

GYCC AIS Sub-committee Overview

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What Are Aquatic Invasive Species (AIS)?

Aquatic Nonnative:

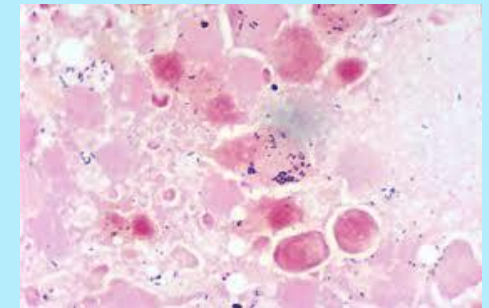
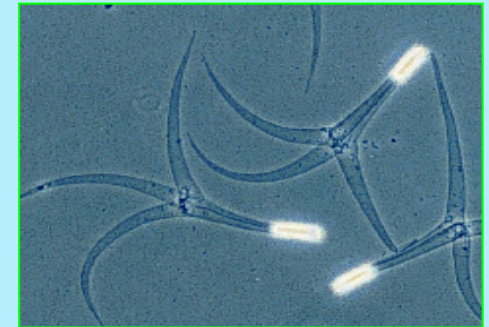
Plants





Animals



Pathogens



Introduction & Spread:

Pathways	Hitch-hiking on equipment that contacts water	Water conveyances	Intentional Release
Vectors	<ul style="list-style-type: none">• Watercraft<ul style="list-style-type: none">• Motorized• Non-motorized• Fishing/sampling gear<ul style="list-style-type: none">• Waders• Nets 	<ul style="list-style-type: none">• Fire Suppression<ul style="list-style-type: none">• Aerial• Ground based• Dust Abatement  	<ul style="list-style-type: none">• Classroom Pets• Home Pets• Bait Buckets• Bucket Biology 

Why Are AIS a Problem?

- Threaten:

- Ecological stability
- Diversity or abundance of native species
- Commercial, agricultural, aquacultural, and recreational activities



Why Are AIS a Problem?

- Easily spread via a complex array of pathways and vectors
- Early detection is difficult (annual surveys of all but the highest use water bodies is cost prohibitive)
- Treatment and Control Measures
 - **Extremely Costly** (Yellowstone Lake Lake Trout Suppression \$2 million annually)
 - **Largely ineffective** and do not exist for many species
- **Eradication** is usually **impossible**
- Once established we're usually stuck with the ecological, recreational, and economic impacts



With few management options...

PREVENTION IS KEY!



HELP STOP AQUATIC HITCHHIKERS!

To avoid spreading aquatic invasive species
BEFORE launching ... BEFORE leaving:

- **Remove** aquatic plants and aquatic animals
- **Drain** lake or river water away from the landing
- **Dispose** of unwanted live bait in the trash

It's the Law ... Do Not:

- Transport aquatic plants, zebra mussels, or other prohibited species on public roads
- Launch a watercraft or place a trailer in the water if it has aquatic plants, zebra mussels, or other prohibited species attached
- Transport water from infested waters

Minnesota Department of Natural Resources



Protect your waters

STOP AQUATIC HITCHHIKERS! mndnr.gov

Minnesota DEPARTMENT OF NATURAL RESOURCES



0061

2014
OREGON
STATE MARINE BOARD
Aquatic Invasive Species
Prevention Permit

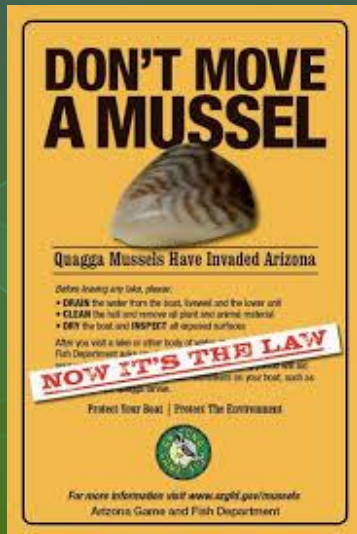
THIS PERMIT, WHEN CARRIED, IS VALID FOR OPERATION OF ANY MANUALLY-POWERED BOAT ON OREGON WATERS.
EXPIRES DEC. 31, 2014



Clean Angler

PROTECTING OUR WATERS

Stop Invasive Species - inspect, clean, dry



DON'T MOVE A MUSSEL

Quagga Mussels Have Invaded Arizona

Before leaving any lake, please:

- **DRAIN** the trailer from the boat, dump and the lower unit
- **CLEAN** the hull and remove all plant and animal material
- **DRY** the boat and **INSPECT** all exposed surfaces

After you visit a lake or other body of water, please do not dump anything on your boat, such as bait, live fish, or any other aquatic life.

NOW IT'S THE LAW

Protect Your Boat | Protect The Environment

For more information visit www.azgfd.gov/mussels
Arizona Game and Fish Department



INSPECT. CLEAN. DRY.

STOP AQUATIC HITCHHIKERS!



**CLEAN BOATS
CLEAN WATERS**

What threat do AIS pose in the GYA?

Values at Risk

- World class wild trout fisheries with tremendous economic value.
- Unique aquatic ecosystems: cutthroat trout, western pearlshell mussel, etc.
- Headwaters of the Missouri and Colombia River Basins: (headwater invasions rapidly spread downstream)



fisheyeguyphotography.com

High Threat Level

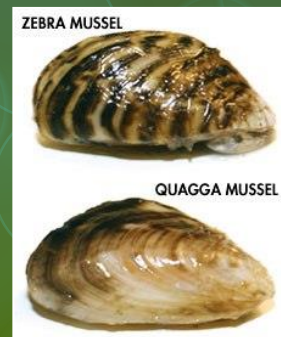
- GYA is a world renowned recreation destination
- Pathways and vectors spread across state and other jurisdictional boundaries.
- Eurasian water-milfoil and curly-leaved pond weed are present and spreading
- New Zealand Mudsnails becoming wide-spread in GYA
- Whirling disease ubiquitous in GYA
- Mussels are not present but potential for introduction is high. Over 100 mussel fouled boats have been stopped in ID alone since 2009!



New Zealand Mudsnail



Eurasian water-milfoil



ZEBRA MUSSEL

QUAGGA MUSSEL

Committee History

- **2005**- Jackson Hole, WY. AIS meeting to encourage development of a GYA regionally coordinated AIS plan.
- **2007**-GYCC AIS Subcommittee formed – the same year Quagga mussels were found in Lake Mead.
- **2008**-only one of the three states had an ANS Taskforce approved plan (MT in 2002, ID in 2009, and WY 2010).
- **2009**-AIS Subcommittee Strategic and Implementation Plans developed

Membership



- Diverse and inclusive – the issue is too big and complex for us to not include as many partners at the table who would like to help.

- GYCC Component Agencies:

- Yellowstone & Grand Teton National Parks
- Beaverhead-Deerlodge, Bridger Teton, Caribou Targhee, Custer Gallatin, & Shoshone National Forests

- Other Federal partners:

- BOR
- USGS

- State Agencies:

- Wyoming Game & Fish
- Idaho State Department of Agriculture
- Montana Department of Fish, Wildlife & Parks

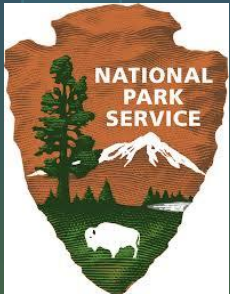
- Local Government:

- Examples include Teton County Weed and Pest District
- Freemont County Weed and Pest

- Non-profit Organizations:

- Invasive Species Action Network
- Snake River Fund

- Businesses: Many have participated in prevention activities



Mission

- Work cooperatively to develop effective programs that address the threat of AIS throughout the Greater Yellowstone Area (GYA).
- Strategic Goals (Plan of Work supports each):
 - #1. Prevent new introductions of AIS into waters of the GYA.
 - #2. Survey, report, and respond to AIS in GYA waters.
 - #3. Abate ecological, socioeconomic, and public health and safety impacts resulting from infestations of AIS within the GYA
 - #4. Provide a cooperative environment that encourages coordinated activities among all interested parties throughout the GYA.

1. Prevent new introductions of AIS into waters of the GYA.

- **Accomplishments:** Outreach materials, fly shop boot wash stations, press releases, boat inspection/decontamination stations and trainings.
- **Challenges and Needs:**
 - Agency and public assuming active role.
 - Inconsistent outreach messages (apathy or confusion).
 - Prevention gaps: funding for watercraft inspections.
- **Applying science:** Science has shown high potential for anglers moving sediment and AIS. Changing behavior requires social marketing targeted at specific user groups.
- **Public Participation:** Ambassadors for user groups to develop and implement successful social marketing strategies.

ISAN Bootwash Station Deployment



- **User Group:** Fly Fisherman
- **Desired Behavior Change:** Wash waders and equipment before entering a new waterbody
- **Accomplishments:** 65+ wash stations currently deployed throughout GYA. 110 will be deployed by fall 2015.
- **Funding:** RAC, GYCC, TU and others



2. Survey, report, and respond to AIS in GYA waters.

- **Accomplishments:** high risk water monitoring plan/ surveys, AIS database, eDNA support, and rapid response plan development.
- **Challenges and Needs:**
 - Standardized survey and monitoring- identify and address survey gaps,
 - Rapid response: Develop roles, responsibilities, decision points, protocols etc.
 - Funding and capacity for surveys
- **Public Participation:** Developing an informed public that can identify and report AIS.

3. Abate ecological, socioeconomic, and public health as well as safety impacts resulting from infestations of AIS within the GYA

- **Accomplishments:** Placement of decontamination equipment across GYA. Subcommittee structure facilitates communication and coordination of infestation locations and management actions.
- **Challenges and Needs:** Development of effective treatment, control, and containment measures for AIS, decontamination resources.

4. Provide a cooperative environment that encourages coordinated activities among all interested parties throughout the GYA.

- **Accomplishments:** Pooled resources to survey and monitor, inspect/decontaminate, educate, etc. Our committee is one of the more diverse. A facilitated discussion in 2014 has laid the groundwork for a rapid response plan.
- **Challenges and Needs:** Turn over in membership, lack of representation from some agencies/units, duplication of efforts, limited capacity of members to contribute due to budget cuts and increased work-load.

Take home Message:

- AIS are a high resource threat in the GYA.
- Once introduced, control is costly and unlikely to succeed. PREVENTION IS KEY!
- Vectors and pathways occur across jurisdictional boundaries. The GYCC AIS Subcommittee plays a key role in coordinating AIS efforts across boundaries.
- Constant vigilance by managers and the public is needed and resources must continue to be committed to prevent new introductions.

Clean, Drain, Dry!