SENATE FINANCE & CLAIMS
Exhibit No. 8
Date 3-6-09
Bill No. SB 343

QUAGGA/ZEBRA MUSSEL FACT SHEET

State and federal agencies have initiated a unified response to the quagga mussel invasion in California. The involved agencies include the Departments of Fish and Game (DFG), Water Resources, Food and Agriculture, Boating and Waterways, Parks and Recreation; U.S. Fish and Wildlife, National Park Service, and Bureau of Reclamation; Metropolitan Water District and the City of San Diego Water Department; and multiple local authorities.

History of quagga/zebra mussels in North America

- Arrived from Europe in the 1980s
- Spread to many eastern waterways, rivers and lakes
- Quagga found in Lake Mead in Nevado on Jan. 6, 2007, and later throughout Lake Mead's lower basin
- Quagga found in Lakes Mojave and Havasu in the Colorado River Jan. 17, 2007
- Quagga found summer 2007 in the Colorado River Aqueduct System
- Quagga recently found in San Diego County in San Vicente Reservoir, Lake Murray Reservoir, Lower Otay Reservoir, Lake Dixon, and Miramar Reservoir and in Riverside County in Lake Skinner and Lake Mathews.
- Zebra mussels found in San Justo Reservoir, San Benito County, Jan. 2008

Economic impact

U.S. Congressional researchers estimated that an infestation of the zebra mussel in the Great Lakes area cost the power industry $3.1 billion in the 1993-1999 period, with an economic impact on industries, businesses, and communities of more than $5 billion.

In California, spread of the mussels threatens water delivery systems, hydroelectric facilities, agriculture, recreational boating and fishing, and the environment in general.

Quagga:

- Typically the same size as a fingernail but can grow up to about 2 inches long
- Common color patterns vary wildly with black, cream, or white bands
- Habitat varies – they can colonize both hard and soft surfaces in freshwater, from the surface to more than 400 feet in depth.
- Arrived in the U.S. from the Ukraine in 1989

Zebra:

- Typically the same size as a fingernail but can grow up to about 2 inches long
- Commonly have alternating dark and light stripes
- Inhabit fresh water at depths from 4 to 180 feet (most commonly 6-12 feet) and prefer hard surfaces
- Arrived in the U.S. in 1988 from Europe

Both mussels:

- Produce young (larva) that are too small to see with the naked eye, but newly settled young feel like sandpaper on smooth surfaces
- May release over 40,000 eggs in a reproductive cycle and up to 1 million in a spawning season
- Attach to aquatic plants, boats, motors, trailers, and recreation equipment or can be present in water (in addition to substrates, docks, piers, anchors, etc)
- As they grow, can be seen on boat hulls, especially around trim tabs, transducers, along keels, and on lower units and propellers
- Can be found in bilges, live wells and motors
- Can survive three to five days out of water depending upon temperature and humidity in summer, longer in the winter - up to 30 days

Border Protection Stations - Jan. 29, 2007 through September 30, 2008

- Boats checked: 175,461
- Boats with water needing drainage: 16,768
- Boats with confirmed adult finds: 260

For more information

FLATHEAD LAKE
Monitor
Newsletter of the Flathead Lakers
Flathead Lake, Montana
Winter, 2009

Proposed Bill Would Help Thwart Zebra Mussel Invasion

A new proposal addressing the threat of invasive species will come before the Montana Legislature this year. Sponsored by Senator Verdell Jackson of Kalispell, the bill's purposes include:

- preventing the introduction of new, harmful, invasive species into Montana;
- controlling and preventing the spread of harmful, invasive species within the state; and
- coordinating public and private efforts and expertise to combat invasive species.

This legislation would complement and strengthen current invasive species education and prevention efforts. The Flathead Lakers assign a high priority to preventing the introduction of harmful aquatic invaders. Lakers board member Ted Williams serves on a committee that has worked on the proposed legislation for over a year.

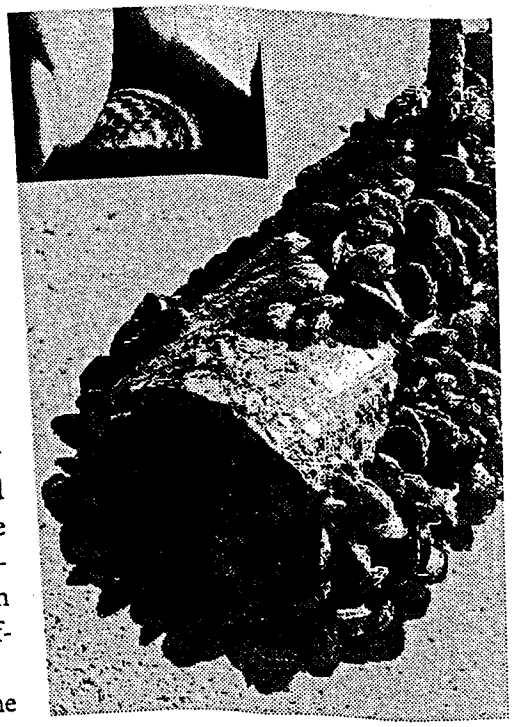
Flathead Lakers board members met with local legislators in early December to discuss the upcoming session. We encouraged them to support an invasive species bill that effectively protects Flathead and Montana waters from harmful invaders like the zebra mussel.

Aquatic invasive species pose a growing threat to Montana's streams, rivers and lakes. Harmful invaders have devastated water bodies in the Great Lakes states and other areas, costing utilities, municipalities and other water users millions of dollars. The U.S. Geological Survey estimates that $5 billion has been spent in the Great Lakes Basin alone for damages caused by and control efforts for the zebra mussel.

A close relative of the zebra mussel, the quagga mussel, has now established colonies west of the Mississippi River. Discovered in Lake Mead in 2007, quaggas have spread to other reservoirs in the southwest and the Colorado River.

Zebra and quagga mussels displace native species, degrade biodiversity including fisheries, clog water pipes, and coat boat motors and any structures in the water. Preventing the introduction of these species is far more cost effective than trying to control them after they appear.

Aquatic invaders can easily be transported on boats being hauled from one water body to another and can withstand ex-



Zebra mussels coat a steel pipe. Keeping the mussels and other invasive aquatic species out of Flathead waters is a top priority for the Lakers. *Photo courtesy of MT FWP.*

Commenting on an early draft of the legislation, Ted Williams said "I strongly believe that barriers to the spread of aquatic invasive species should be included in the legislation. We need to block organisms such as zebra mussels from coming into the state." An inspection program for watercraft entering the state is an important tool to accomplish this goal, and the Flathead Lakers encourage legislators to authorize and fund inspection stations now – before it is too late.

INSIDE

Subject: Idaho Statesman article on quagga mussel prevention program costs

The potential cost of invasive mussels to Idaho taxpayers: $91 million

Alternatively, boat owners could help pay for washing stations to keep out the creature that threatens dams, hatcheries and irrigation canals

BY ROCKY BARKER - rbarker@idahostatesman.com
Edition Date: 02/21/09

Invasive mussels the size of fingernails that clog pipes, spoil beaches and crowd out native aquatic life are lurking at Idaho's border, and if they spread to the state's waterways they could cost $91 million annually, experts warn.

But the costs of fighting the invasion likely will keep the state from doing what pretty much everyone involved acknowledges would be a good idea - keep the mussels out of Idaho.

Idaho Department of Agriculture Director Celia Gould told budget writers earlier this month the multimillion-dollar cost of keeping quagga and zebra mussels out of the state was too high in the current state of the economy.

But Republican Rep. Eric Anderson of Priest Lake - who has campaigned against invasive species his entire legislative career - told the Legislature's Environmental Common Sense Task Force Thursday that the price of invasion is too high for the state to do nothing.

"I believe we'll find mussels here if we don't do something this spring," Anderson said. The mussels were inadvertently introduced into the Great Lakes in the mid-1980s, and they have spread throughout the East and Midwest. In 2007 they were found in Lake Mead on the Nevada-Arizona border and have since spread into California, Colorado and Utah.

California has been forced to close some lakes to prevent the spread of the bivalves. They reproduce and spread rapidly, clogging machinery and water pipes and destroying aquatic ecosystems. Once established, they're nearly impossible to eradicate.

Idaho's extensive irrigation canals and ditches are among the most threatened systems, along with its hydroelectric dams, fish hatcheries, marinas and drinking water systems.

HEARING ON SB 343

Opening Statement by Sponsor:

00:01:27 Sen. Verdell Jackson (R), SD 5, opened the hearing on SB 343, Regulation of zebra mussel and other invasive species.

EXHIBIT(ags31a01)

Proponents' Testimony:

00:10:54 Hal Harper, Representing the Governor's Office
00:15:20 Ron de Yong, Director, Department of Agriculture (DOA)

EXHIBIT(ags31a02)

00:20:12 Ted Williams, Ph.D, Board Member, Flathead Lakers Organization

EXHIBIT(ags31a03)

00:23:56 Joe Brenneman, Flathead County Commission
00:24:57 Jeff Tiberi, Executive Director, Montana Association of Conservation Districts
00:25:43 John Youngberg, Montana Farm Bureau
00:27:34 Mike Murphy, Montana Water Resources Association
00:28:43 Mark Aagenes, Montana Trout Unlimited
00:29:11 Christa Lee Evans, Association of Gallatin Agricultural Irrigators, Senior Rights Coalition
00:29:57 Brianna Randall, Clark Fork Coalition

EXHIBIT(ags31a04)

00:30:45 Ariel Overstreet, Montana Stockgrowers Association; Montana Cattle Women
00:31:37 David Hoffman, PPL Montana
00:32:53 Casey Perkins, Montana Audubon
00:33:24 Robin Cunningham, Fishing Outfitters Association of Montana
00:34:08 Caryn Miske, Executive Director, Flathead Basin Commission (FBC)
00:35:59 Robin Cunningham spoke for Bob Gibson, Walleye Unlimited

Opponents' Testimony: None.

Informational Testimony:

00:36:33 Mark Reller, Bonneville Power Administration
00:40:40 Caryn Miske, FBC

STOP AQUATIC HITCHHIKERS!™

www.ProtectYourWaters.net

Follow these simple steps:

☑ Clean

Remove all plants, animals and mud then thoroughly wash everything, including all crevices and other hidden areas on your boat and equipment.

☑ Drain

Eliminate all water before leaving the area, including wells, ballast, and engine cooling water.

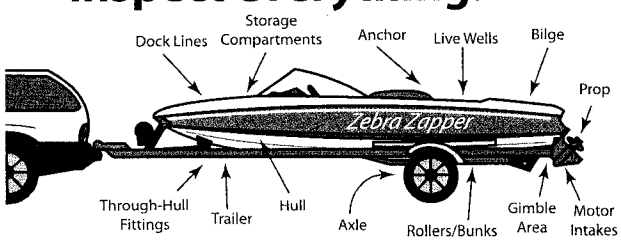
☑ Dry

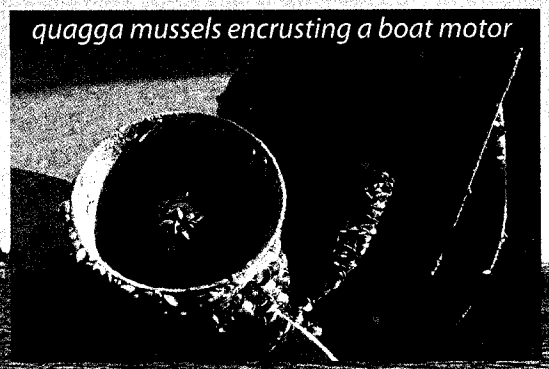
Allow time for your boat to completely dry before launching in other waters.

If your boat has been in infested waters and you cannot perform the above steps, you should have your boat professionally cleaned with high-pressure scalding water (>140 °F) before travelling to any other body of water.

Before leaving and before launching...

inspect everything!





Zebra and quagga mussels are a costly nuisance for anglers and boaters. They can ruin your equipment, clog cooling systems in motorboats, foul hulls and jam the centerboard wells under sailboats.

IDAHO • OREGON • ALASKA
PACIFIC STATES MARINE FISHERIES COMMISSION
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U.S. FISH & WILDLIFE SERVICE
Department of the Interior

BONNEVILLE POWER ADMINISTRATION

100th Meridian Initiative

Image Credits: *Zebra Mussels Encrusting a Fishing Rod* and *Zebra Mussels on a Fishing Lure* by Marc Murrell, Kansas Department of Wildlife and Parks • *Zebra Mussels, Zebra Mussels on a Beer Can, Zebra Mussels on a Native Mussel, Bait Bucket, Quagga Mussels, Inspect Everything!* and *Zebra Mussel Distribution Map: February 2008* by David Britton, U.S. Fish & Wildlife Service • *Zebra Mussels in a Cut-Away Pipe* by Don Schlosser, Great Lakes Science Center • *Zebra Mussels in a Pipe* by Craig Czarnecki, Michigan Sea Grant • *Quagga Mussels Encrusting a Boat Motor* by Matt Watson, The University of Texas at Arlington. The distribution map is based on data compiled by the U.S. Geological Survey's Nonindigenous Aquatic Species Program (http://nas.er.usgs.gov).

100th Meridian Initiative

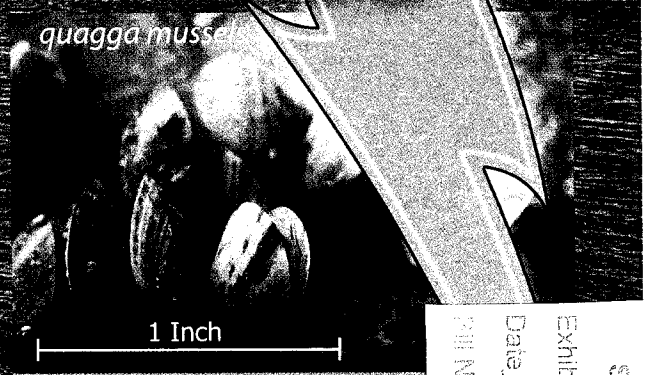
ZAP THE ZEBRA

www.100thMeridian.org

Please report any sightings by calling the National Hotline

1-877-STOP-ANS

1-877-786-7267



SENATE FINANCE & CLAIMS
Exhibit No. 9
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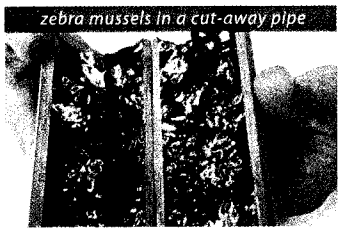
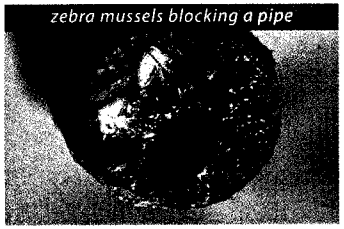
Invasive Mussels: Expensive Damage

When zebra or quagga mussels invade our local waters, they clog power-plant and public-water intakes and pipes. Routine treatment is necessary and very expensive: this leads to increased utility bills. If you use water and electricity, then you do not want zebra/quagga mussels!



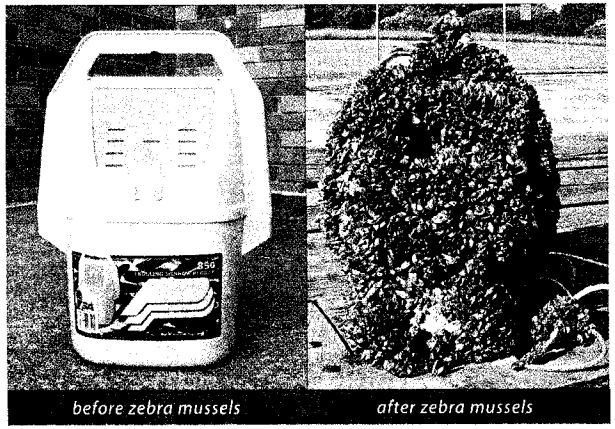
zebra mussels in a cut-away pipe



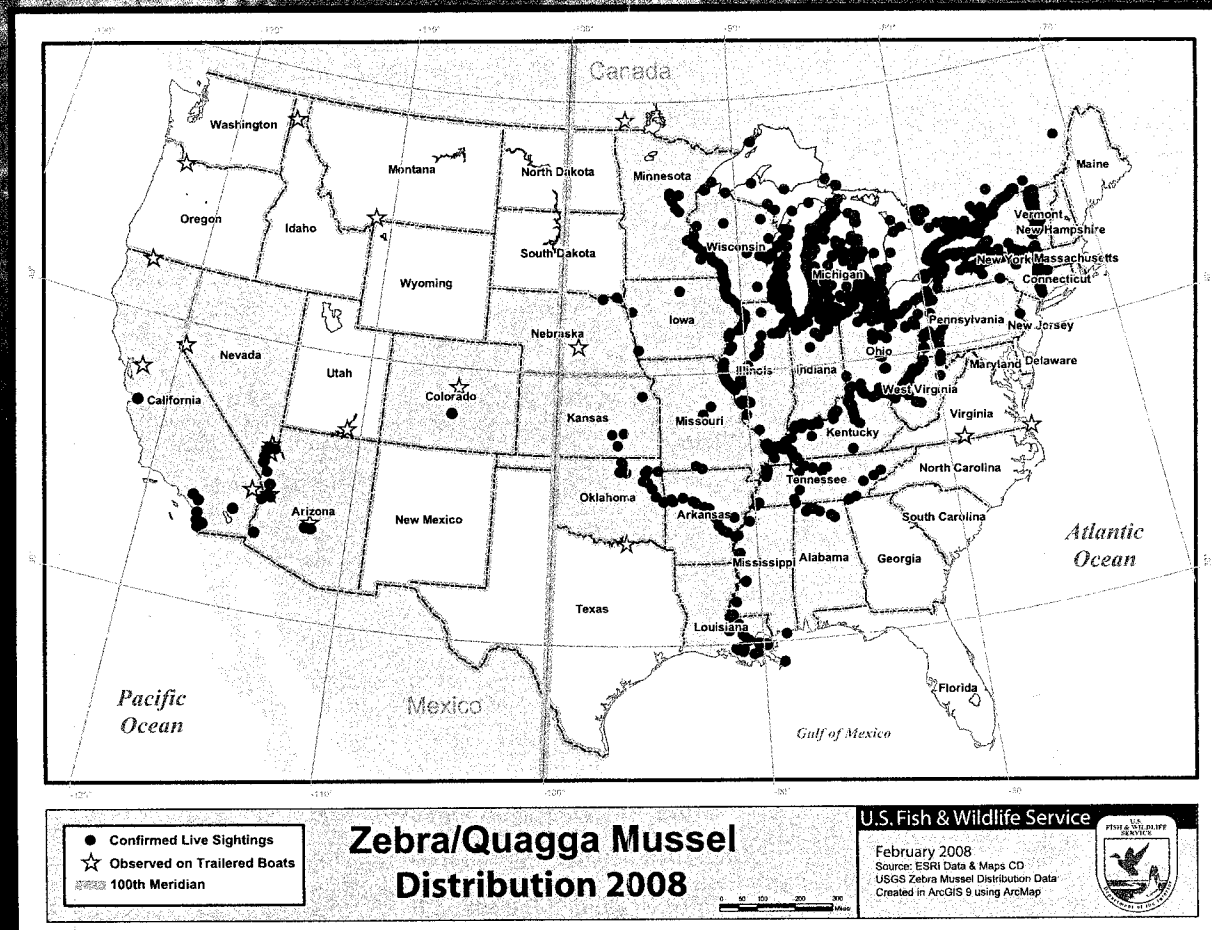
zebra mussels blocking a pipe

Zebra/Quagga Mussels May Use Your Boat to Invade Additional Waters

If your boat has been in infested waters, it could be carrying invasive mussels. These creatures usually spread to new habitats on boats trailered by the public or by commercial haulers. Zebra and quagga mussels attach to almost anything: boats, aquatic plants, bait buckets, and other aquatic recreational equipment. You could unintentionally transport microscopic mussel larvae in water in your live well or bilge. An adult female zebra mussel can release up to 1,000,000 eggs in a lifetime. Please take the precautions outlined in this brochure to reduce the chance that zebra or quagga mussels will spread to uninfested areas.



before zebra mussels *after zebra mussels*



Zebra/Quagga Mussels Harm Native Aquatic Life

zebra mussels on a crayfish

zebra mussels on a native mussel

Zebra/Quagga Mussels Encrust Any Hard Surface

zebra mussels on a beer can

zebra mussels on a fishing lure

What are they?

Zebra and quagga mussels are invasive freshwate mollusks (clams) that infest waters in large numb attaching to any hard surface.

Where do they come from?

Black and Caspian Sea drainages in Eurasia.

What size are they?

From microscopic up to about two inches long usually found in clusters.

Why "zebra" mussels?

These species are both sometimes referred to as "zebra" mussels because they have light and dark alternating stripes. Quagga mussels are actually a separate (but similar) species named after an animal related to zebras.