Final Draft Minutes

100th Meridian Initiative - Columbia River Basin Team Meeting
Tuesday - May 14, 2013
Heathman Lodge
Vancouver, WA

[See end of document for attendance list]

Comments and Approval of October 2012 Minutes: The final minutes from the October 2012 meeting were approved and can be found at http://www.100thmeridian.org/Columbia_RBT.asp

REGIONAL QUAGGA/ZEBRA MUSSEL ISSUES

Joanne Grady (USFWS, Denver, Call-in)

Joanne reported on follow-up to the Phoenix Legal and Regulatory Efforts to Minimize Expansion of Invasive Mussels through Watercraft Movements (2012 Phoenix Workshop). As a spin-off of the Phoenix meeting, the State of Nebraska on May 6 held a "Mind Over Mussels: Preventing Zebra Mussels One Lake at a Time" that was presented by the Nebraska Attorney General's office in Ogallala, NE. A follow-up to the Phoenix meeting will also be held August 13-15, 2013 in Denver, CO. This meeting will include state AIS coordinators and AG/LE staff to look at model AIS legislation as well as develop common terms and definitions for AIS management (waterbody classification, inspection and decontamination). The Denver meeting will be funded by OSU Sea Grant (with USFWS funding)

David Britton (USFWS, call-in): Status of FY 2012 $1 Million (Lake Mead):

David called in to provide an update on implementation progress for the FY 2013 DOI appropriation for the Lower Colorado River (LMNRA). A request for proposals will be coming out in the next few weeks [called Quagga-Mussel Containment in the West] and upwards of $900,000 will be available for projects targeting stopping the spread of quagga mussels on trailered boats in the West. David said that the check-in check out database at Lake Mead was moving forward and that they are using an app from FieldSync. This App is available for download from the App Store/Google Apps. To use, individuals will need to apply for a unique login from David once the check in/check out database is fully operational. The database will include information such as boat registration, number of boat inspections and/or decontaminations, etc.

Tom McMahon, AZDGF

Tom reported that, as a result of six dives during March, 200 adult quagga mussels have

been found to date at two marinas in Lake Powell. The mussels were different sizes. The current scuba surveys at Powell have not included deep water and instead have been focused at the two marinas (Wahweap and Antelope, to about 20 feet in depth). There is an emergency closure order for these two marinas. The State of Utah has already listed Lake Powell as "contaminated." Thus, on the Utah side of the lake, all boats leaving Lake Powell will need to be cleaned, drained and dry. Tom said that, with the recent discovery of quagga mussels in Lake Powell, AZGFD was considering adopting regulations by June 1 mandating that boaters leaving the northeastern Arizona lake will be required by law to pull their boat plug and decontaminate and dry their watercraft before leaving the vicinity of the lake to help prevent the spread of these invasive mussels, e.g., listed as an AIS-affected water body. Tom said that increased mussel monitoring would be conducted at Lake Powell. Ongoing monitoring results can be found on the NPS' Glen Canyon NRA web site at http://www.nps.gov/glca/parknews/musselupdate.htm .

Robyn Draheim, USFWS/PSU

A rapid response exercise was held on April 2-3, 2013, in Prineville, Oregon. The exercise was an infestation of Prineville Reservoir. The exercise scenario included a confirmed finding of Dreissenid veligers and an adult mussel shell in Prineville Reservoir near Prineville, Oregon. Prineville Reservoir has 5 boat ramps and 6-7 unimproved boat ramps. The exercise was conducted over two days and limited boater access to the lake, e.g., it was not a full closure. The morning of April 2 consisted of training, including a review of the Oregon Rapid Response Plan, a review of the Incident Command System (ICS) and an overview of the ICS Planning Process. After the training, the participants made Incident Management Team assignments, received a briefing and delegation of authority from the responsible agencies, and completed a planning process to develop the Incident Action Plan for the first Operational Period of response to the infestation. These activities carried through into the next day, and concluded with the "hot-wash," and closeout.

OR RR Plan: The next draft of the Oregon Rapid Response Plan is due out around July for review. The plan will include a waterbody classification system for dreissenids (what is a positive or negative waterbody, etc.)

Tim Dykstra wanted to know how the Oregon and CRB Rapid Response Plans would fit together in case of an infestation? Robyn said that unless mussels were found in the Columbia River, that the state plan would take precedence. It was noted that the CRB Rapid Response Plan needs to be updated.

Suspect water body designation: There was discussion on waterbody classification. It is hoped that the Denver AG meeting will help get us towards a common classification system in the Western states.

Mussel Viability: Robyn said that the live/dead research using vital stains that USFWS funded with SUNY Buffalo did not return satisfactory results. Another method may be gill cilia movement, which may not work well in the field. Jackson Gross said that someone should talk to Marrone about using their fast green vital stain. Robyn mentioned the simplest method may be the float test (dead mussels usually float). It is clear that a field determination for live vs. dead mussels is proving to be very difficult.

U.S.-Canada Border Interceptions/inspections: There was discussion on U.S./Canada Border Inspection for AIS. Training was conducted for AIS and quagga/zebra mussels at the Blaine, WA port of entry. This border station has a USFWS agent stationed there, who can refer cases to the State of WA. The Blaine border station also has developed a standard operating procedure for AIS. Allison Begley stated the Eureka, MT border station has dedicated a bay to the MT Dept. of FW&P staff for AIS inspections. This issue will be discussed further at the PNWER meeting in Anchorage, AK on July 17.

AIS Passport: The expansion of the Idaho AIS passport system, which has been used now for three years, to a regional passport was discussed. Lloyd Knight said the ID passport system helps local and regional boaters move through the inspection stations faster, and that it is particularly helpful in the Spokane-north Idaho corridor. It is also useful as a public outreach tool. Washington has legislation for funding a Washington version of the passport associated with an AIS bill (see SB 5702). The next step will begin this into a CRB regional passport with the states of Montana and Oregon. PNWER is also interested in implementing a regionwide passport program.

NWPCC (IEAB) Dreissenid Economic Study/F&W Program Amendment Process: Jim Ruff said that an update to the IEAB's 2010 report entitled "Economic Risk of Zebra and Quagga Mussels in the Columbia River Basin" is being worked on and should be completed by the end of the summer. A public presentation on the findings in the IEAB's revised report will occur at a future Council meeting. The NWPCC is in the process of amending its CRB Fish and Wildlife Program. Ruff noted the deadline for recommendations and comments on the Fish and Wildlife Program is 9/17/13, go here for further information.

STATE/BC/TRIBAL AIS PROGRAM REPORTS:

Rick Boatner (ODFW)/Glenn Dolphin (OSMB): Rick said that the I-5 Watercraft inspection Station located at the Ashland Port of Entry opened in February 2013 (and will go to seven days per week starting in July of 2013). Glen said County law enforcement has been very active in enforcing Oregon's Mandatory watercraft stopping rules. Glenn said the 2013 Oregon legislature did add Oregon State Marine Board (OSMB) as a member of the Oregon Invasive Species Council. The Oregon legislature has been supportive of AIS program. $200,000 in funds is being carried over in the emergency funding (Oregon Invasive Species Control Account).

Allison Begley (MTFWP): Twenty inspection stations are opening in the next two weeks. Some will be border stations and some will be roving stations. Plan is for them to be open 7 days a week 12 hours a day. To date, two mussel-infested boats have been intercepted. The mussels on these two boats were dead; one boat was from Lake Michigan and the other was from Lake Havasu. Allison described the new AIS funding ($1.58 million for two agencies, FWP and State Lands) and creation of a statewide management area, along with search-seizure-quarantine authority, that was passed out of the MT legislature earlier in 2013 (HB 586). There has been initial planning for a rapid response exercise this summer. They are also planning on updating MT's ANS management plan.

Matthias Herborg (B.C.): PSMFC contractor D. Davis gave a Watercraft Inspection presentation at an AIS workshop in Kelowna in late April. New AIS legislation (amendments to the Controlled Alien Species Regulation) was passed by the Province in 2012 (including possessing either live/dead Dreissenid mussels) …but the new law didn't come with any new funding …so this is something that needs fixing. B.C. will be doing some watercraft inspections this year on weekends at high use "hot spots." The Province of Alberta is also rolling out watercraft inspection stations this year. The TransCanada highway is a concern for movement of dreissenids from the Great Lakes to the western provinces. Dreissenid monitoring is being ramped up in 2013, with two staff now doing water quality monitoring/analysis. The province is in the initial phases of planning a rapid response exercise in 2014. A new report entitled "Preliminary Damage Estimates for Selected Invasive Fauna in B.C." was just released (Go here for the study).

Allen Pleus (WDFW): This year the "Honeyford" Bill SB 5702 passed, which requires watercraft decontamination documentation for out-of-state boats. They will be working on the details of implementing the new regulations in the coming months. The bill also has $10,000 associated with it for the WA passport system. In 2014 there will be another attempt to pass a broader AIS legislation, including increased funding options for AIS. **Jesse Schultz** reported that in 2012 1.5 fte's were used to monitor 187 artificial substrate sites (monitored 290 times) and 217 plankton samples in 67 total waterbodies for dreissenids. **Carl Klein** reported that law enforcement is working with WA DOT on receiving advance notification of commercially-hauled watercraft. Jesse gave a presentation on watercraft inspection locations and interceptions in 2012. There were 7 watercraft inspection stations in western WA and 9 in eastern WA. WDFW conducted boat inspections as follows: Level 1 Inspections-7,394; Level 2 Inspections-3,268; Level 3 Inspections-1,055; Inspections Conducted by Agency Partners - 3,000. A total of 65 contaminated vessels were intercepted in 2012; 28 of which were contaminated with Zebra, Quagga, or Conrad's False Mussels.

Karen Vargas (NDOW) –For 2013 (May-Mid Sept) Rye Patch, Lahontan and Wild Horse Reservoirs will have inspection/decontamination stations open to provide free-of-charge decontaminations for watercraft both entering and exiting the reservoirs. Veligers were not detected in Rye Patch, Wild Horse or Lahontan Reservoirs in 2012. Currently Rye Patch Reservoir is listed as a "Suspect" waterbody for quagga mussels and Lahontan Reservoir is considered a "Positive" waterbody. Wild Horse Reservoir is on a

"Watch List" due to a single positive PCR hit for quagga mussels in 2012. Original PCR analysis was conducted by BOR, however, subsequent analysis by another laboratory of the same sample provided negative results. Additional sampling at Wild Horse Reservoir in 2012 conducted by NDOW, Idaho and Portland State sampling did not detect any additional positive results for PCR or veligers using microscopy. NV's AIS decal went into effect January 1, 2013, for both motorized and non-motorized watercraft. NDOW will have an AIS outreach intern working the boat ramps this summer at Lake Mead; In addition, NDOW law enforcement is also increasing public outreach at Lake Mead by providing AIS watercraft education on the clean, drain and dry methodology and collecting boater information. She also mentioned that new federal legislation has been introduced, sponsored by NV Rep. Heck (HR 1823), which would add quagga mussels to the injurious species list in the Lacey Act.

Lloyd Knight (ISDA): Idaho will continue to conduct roughly 600 veliger and 200-300 adult substrate monitoring in 2013. Watercraft inspection stations will be open similar to past years with one difference being that the Cotterell Interstate 84 station will not be open this year – so be aware we are lacking coverage for that west bound traffic into Oregon. Idaho has already inspected about 5000 boats to date, which is fewer boats inspected when compared to 2012 inspections at this time. All stations will be open by Memorial Day [note: see http://www.agri.state.id.us/Categories/Environment/InvasiveSpeciesCouncil/Inspection_Stations_ALL.php for further information on 2010 -2013 inspection numbers]. Idaho has found 8-9 fouled boats so far this year, with about half of those boats coming from Lake Havasu, AZ. Six of the fouled boats were headed to Canada. Regarding Lake Powell – Idaho has data indicating that Idaho boaters going to Lake Powell go there in the summer months, stay a weekend or so and then return home. It was noted this is very different boater behavior than the Lake Mead behavior, which involves much longer stays during winter months.

PSU Foul Release Coating and Quagga Survival Research Projects (PSU, B. Adair, M. Sytsma, S. Wells).

Quagga Survival (B. Adair)

1. The quagga survival study (B. Adair) has wrapped up filed work and the final report is being written. Initial results are as follows:

The Columbia River appears to be suitable habitat for quagga mussels

- 68% of mussels survived (N=50)
- Mean growth of 3.2 mg over a 6 week period

The Willamette River may provide marginal habitat. However, there is a potential for regional adaptation

- 19% of mussels survived (N=50)
- Mean growth of 2.2 mg over a 6 week period

Both calcium and temperature are significant predictors of mussel growth

- Relationships are not simple linear relationships
- There appears to be a "treatment effect" (e.g. time of year)

Field Evaluation of Foul-release Coatings (S. Wells) – Panels with different coatings are currently in place in the Columbia River (at the Port of Camas/Washougal). After exposure in the Columbia River, the panels will be moved to San Justo Reservoir in California, which is infested with Zebra Mussels. Panels will be tested for both physical damage in the Columbia and resistance to mussel attachment (with the different coatings selected) in San Justo over differing time periods.

Update and next steps for USGS/WSU analyses of 2012 dreissenid mussel early detection monitoring efforts (**T. Counihan USGS; S. Bollens, G. Rollwagen-Bollens, WSU)**

The Objectives of this project (funded by the BPA TI program) are to:

- Contribute to the coordination of regional early detection efforts.
- Provide a framework for prioritization of boat cleaning stations.
- Assess the use of the FlowCAM to process veliger monitoring samples from the Columbia and Snake rivers, and elsewhere in the CRB
- Conduct research that will help to assess the cause and effects of biological invasions in the CRB.

To date this project has the following observations and will be working on the following with regional agencies:

- Re-direct monitoring effort to areas of known high risk
- Standardization of naming conventions regionally would ease data compilation
- Adopting common sampling protocols regionally would ease comparisons
- Being able to estimate the volume of water sampled would help us to estimate probability of detection
- Water bodies lacking risk data
- If entities are conducting quagga/zebra mussel early detection samples from a water body lacking water quality data necessary to assess risk of introduction, then they should consider collecting the needed water quality data in addition to the early detection samples.

Mitigation strategies for emerging invaders of the Columbia River System: Northern pike, bullfrogs and quagga mussels (J. Gross, Smith Root)

Jackson discussed the use of use of wave energy to mitigate the effects of aquatic nuisance species and showed research using this technology on bullfrog and northern pike control. For example significant increase in tadpole mortality

associated with increasing voltage. Jackson also showed research results using UV light and seismic technology (pulse pressure using air/water guns) for dreissenid mussel control. UV light has many benefits as a mussel control measure, including that it is not a chemical (thus permitting is easier for its use). Research found >80 percent mortality of Dreissenid mussel veligers after 120 hours exposure at a light intensity of 80 microjoules per square centimeter.

Nutria Workshop Report (T. Sheffels, PSU)

The workshop took place on March 28, 2013 in Vancouver, WA and attended by 90 people. The goals of the workshop were as follows:

- Nutria management education
- Provide regional update
- Summarize research results
- Highlight local management efforts
- Encourage coordination on regional scale
- Discuss priorities moving forward

Priorities for future action coming out of the workshop included:

- Create state and/or regional nutria management plan(s)
- Form regional Nutria Management Team
- Focus on applied research (e.g., disease testing, quantifying damage)
- Work on continued and improved public education

Oregon Lake Watch Program, Boater Surveys at Ten Mile Lake (G. Dolphin, OSMB, A. Strecker, PSU)

Angela said that the OSMB allocated funding for targeted management and research initiatives: 1) boater surveys at Tenmile Lake: pre- and post-installation of a boat wash station; and 2) re-starting the Oregon Lake Watch citizen science program. A PSU Masters student interviewed boaters at the Tenmile Lake boat launch from early July to mid-August -- found that 80 percent of boaters would use a boat wash station. On boater AIS awareness, zebra mussels (45%) were by far the most known AIS species. The Oregon Citizen Lake Watch Program first began in 1991 and was restarted with recent OSMB funding (it has been renamed "Oregon Lake Watch"). The focus will be on aquatic invasive species detection and water quality monitoring. For further information go to http://tinyurl.com/oregonlakewatch

Oregon Boater Survey (J. Lam, OSU)

889 Oregon boaters were surveyed. Results included: 87% believe AIS presence is a serious or moderate problem. The vast majority of respondents (89%)

believed that a combination of regulatory and outreach/education/voluntary program type would be helpful in preventing the spread of AIS in Oregon. Most respondents did not believe that a regulation only program would be helpful in preventing AIS spread.

PSU/FWS Pet Store Owner Survey (B. Orwick PSU/USFWS)

The majority of pet shops in targeted states for this survey sold fish in the past year, followed by invertebrates, then live aquatic plants and amphibians. For those shops that provided care sheets for species purchased, the majority of the sheets did not include information on unwanted pet disposal alternatives. Only 35% of respondents were familiar with "Habitatitude." Other results as follows:

- Care sheet availability is lacking for plants and for small stores
- 1/3 respondents believe the customer is knowledgeable re: ANS
- 76% do not include disposal alternatives to release
- 23% were familiar with current ANS outreach campaigns, not all carry information
- Donation, trade-in, and store credit offered to customers sometimes as disposal alternatives
- 82% prefer to carry ANS brochures/ flyers

Future Implication for pet store outreach includes:

- Work closely with stores to develop local relinquishment sites
- Develop "Don't Let it Loose" materials, include relinquishment info. in future care sheets
- Develop employee guidance re: ANS
- Consider a "cash for critters" program

Northern Pike (D. Osterman, Kalispel Tribe)

Deane updated the Team on the Invasive Northern Pike problem in the Pend Oreille River, WA. Background:

- Northern pike established prior to 2004
- Began monitoring the pike population in 2005
- Exponential increase from ~400 in 2006 to >5,500 in 2010
- Range expanded throughout Pend Oreille River reservoir as well as downstream to Boundary Reservoir and Upper Columbia River
- Most other species except smallmouth bass and tench have declined significantly

A three pronged management approach has been undertaken as follows:

- Increase angler exploitation through education and outreach
- Promote fishing contests that provide financial incentive for harvest
    - PikePalooza 2012 ($10,000)
    - PikePalooza 2013 ($5,000)

- Mechanical Suppression is most effective
    - Intensive gill netting
    - Up to 32 nets per day

2012 Suppression results:

- 1,031 gillnets set (29.29 miles):Phase I = 524; Phase II = 507
- 5,808 NP removed: Phase I = 4,552; Phase II = 1,256
- Mean TL = 537 mm (21.1 in), 1,285 g (2.8 lbs)
- 48.65% Female (48.20% F. mature; 68.86% M. mature)
- Bycatch: 20 fish species, 17,460 individuals, ~90 % survival

2013 Suppression Results:

- 1,026 gillnets set (29.15 miles)
- 5,945 NP removed (CPUE = 5.79 NP/Net)
- Mean TL = 436 mm (17.2 in), 637 g (1.4 lbs)
- 48.38% Female (18.51% F. mature; 73.25% M. mature)
- Bycatch: 20 fish species, 10,513 individuals, ~90 % survival

Next Steps

- Conduct Spring Pike Index Netting (SPIN) (Annually), potentially expand to Boundary
- Conduct Reservoir-wide warmwater survey (2014)
- Conduct mechanical suppression at current level through 2014
    - Investigate suppression measures beyond 2014 if necessary
    - Explore other control measures or modify existing ones
- Report to ISRP (2014)
- 2013 and 2014 PikePalooza Derbies

The next meeting is now scheduled for October 15 in Vancouver, Washington.

Attendee List

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