



# Zebra Mussel Response Team Update

Joint Travel, Recreation, Wildlife & Cultural Resources Committee

5/21/21



# Background

- Highly invasive zebra mussels identified by Game and Fish on March 3.
- Found in moss balls, an aquatic plant sold in pet stores
  - Most of the zebra mussels found in Beta Buddy Marimo Moss Balls located in PetCo/PetSmart chain stores in Sheridan, Gillette, Cheyenne, Laramie and Casper).
  - Some zebra mussels found in products were considered viable.
- Wyoming is one of nearly three dozen states who identified zebra mussels on moss balls.
- Game and Fish, WDA, and Gov. Gordon's office mobilized to limit sale of moss balls and mitigate the spread of mussels.
- Gov. Gordon convened the Wyoming Invasive Mussel Response Team, a multi-agency effort to stop the spread and limits the impacts from zebra mussels.

# WY Game and Fish Department



- Major actions to date
  - Game and Fish mobilized to inspect pet stores in Wyoming.
  - Ongoing inspection and testing of samples.
  - Developed two-pronged approach to address the threat with mitigation and law enforcement.
  - Notified US Fish and Wildlife Service, Governor's office and potentially-impacted state agency directors.
  - Developed a strong communication and media campaign effort to inform the public of zebra mussels and how to properly dispose of the product.
  - Enforcement personnel and AIS personnel worked closely to secure inventory of moss ball products and log evidence.
  - Letter sent out to municipalities in the state advising them of the zebra mussel threat and providing a link to Game and Fish website relating to the moss ball threat.

# WY Game and Fish Department



- Major actions to date
  - Weekly coordination meetings for both Game and Fish internal team and Governors emergency response team.
  - Development of eDNA testing procedures on zebra mussels at the Game and Fish Wildlife Forensics and Fish Health Laboratory.
  - Collaboration with Wyoming Department of Health on development of eDNA testing procedures and water sampling efforts at select wastewater facilities relating to Covid-19 testing.
  - Initiated moss ball take back program. NGOs donated \$1,300 to be raffled off to people who turned in moss balls for disposal.

# WY Game and Fish Department



- Priority next-steps
- Test wastewater facilities for zebra mussels
  - Created four tiers of testing priorities
    - Tier 1 – Facilities at, or near, communities where zebra mussels were found
    - Tier 2 – Larger communities where wastewater treatment facility discharges into a major waterway
    - Tier 3 – Facilities located in smaller communities where the facility discharges into a major waterway
    - Tier 4 – Facilities that discharge into a smaller water source
  - Increase statewide AIS sampling efforts
  - Continue communication and outreach efforts through a wide variety of mediums

# WY Game and Fish Department



- Potential Impacts to agency and constituents
  - Economic - Significant economic losses including loss of Game and Fish revenue from recreation and fishing, possible abandonment of Game and Fish fish hatcheries, increased testing costs and maintenance.
  - Biological/Ecological – a possible reduction in primary production of sport fisheries and native fishes, potential increase in cyanobacteria blooms, and the possible loss of the ability to transplant sportfish and native fish.
  - Recreational – Boating and fishing access could be severely restricted, decrease in fishing opportunities, changes to regulations, permanent geographic closures, and loss of useable beaches and shorelines.

# WY Department of Agriculture



- Major actions to date

- As the authority on nursery stock in the state, WDA issued a quarantine against the importation of marimo balls or moss balls into the State of Wyoming under the Wyoming Weed and Pest Control Act.
- Communicated quarantine information and continued to share messaging and content from the Wyoming Game and Fish Department.
- Contacted all nursery stock dealers, Weed and Pest Districts, federal partners, retail establishments, and others to inform of quarantine efforts.
- Inspectors visited probable locations where moss balls may be sold and coordinated with Game and Fish staff.
- Coordinated with Wyoming Association of Conservation Districts and Conservation District Board members/staff on potential assistance in monitoring while water quality sampling.

# WY Department of Agriculture



- Priority next steps
  - Continue to identify all places these mussels could be to fully understand the scale of the issue.
  - Maintain open communication channels with other states, federal partners, and industry regarding this issue in order to ensure consistent/accurate information.
  - Reach out to irrigators/end users on monitoring for the presence of mussels.
  - Continue communication efforts in conjunction with the Game and Fish.

# WY Department of Agriculture



- Potential Impacts to agency and constituents
  - It is impossible to identify all of the potential impacts to each end user or to all methods of applying irrigation water to the land.
  - Significant cost in mitigation through physical, environmental and chemical treatments. (A rate of \$2.78 to \$5.75 per acre-foot for chemical application of the annual 6,889,000 diverted acre-feet per year)
  - The potential annual cost to mitigate zebra mussels in an average year could be \$19.1 to \$39.6 million per year.
  - This does not account for other costs associated with the physical removal of zebra mussels from infrastructure or other costs to yearly maintenance of the irrigation systems.

# WY Department of Environmental Quality

- Priority actions to date

- Prepared an inventory of permitted wastewater treatment facilities with information on the level of treatment at each facility, waterbody(ies) receiving the discharge, and a suggested prioritization for sampling.
- Provided preliminary information on wastewater treatment methods and their potential effects on zebra mussels.
- Provided contact information for wastewater and drinking water facilities in the state.
- Shared WGFD zebra mussels information and participating on the Communications team.
- Communicated with WGFD about coverage under WYPDES pesticide general permit to proactively plan in case application of chemical treatment to surface waters is needed.

# WY Department of Environmental Quality

- Priority next steps
  - Continue to collaborate with Game and Fish on potential opportunities to coordinate monitoring efforts.
  - Revisit equipment decontamination procedures and update standard operating procedures accordingly.
  - Training and field audits will ensure procedures are followed internally and with monitoring partners.
  - Engineering and WYPDES permitting staff are available to provide input on potential opportunities for wastewater treatment facility response if mussels are detected.

# WY Department of Environmental Quality

- Potential Impacts to agency and constituents
  - Mussel populations could impact surface water quality by altering water chemistry and biological communities.
  - Mussel populations in sewage system infrastructure could potentially impact the ability of wastewater treatment plants to operate effectively and meet permit limits.
  - Mussel populations in drinking water or sewage system infrastructure could damage facility infrastructure and lead to the need for facility upgrades, increasing Permit to Construct applications and increasing requests for Clean Water and Drinking Water State Revolving Funds.

# WY Water Development Commission



- Priority actions to date
  - Notified special interest organizations
  - Prepared a summary of water infrastructure for municipal and irrigation systems.
- Priority next steps
  - Obtain mussel identification and detection information from Game and Fish
  - Distribute identification and detection information, and ask for collaboration from, program sponsors and professional service contractors
  - Coordinate with Game and Fish to develop and distribute a reaction list if detection occurs.
  - Coordinate with Game and Fish to develop a plan for High Savery Reservoir.

# WY Office of Homeland Security



- Priority actions to date
  - Obtained an inventory of electrical generation facilities that use water
  - Coordinated with Wyoming Energy Authority to define roles.
  - Reached out to Region 8 Critical Infrastructure Program Managers to hear their experience with zebra mussels.
    - Learned that there are significant issues in North Dakota and Washington
    - Researched zebra mussel detection methods like detection dogs
- Priority next steps
  - Work on getting more photos of affected infrastructure
- Potential Impacts to agency and constituents
  - Could be catastrophic to the 16 hydropower plants across Wyoming

# WY Department of Transportation



- Priority actions to date
  - Added information in April and May issues of WYDOT's news magazine Interchange.
  - Added information to 2021 state highway map panel
- Priority next steps
  - Continue to monitor for the presence of zebra mussels

# WY State Parks and Cultural Resources



- Priority actions to date

- Coordinated with Game and Fish to develop warning/notification signage and posted signage in parks and historic sites
- Shared AIS information via social media
- Shared information with Wyoming Contractors Association
- Coordinated with Game and Fish on email notification to 35,000+ customers and vendors from our database

- Priority next steps

- Continue to share information on zebra mussels
- Finalize awareness information for current staff and seasonal staff
- Finalize mass email graphics and distribute to customers and vendors



# WY Office of Tourism

- Priority actions to date
  - Helped found and contributed to the inter-agency working group.
  - Host an AIS facility as part of the Wyoming Office of Tourism complex.
  - Discussed communications opportunities with our Brand Studio to help educate summer visitors on this issue.
  - Established an email program with WGFD during the summer to broadcast relevant issues to our tourism audience.
  - Incorporated elements of this issue into our WY Responsibly messaging, as appropriate (e.g. protect Wyoming's waterways, etc.)
- Priority next steps
  - Continue coordinating with the inter-agency working group's initiatives.
  - Identify more communications opportunities to educate visitors as the summer season and campaign progresses.
  - Tailor and amplify WGFD efforts to the Wyoming Office of Tourism's respective audiences.

# Lines of Effort/Objectives

## Phase I

Eliminate Source

Investigate

Find and Assess Impacts

Contain and Eradicate

## Phase II

Prevent Future Importation

Communicate



# Interagency communications team impacts



# Prevention of Future Importation

- Vigilance for other nursery stock species serving as hosts.
- Being prepared to issue another quarantine for any other hosts that may arise.
- Being hyper-aware of, and identifying, new ways the mussel may travel to Wyoming.



# Reporting

- Zebra Mussel Response Report – Being updated by the Zebra Mussel Response Team to capture all of the important information and actions from the response along with appendices and other documents.
- Zebra Mussel Action Item Table – A document that was set up to help track the response action items, who was responsible for them, the date they happened, the date they were complete, and any other important additional information.
- The above two documents will ultimately be turned into the final report that will be available for anyone to view.

# Questions?

[wgfd.wyo.gov/Get-Involved/AIS-moss-balls](http://wgfd.wyo.gov/Get-Involved/AIS-moss-balls)