

DON'T MOVE A MUSSEL:

Preventing Aquatic Invasive Species in Wyoming



Wyoming Game and Fish Department



Background

- Non-native organisms that cause harm when introduced
 - Includes fish, amphibians, mollusks, crustaceans, plants, and pathogens
 - Some already present in Wyoming
 - Most significant threats not yet in Wyoming

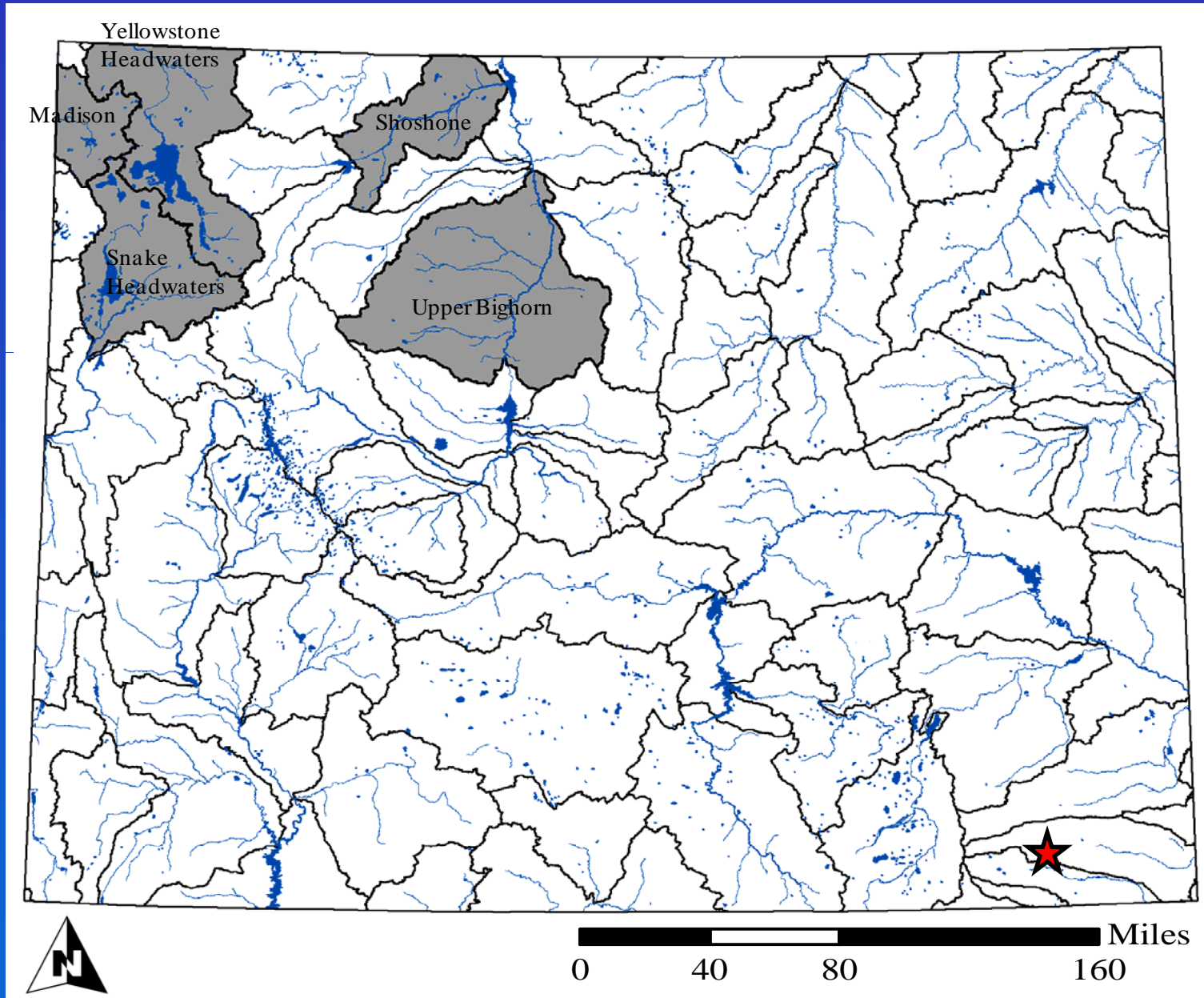


Background

- AIS currently in Wyoming
 - New Zealand mudsnail (*Potamopyrgus antipodarum*)
 - Female clones, high densities (>300,000/m²)
 - Transported on recreational gear
 - Out-compete natives, alter water chemistry



Background

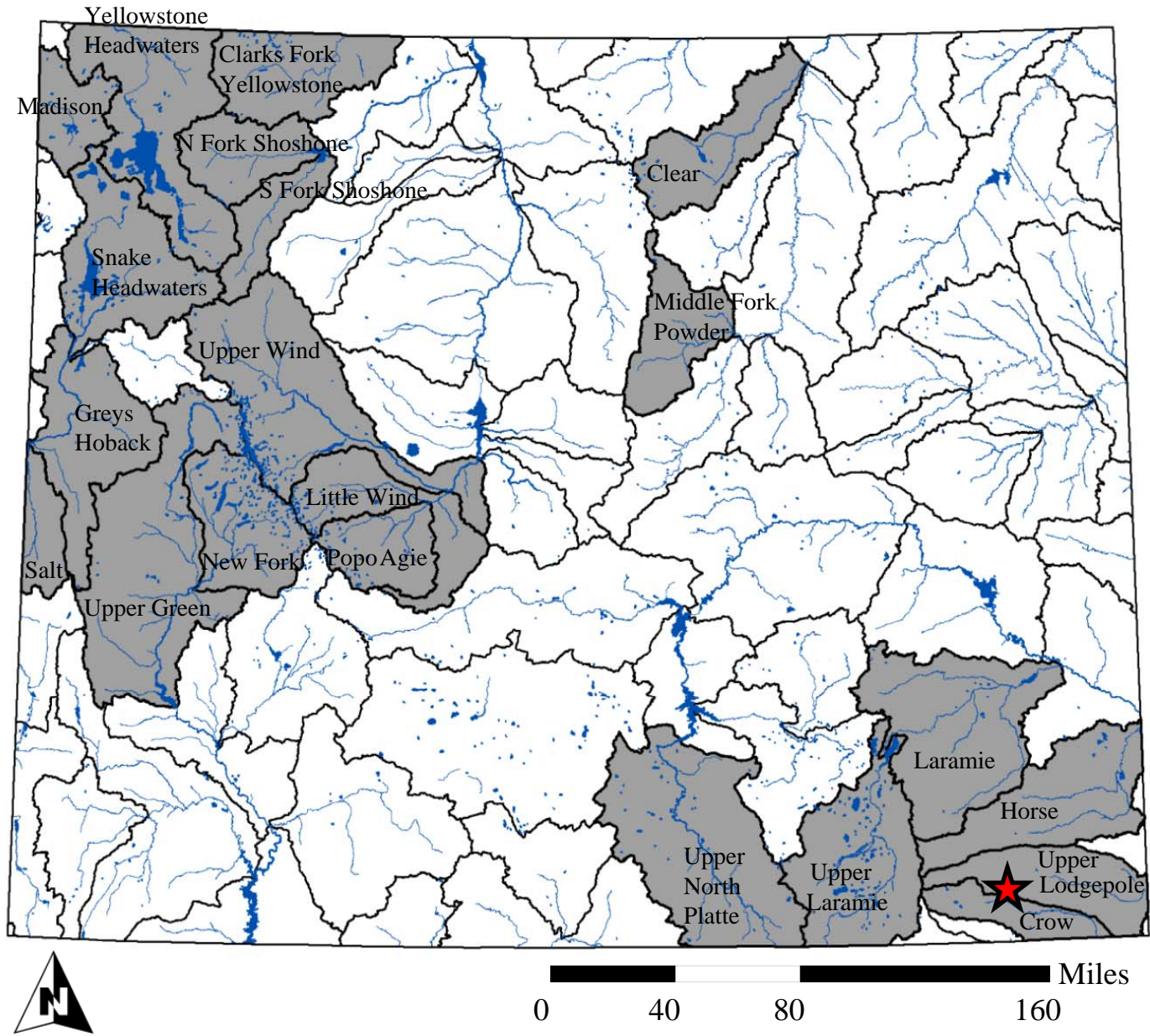


Background

- AIS currently in Wyoming
 - Whirling disease (*Myxobolus cerebralis*)
 - Two-host life cycle- worm and Salmonid
 - Transported in mud/water on rec. gear and in fish
 - Causes blackened tail, spinal deformities, whirling behavior, and death



Background



Background

- AIS not in Wyoming
 - Asian carp (bighead, silver, black)
 - Intentionally or accidentally introduced
 - Transported by humans, water currents
 - Out-compete natives



Background

- AIS not in Wyoming
 - VHS – Viral Hemorrhagic Septicemia
 - Introduced into Great Lakes through ballast water
 - Spread through infected fish
 - Causes hemorrhaging and death



Background

- AIS not in Wyoming
 - Zebra/Quagga mussels (*Dreissena polymorpha*/*D. rostriformis*)
 - Introduced into Great Lakes in ballast water
 - Transported on trailered watercraft
 - Impedes water delivery, biofoul, decreases natives, changes fish community, changes water quality



Zebra mussel

Quagga mussel

Impacts

- Present in neighboring states and can spread rapidly

Impacts

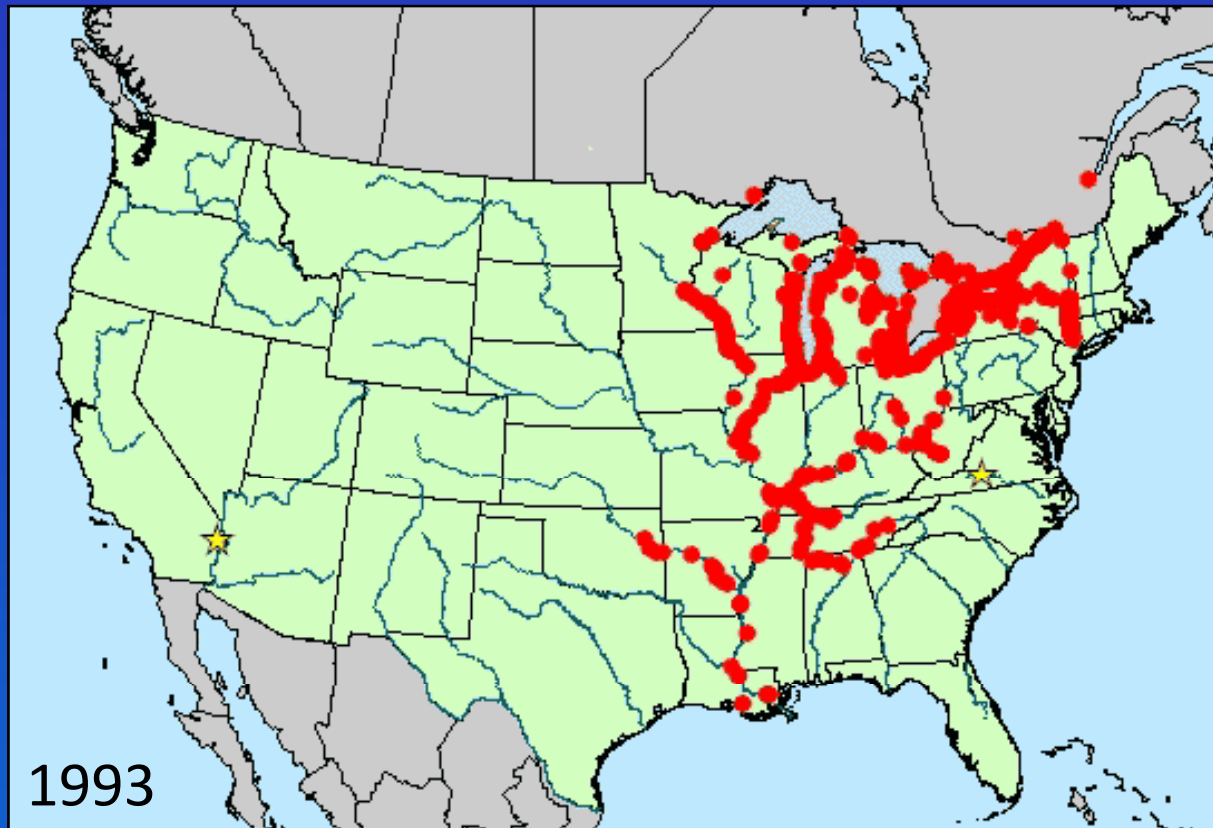
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- Confirmed collections or observations of adults, juveniles, or veligers.
- ★ Discovery of the overland transport of zebra mussels on trailered boats.

Impacts

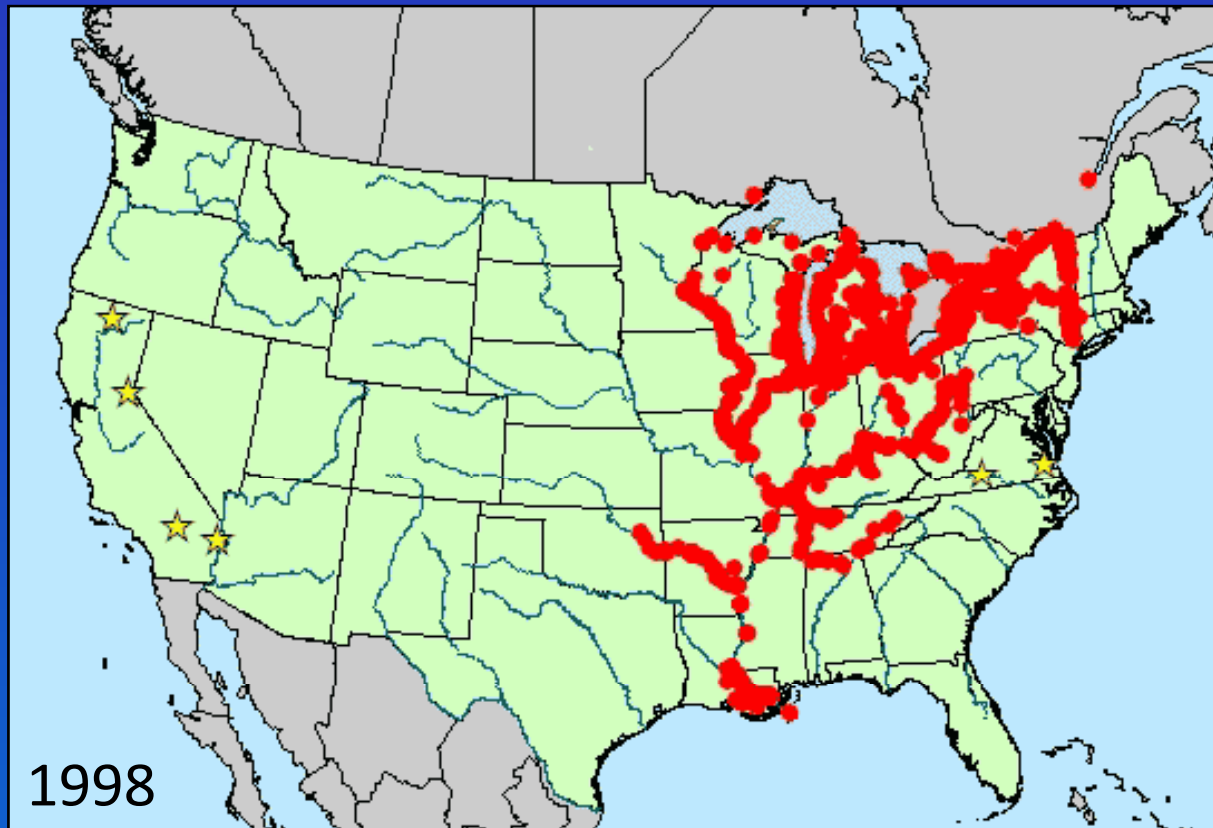
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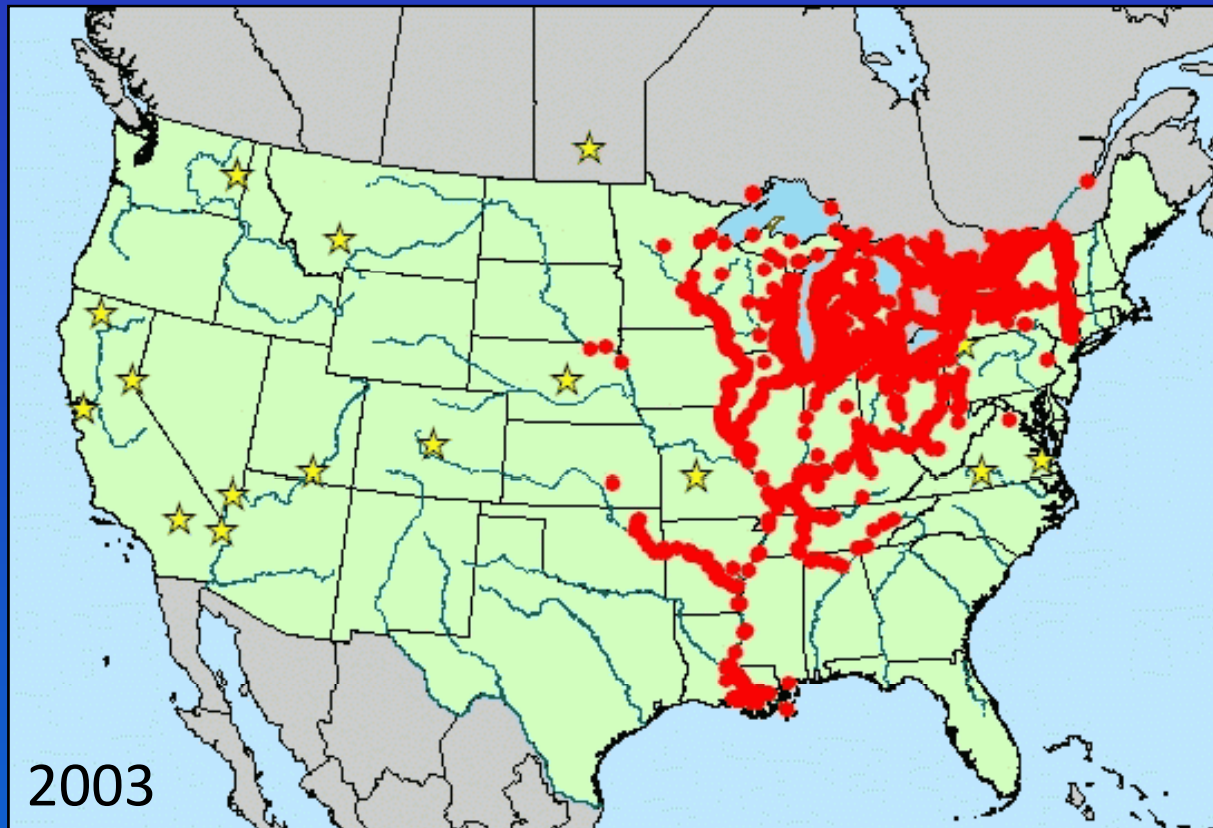
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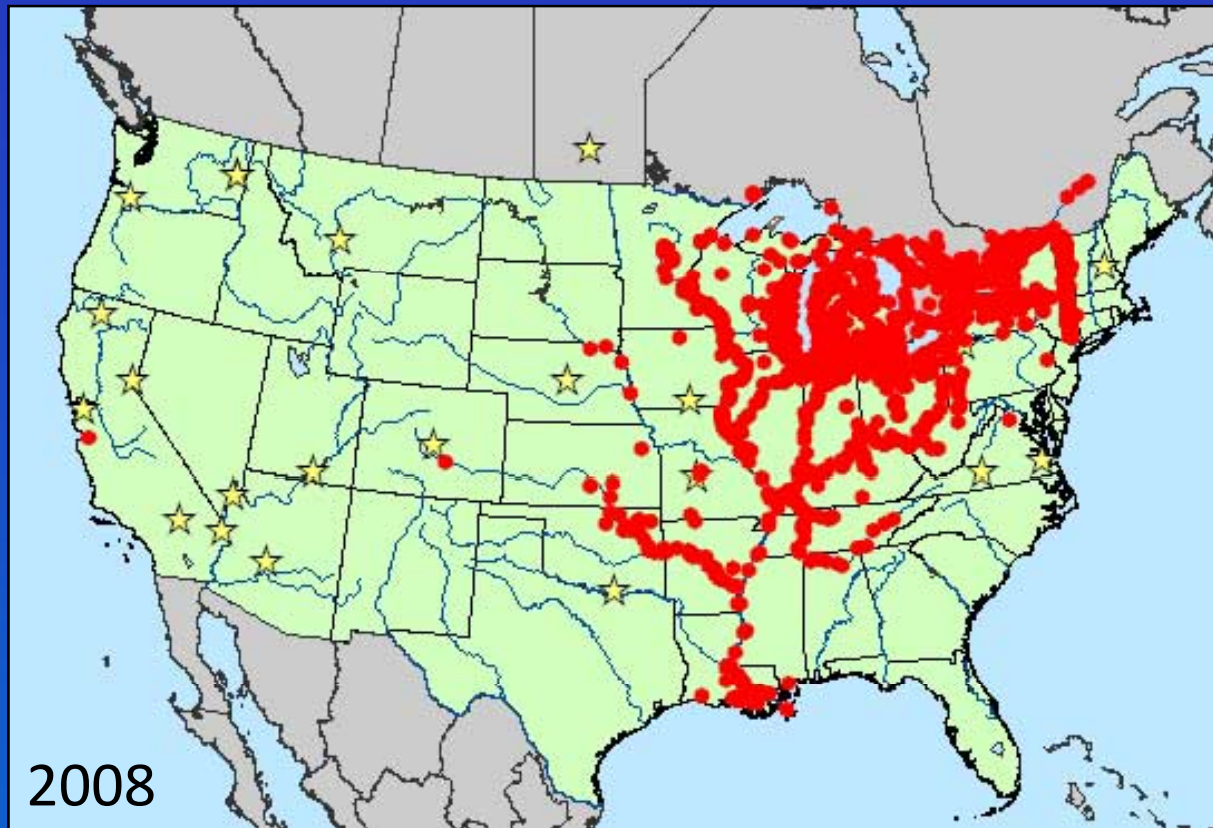
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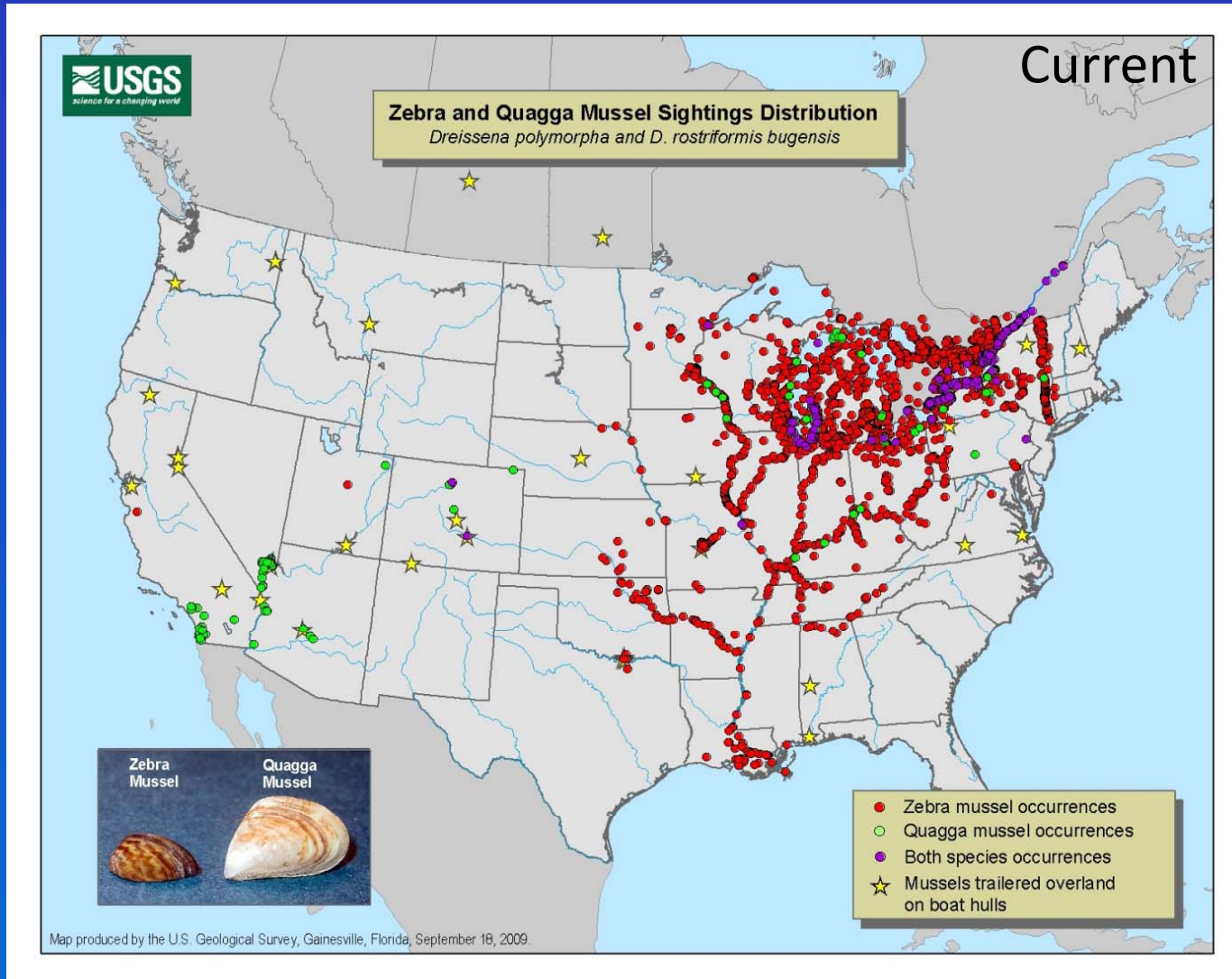
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Impacts

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- High economic and social costs once established
- Recreational
 - Ecological
 - Economical



Prevention

- What can you expect in 2010?
 - HB 0018-Aquatic Invasive Species Bill
 - Inspection and decontamination of watercraft
 - Authority to develop regulations
 - Civil and criminal penalties
 - A user fee to help pay for the program
 - Funding of \$1.5 million
 - A coordinator for the program

Prevention

- What can you expect in 2010?
 - Chapter 62-WGFD Emergency Regulation
 - AIS check stations
 - Watercraft inspection and decontamination
 - Authority for impoundment and quarantine if necessary
 - Requirement for mandatory reporting of AIS
 - AIS program fees and decal and requirements

Prevention

- What can you expect in 2010?
 - Priority waters: 10 High, 13 Moderate, 29 Low
 - High

Big Horn Lake

Glendo Reservoir

Boysen Reservoir

Grayrocks Reservoir

Buffalo Bill Reservoir

Jackson Lake

Flaming Gorge Reservoir

Keyhole Reservoir

Fontenelle Reservoir

Seminole Reservoir

Prevention

- What can you expect in 2010?
 - Priority waters
 - Moderate

Alcova Reservoir

Big Sandy Reservoir

Fremont Reservoir

Granite Reservoir

Guernsey Reservoir

Hawk Spring Reservoir

Lake DeSmet

Ocean Lake

Palisades Reservoir

Pathfinder Reservoir

Sulphur Creek Reservoir

Viva Naughton Reservoir

Wheatland #1 Reservoir

Prevention

- What can you expect in 2010?
 - Personnel
 - Coordinator
 - Assistant
 - 30 seasonal inspectors

Prevention

- What can you expect in 2010?
 - Watercraft inspections

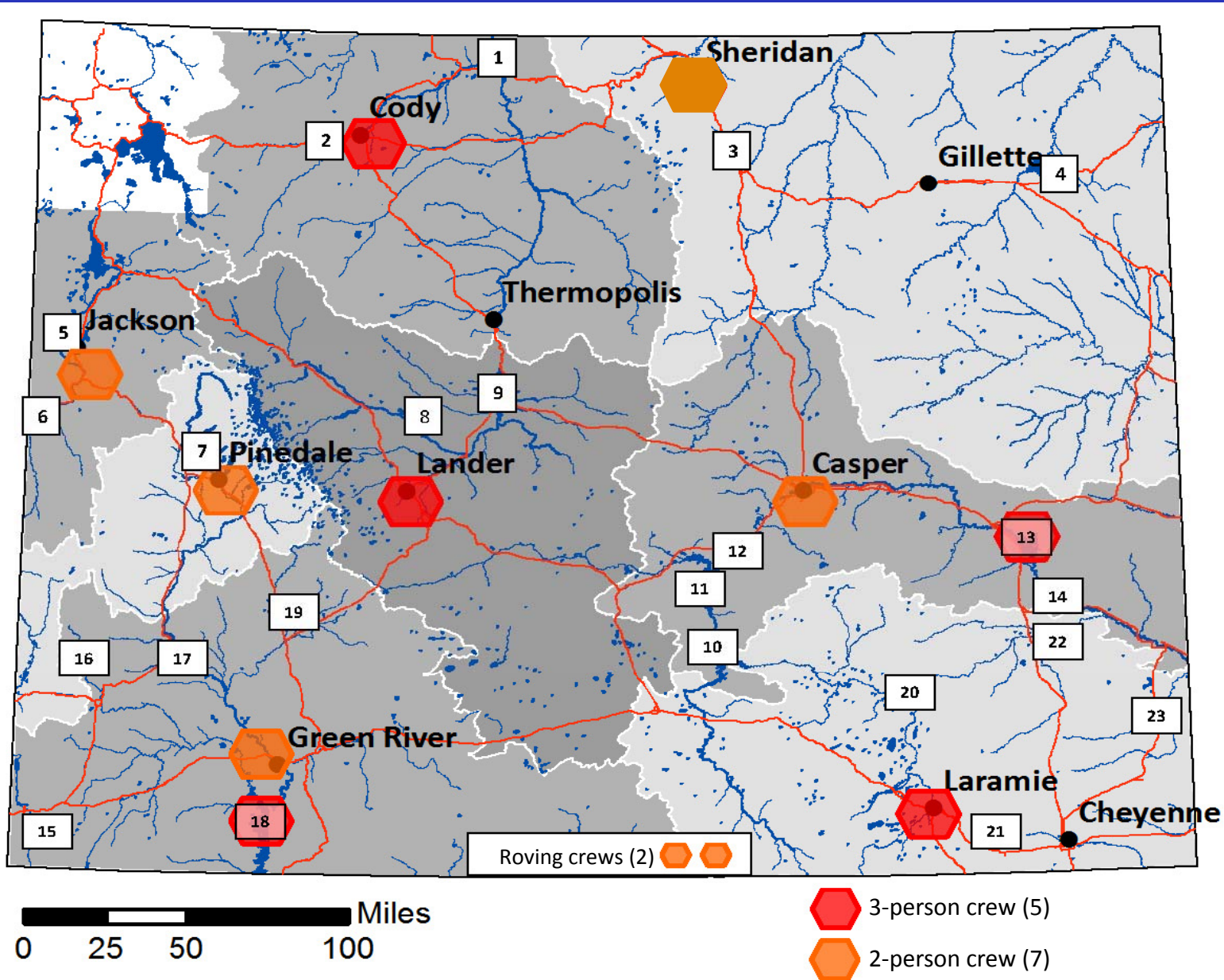


Prevention

- What can you expect in 2010?
 - Watercraft decontaminations



Prevention



Prevention

- What can you expect?
 - Monitoring
 - BOR – 7 high priority waters
 - 16 other priority waters



Prevention

- What can you expect?
 - User-pay fee

Don't Move a Mussel

10R

EXPIRES: 12/31/2010

\$5 non-motorized *WY 000001*

Don't Move a Mussel

10R

EXPIRES: 12/31/2010

\$10 motorized *WY 000001*

Closing

- AIS already in Wyoming and more threatening species at our doorstep.
- Introduction of invasive mussels would have dramatic impacts on our resources and cost tens of millions annually to contain.
- Urgent need for the increased efforts in 2010.

What do we have to lose?



Acknowledgments

- Photo credits: United States Geological Survey (USGS); Utah Division of Wildlife Resources; Whirling Disease Initiative; Dan Gustafson, Montana State University; Alison Fox, University of Florida, Bugwood.org; Chris Evans, River to River CWMA, Bugwood.org; Joy Viola, Northeastern University, bugwood.org; Noel Burkhead, USGS; Myriah Richerson; Department of Fisheries and Allied Aquacultures, Auburn University; Rob Cosgriff, Illinois Natural History Survey; Kerry Dressler; Leslie Mehrhoff, Invasive Plant Atlas of New England; Frank Koshere , Wisconsin Department of Natural Resources; Joe F. Duft, USDA-NRCS; John M. Randall, The Nature Conservancy; J. E. Marsden, Lake Michigan Biological Station, Dave Jude, Center for Great Lakes Aquatic Sciences; Steffen Zienert; NH Dept. Safety; Mohammed Faisal, USGS; J. Schmidt; Craig Rieben; Ronald Laubenstein; Pedro Ramirez Jr.; Steve Hillebrand; Gary Kramer; Montana Wheat and Barley Committee, Yellowstone National Park.

Questions & Discussion

