlife Service (USFWS) has completed a preliminary evaluation of the risks posed to the Columbia Basin by several freshwater Asian carp species, and the conclusions are unsettling. The report is available online at [www.asiancarp.org/risks.asp](http://www.asiancarp.org/risks.asp). For more information, including copies of Asian carp watch cards, contact Paul Heimowitz at 503-736-4722 or [paul\\_heimowitz@fws.gov](mailto:paul_heimowitz@fws.gov)



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