



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.

Scianni

- 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