



## WESTERN REGIONAL PANEL ON AQUATIC NUISANCE SPECIES

**Western Regional Panel on ANS  
Annual Meeting in Missoula, MT**

**October 9-10, 2019  
Holiday Inn Downtown**

### ***Wednesday October 9, 2019***

Meetings started with welcome from Salish and Kootenai Tribes followed by a welcome from Tom Woolf of MT FWP.

#### *Elizabeth Brown presents A Year in review*

- ANS Task Force meeting
- WRP Committees and Workgroups
- Organizational Structure
- Executive Committee Accomplishments and Objectives for 2020
- WRP 2018-2019 timeline

The first session covered AIS issues in the state of Montana

#### *Observations on 20 Years of AIS Management in Montana*

- Fish on fish concern in 70s and 80s and whirling disease came in mid 80s.
- Research did not focus on management; there needs to be an engagement with the public.
- Eileen Rice shifted focus to prevention and set up first inspection stations.
- Objective: Who will chart AIS coordination in the future? Workers in the field or politicians?

#### *Aquatic Invasive Species Prevention on Flathead Indian Reservation*

- Primary issues are fish on fish
- Early species intentional introduction in Flathead date back to 1896.
- After introduction of mysis, bull trout became threatened on 1998.
- Fishing tournament and gill netting are used to reduce lake trout population
- Food went to food bank. There is a top-notch processing facility. Created private industry for wild caught, native caught lake trout to offset price of management.

#### *Non-native fish management in Montana*

- Most fishing opportunity is from non-native fish\
- General Definitions: native, non-native, wild, stocked, aquatic invasive species

- Non-native defined different from AIS
- Species of concern: S1, S2, S3
- Fish distribution throughout MT
- 61.44% of anglers are fishing for trout.
- There are a number of anthropogenic limitations including dam construction, illegal introductions, and maintaining fishing opportunities.
- #fisheriesfriday

#### *What's up with Montana?*

- Bringing together a number of groups and organizations to work together for AIS management.
- Broadus inspection station
- New inspection rules implemented this year
- Expanded lab and early detection for AIS
- Expanded outreach campaign to local level
- Expanded commission and council
- 200 plankton tows samples analyses with no positive hits in Tiber or Canton Ferry in 2019.
- New detection: New Zealand Mud snails

Second Session was eDNA and Management

#### *WRP eDNA Working Group*

- Attempting to put eDNA's application in invasive species management to white paper.
- 2020 Goals: Webinar, whitepaper, Lab SOPs and comments.

#### *The Aquatic eDNA Atlas Project*

- Sensitive and specific qPCR
- National Genomics Center: Operates at large scale with database management and spatial monitoring
- Model built for monitoring range of bull trout
- eDNA Atlas = open source, ArcGIS portal to NGC eDNA analyses.
- Can be used for

#### *Robotics eDNA samplers in lakes*

- eDNA detections can be reliable, mature science
- Monitoring at Flathead for mussel and milfoil.
- Far more DNA collected with tow net in North Star Lake, MN
- Samples taken from Lake Winnipeg
- 42 tow net samples taken at Tiber with no dreissenid DNA detections
- Conclusions: more sampling, tow net detects more DNA, consider using more large volume tow net samples.
- Bridge gap between research and management by developing common plan and use decision tree with best practices, establish MOU for reporting communication of results.

*Next generation eDNA approaches for detecting aquatic invasive species* Historical perspective eDNA

- eDNA coined in 2008 for American bullfrogs in France. Then in 2011 was used for Asian carp.
- eDNA samples led to detection for NZ mud snails and Burmese pythons.
- P=Burmese pythons often avoid detection making them ideal candidate for eDNA sampling.
- Round goby threatening to invade lake Winnebago, which would grant access further inland.
- eDNA is a mature science, but it is important to have a transparent line of communication
- Conclusions: Metabarcoding to look at species assemblages to get early detection of invasive species, automate active monitoring, and enable citizen science.

Third session was Coastal Issues

*European Green Crab—predations pressure and population dynamics*

- Eradication of green crab using 15 baited traps
- Cannibalism increases when there is variation in crab size.
- Seadrift population genetics
- Conclusions: Synchrony unrelated to distance among bays, strong synchrony among OR/WA bays, no synchrony among CA bays, Highly significant effects ENSO, modest effects,

*Vessel Incidental Discharge Act—next steps*

- DINOV Defined
- EPA lists 31 technology-based and specific discharge categories of effluent limits.
- VIDA Provisions include
- Short-term implementation is in place. Looking at what it means to have federal-state consultation.
- Next steps: short-term implementation. Coastal AIS mitigation grant.

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- Shipping industry impacts
- Overcapacity led to long-term layover, because there were more ships than demands for goods.
- Long idle periods i.e. 10+ days and reduced travel speeds led to more established biofouling communities on the vessels.

Contributed Papers

*Northern Pike in the Pacific Northwest and eDNA detection*

- Spread of northern pike in western Montana.
- Information needs for management of invasive northern pike 1.) Monitor for early detections 2.) identifying the source of invasion in eastern Washington.
- Where did pike in recently invaded waters come from?
- Connectivity in CBR. Human transportation.
- Methods used in 18 invasive populations.
- Lowest level of heterozygosity in newly invasive populations.
- How are populations related to one another? What is the probability the newly invasive fish come from a potential source population?

- Human transport is the most likely cause for invasive fish in the western Washington.
- Source population could have contributed to invasion
- Conclusions: pike introduced illegally by humans. Multi source populations may have contributed, low genetic diversity in recent invasions

#### *A History and Evolution of Rapid Response Preparedness in the Columbia Basin*

- Rapid Response Tool Kit
- Next steps in CRB Plan: work together
- Interagency rapid response
- Test the plan in Oregon 2020 and Nevada 2020/2021
- CRB tem will meet in Portland Jan 22, 2020.
- Map on western AIS website.
- Section 7 consultation manual will be rolling out very soon.
- Highlight how to use emergency consultation process and the most likely treatmetnet, as well as best management practices.

#### *Powell Rising: How One Reservoir is Calling Much into Question*

- Lake Powell 2018 resulted in 1.) Can adult mussels be sucked into ballast tankes? Yes they can survive going through the pumps.
- 60-70% of boats coming out had mussels.
- Not enough time to decon 300 boats a day.
- Pushing 100k inspections at lake Powell in 2019
- Qs and considerations: is it appropriate to exclude non-motorized? What effect does decon have on eDNA on watercraft? When does focus switch from mussels onboard to viable/nonviable mussels onboard. Automated data entry is a necessity. Is there a better way to decontaminate boats? How can we collectively continue to fund operations that will only have to expand in the future? How much redundancy is appropriate
- Current models unsustainable

#### *Human Dimension of Aquatic Invasive Species Transport from Lake Mead National Recreation Area*

- Approach: analysis of containment and education
- Containment: obtain 2016-2018 data from inspection stations.
- Results shows major hub originating in Mojave.
- Methods education: tapestry segmentation breaks down into “lifemodes” and “segments: within the lifemodes”.
- This will be the first application of this program outside of marketing and toward a natural resource problem.
- Visit esry tapestry website for more information.
- The type of boater is comparable across the data.
- Using age and education to develop relevant material for engaging boating community.

#### **Thursday October 10, 2019**

#### Keynote Speaker: Fred Allendorf—*Perspectives on conservation genetics and management*

- Hybridization with invasive rainbow trout

- Using genetics to detect establishment and spread of invasive species.
- Multiple populations introduce propagule
- Large number of invasive species are hybridized
- Hybrids have lower fitness but are more likely to disperse
- mtDNA is maternally inherited
- Sperm are motile and powered by mitochondria

#### *Annual Budget Report and 2019 Annual Meeting Budget*

- 40k for 2018-2019
- 46k for 2019-2020
- WRP contracts coordination with ISAN
- Savings account budget = 7,126.09
- Break down in annual meeting expense
- Anticipate expenses
- Anticipated income

#### *Executive Committee Election*

- **WRP Membership Elects: Elizabeth Brown, Blaine Parker, Stephen Philips, Martha Volkoff, and Allison Zach**

#### 2020 and 2021 Annual Meeting Discussion

- Video preview of 2020 Alaska Annual Meeting
- **Membership votes to host the 2021 Annual Meeting in Salt Lake City, UT**

#### *Assessing Vectors of Aquatic Nuisance Species in Alaska*

- Alaska has more floatplane traffic than any other state.
- Every type of vessel comes to Alaska.
- Where are people going from major boat launches? To put outreach material.
- 70% of boats are not being inspected in route.
- Next steps. 2019/20: Continue outreach efforts with watercraft and seaplane users. 2020: secure funding and implement extended operations. 2019-2021: Continue to work with ADF&G, ADNR, ADOT, UAA to evaluate the risk of introduction through other critical control points.

#### *ANS Task Force Update*

- Five standing committees and ad hoc committees (working groups)
- Six panels make up the ANSTF
- Last ANS Taskforce meeting
- Last vote to approve strategic plans for 2020-2025: Coordination, control and restoration, prevention, research, early detection and RR, outreach and education.
- Going to have a committee to discuss VIDA

#### Partner Updates

##### *The Invasive Mussel Initiative – Safeguarding the West*

- Categorical Exclusions in NEPA for rapid response activities
- John D. Dingell Jr. Conservation, Management and Recreation Act (S47)
- Overview of Ongoing BOR AIS Projects under Safeguarding the West
- BOR FY20 Outlook

#### *USGS NAS Database – New Findings and Developments*

- NAS alerts in the west
- Alert risk mapper (ARM)
- NAS new impact tables,

#### *National AIS Legislation Update*

- WRDA Update
- FY2020 Federal Appropriations
- Overview of Federal Report Language
- Next steps
  - Senate need floor action
  - House/Senate Conference
  - Conference agreed to by both chambers
  - Signed by president
- Overview of additional AIS related legislation

#### Dreissenid Management in the West

##### *WID Database – Changes and System Functions*

- Revamped data collections app
- App owned by CPW and and contracted by isontish
- The majority of western states are now using the data collection app.
- Decons decreasing and inspections increase in 2019
- Used to map watercraft movement
- 2019 governance priorities: determine top development priorities, evaluate new tech, data sharing.
- There are a number of new features.
- Outlook for 2020

##### *Refinement of Lab Protocols for Dreissenid Monitoring*

- Use microscopy and DNA analysis on individual veliger
- Methodology for laboratory practices
- Preservatives used (i.e. ethanol and isopropanol)
- Buffers used (i.e. baking soda and tris)
- How do different preservatives and buffers impact detection?
- Ideal protocol will produce robust and reliable results
- Factors: preservative, preservative percentage, and buffer in 16 different combinations.

##### *Improving Sampling Effort for Dreissenid Monitoring*

- Locating zooplankton is difficult.
- How do we reduce the amount of space we are using tow samples?
- Fall reservoir sampling has the largest plankton boom.

##### *Control Case Study of Dreissenid mussels with EarthTect QZ*

##### Business Meeting

##### *Discussion of QZAP 2.0 (Erin Raney in place of Elizabeth Brown)*

- History and significant Milestones for QZ
- Future of invasive mussels in the west.

- History of QZAP
- Looking at the legal framework of the QZAP.
- Setting forth operational standards.
- Purpose of QZAP 2.0:
- QZAP timeline looking to have a finalized version by next September

#### Wullschleger Membership Committee Discussion

- Rewriting bylaws for 2021, digging into how Executive Committee is chosen
- Outline of Committee Goals
  - Provide succession/ensure future leadership
  - Represent the diversity of the panel membership
  - Provide more opportunities for participation
  - Maintain/enhance effectiveness for the panel
  - Provide for some continuity in activities/actions
- Outline of cycles and protocols for WRP leadership

#### Dennis Zabaglo sitting in for Elizabeth Brown

- Outline accomplishments of committees and goals for the coming year.
- Review of recommendations for the ANS Task Force

Meeting Adjourned