

Notes for the 100th Meridian Initiative Missouri River Basin Team

Meeting held July 2015 in Manhattan, KS

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Notes

Attendees

Stephen Phillips – Pacific Sates Marine Fisheries Commission
Joanne Grady – Region 6 US Fish and Wildlife Service
Beth Bear – Wyoming Game and Fish Department
Nick Frohnauer – Minnesota Department of Natural Resources
Kim Bogenschutz – Iowa Department of Natural Resources
Eileen Ryce – Montana Fish, Wildlife & Parks
Jason Goeckler – Kansas Department of Wildlife, Parks and Tourism
Kenda Flores – Missouri Department of Conservation
Chris Steffen – Kansas Department of Wildlife, Parks and Tourism
Allison Zach – Nebraska Invasive Species Program
Daniel James – Region 6 Fish and Wildlife Service
Mike Smith – South Dakota Game, Fish, and Parks
Jessica Howell – Kansas Department of Wildlife, Parks and Tourism

Tuesday, July 14th, 2015

State Updates

South Dakota – Mike Smith

There have been detections of new aquatic nuisance species in the state, including zebra mussels, quagga mussels, and rusty crayfish. SD has enacted new regulations to prevent further introductions and spread of these and other AIS. SD GFP has also re-launched the SD Least Wanted informational campaign.

PCR samples from Angostura Reservoir were positive for quagga mussel DNA, but subsequent sampling (including a thorough search by a dive team) have been negative. One dead adult zebra mussel shell was detected in Lewis and Clark Reservoir, but subsequent sampling efforts have been negative. Rusty crayfish have been detected in the Missouri River below Gavins Point Dam.

New regulations include a prohibited species list (spans fish, invertebrates, and plants for a total of 24 species), a drain plug regulation, inspection authorizations (with decontamination requirements), restrictions on aquatic bait transport (only allowed if en route to an adjacent fish cleaning station and must be in domestic water), restrictions on fish transport (must be on domestic water, on ice, or dry).

SD Least Wanted re-launched with a new website, digital campaign has been expanded upon to include hashtags for Twitter. Outreach events have been increased as well to continue to promote awareness about AIS and new regulations.

Nebraska – Allison Zach

Nebraska is continuing with veliger sampling and collecting veliger densities from the Offut Air Force Base Lake. There are no new detections yet, but sampling is ongoing. Nebraska has hired 7 technicians for the 2015 field season to assist with ANS Program implementation throughout

the state. These technicians conduct voluntary boat inspections (rarely turned down) and bait shop inspections (violations have been detected).

The state of Nebraska has recently approved a boating fee that will provide funds for a more formal ANS Program within the Nebraska Game and Fish Commission. The fee will be implemented January 1, 2016.

Missouri – Kenda Flores

Hydrilla continues to be a major nuisance throughout the state. A hydrilla strike team consisting of 5 temporary employees has been assembled for the 2015 season. Zebra mussels were found on a dock at Pomme de Terre, where the dock had recently been relocated from an infested water. The dock was immediately removed, and a copper sulfate treatment was applied to the cove (with a potassium chloride pretreatment). A second copper sulfate treatment was conducted, and no additional zebra mussels have been detected thusfar.

MDC is continuing outreach efforts. A contractor in the Kansas City area works with 15 development lakes to address ANS issues in private waters. There is also a large effort to use Asian carp to feed college students. There is also an “ANS Day” scheduled for the state fair to promote awareness about ANS and ANS issues.

Missouri is considering only allowing triploid grass carp in the state. This will begin with the switch by MDC to only use triploids for state stockings. However, there are no current regulations for fish suppliers or dealer except through the prohibited species regulations. A statewide Asian carp plan is in the works.

Montana – Eileen Ryce

Montana is continuing their boat inspections, with 17 stations operated by the state and 1 operated by the Flathead Basin Commission. These stations run May through September and generally inspect over 10,000 boats each year. Last year, 122 boats failed inspections, mainly due to the presence of plant material or water. Three mussel-infested boats were detected at state-operated inspection stations and another two mussel-infested boats were detected by the tribal inspection station.

Illegal bait remains a problem in Montana, with the majority of this coming from the Dakotas. This is leading Montana to consider changes in bait regulations.

Iowa – Kim Bogenschutz

For the 2015 season, Iowa hired 20 temporary employees (1 per district with multiple in Okoboji) to conduct boat inspections. These employees also conduct access point surveys and ANS searches at high-use waters near boat access sites. Rusty crayfish were recently detected in southern IA.

Outreach efforts continue, with billboards being an important part of the outreach campaign. Public knowledge about ANS seems to be high. A high school-level Iron Chef competition even used Asian carp as their main ingredient. Because knowledge is high and boat regulations have been in place for over a year, law enforcement has begun to write tickets for ANS regulations – most violations are related to the drain plug regulation.

Species updates – curly leaf pondweed seems to be exceptionally problematic this year. Zebra mussel veliger densities are relatively high this year at Rathbun Hatchery. ISU is conducting research on Asian carp reproduction (and recently documented grass carp reproduction in Iowa). Iowa is trying to move toward only allowing triploid grass carp in the state.

Minnesota – Nick Frohnauer

Minnesota’s annual invasive species report is available online. Watercraft inspections remain a priority for the state, and a recent financial boost was given to counties for AIS work, including boat inspections and decontaminations.

A recent application of Zequanox and potash was conducted at Christmas Lake, MN. The treated area has been declared mussel-free, though zebra mussels were detected outside of the treatment area. Heidi Wolf or Michael McCartney have more information on this treatment.

The upper St. Anthony’s Lock and Dam on the Mississippi River in Minneapolis was recently closed to prevent the upstream movement of Asian carp. There is currently no evidence of reproduction at this location.

Minnesota repealed the law requiring boat decals for boat inspections and decontaminations.

Wyoming – Beth Bear

Wyoming’s program is currently prioritizing boat inspections, ANS monitoring, and outreach. Boat inspections run Memorial Day through Labor Day. Wyoming hired 52 temporary employees to assist the 1 FTE in implementing the ANS program for the 2015 season. Wyoming typically inspects approximately 18,000 boats annually, with about 1,000 of those considered high-risk. In 2014, they conducted 216 decontaminations, most of which were for standing water or required a motor flush.

Seventy-five waters are sampled for the presence of zebra mussels, all of which were negative. A new population of New Zealand mud snails were detected in the NW part of Wyoming.

Wyoming has regulations in place that require boat inspections. They are also working toward passing a mandatory boat plug regulation. Currently, Wyoming allows bait importations with a permit, though the majority of bait imports are fathead minnows from Anderson Minnows in AR.

Fire equipment continues to be an issue for Wyoming, though the Forest Service has recently come out with guidelines for decontaminating fire equipment.

Kansas – Jessica Howell

The commercial bait program continues to be a success in Kansas. Each bait shop is inspected at least annually, and relatively few violations are present.

KDWPT and USFWS staff conducted eDNA sampling throughout eastern Kansas the week following this meeting. Sampling was conducted in areas where Asian carp were not known to be present but had an opportunity to move upstream. This work will help inform KDWPT about current Asian carp populations and allow for more targeted sampling based on results. Current population information can contribute to the Missouri River Basin Asian Carp Control Strategy Framework that is being developed through this group.

In May 2015, Kansas hosted the Cabela's National Team Championship. This walleye tournament had a total of 185 two-man teams. Each team was supplied information about aquatic nuisance species, and ANS program staff were present to offer voluntary hot water washes. Approximately 50 boats were washed by ANS staff.

KDWPT is also focusing on outreach efforts, including a pilot program for recently developed ANS-specific kiosks. Temporary employees are also conducting surveys at waters with the kiosks to assess the usefulness of the kiosks at providing information and promoting actions to prevent the spread of ANS.

North Dakota – Fred Ryckman (via handout)

1. In 2014 over 400 complete or partial ANS inspections were undertaken on 216 sport fishing waters across the state. Listed ANS encountered during these inspections included common carp (widespread and established at many waters throughout much of ND); curly-leaf pondweed (found in portions of the Missouri River System and in 9 district waters in the central and eastern part of ND, including one new infestation at Raleigh Reservoir noted in 2014); silver carp (found only in the James River in ND downstream of Jamestown Dam); and zebra mussel (the only detection in ND was three veligers in the Red River at Wahpeton). Eurasian watermilfoil, the only other listed ANS that has been documented in ND, was last found in the Sheyenne River at Valley City in 2013.
2. The ND Game and Fish Department's ANS information/education awareness brochure, poster, and sign were completely revised and updated early in 2015. Several thousand brochures have subsequently been printed and distributed at various sport and rec shows, aquatic education events, etc.; approximately 400 posters were printed and sent to all resident bait vendors, US Fish & Wildlife Service offices, numerous hunting, fishing, and tourism related businesses and outlets; and approximately 350 ANS signs were purchased and erected at all public boating access sites across the entire state. An I/E effort with local support groups was renewed in 2015 via an agreement with the Friends of Lake Sakakawea and others to implement a multi-media ANS awareness campaign.
3. Efforts to more intensively sample silver carp in the James River are ongoing. Since moving upstream in the James River from South Dakota in 2011, the presence of silver carp in the James has been annually documented. Aging of captured fish indicates that all have been 2009 year class fish. Captured females were first noted as being sexually mature in 2014. Although reproduction likely occurred last year, no juvenile fish were sampled in the fall of 2014. Additional focused sampling is occurring in 2015; only three adult silver carp have been collected as of July 1, 2015.
4. Efforts to more intensively sample zebra mussel in the Red River are also ongoing. In early August 2014 a total of three veligers were detected in a plankton sample taken from the Red River at Wahpeton (the third time veligers were detected at this site, the only site in ND where they had been detected prior to 2015). These veligers were assumed to have drifted downstream into the Red River from known established and reproducing populations in the Ottetail River in Minnesota (which converges at Wahpeton with the Bois de Sioux River to form the Red River). Veliger sampling in June 2015 in both the ND/MN and the Manitoba portions of the Red River detected several hundred to a few thousand veligers at each of several sites scattered along the entire length of the river.

Although the source or sources of these veligers has not been determined, based upon their size and the 400+ river miles of river in which they were found, it is likely that one or more populations of adult zebra mussel have become established in the Red River. Even more recently, a single adult zebra mussel was found on the City of Fargo's water intake screen. Much more intensive sampling of the Red River is planned for this fall.

5. Efforts to prevent the movement of common carp into the Devils Lake basin and ultimately Devils Lake have intensified in recent months. Easements to allow a constructed berm to remain in place and thus to prevent the movement of common carp across a very flat divided between the Red River/Devils Lake watersheds near Loma will soon expire and are in the process of being renewed, and discussion continue regarding the need and approval to construct a similar berm in another watershed divide in the upper watersheds between Rock Lake and Devils Lake. Common carp have never been found in Devils Lake, nor have they ever been found in ND in the Souris River or any of its tributaries or in the Sheyenne River upstream of Ashtabula Dam.

Veliger Lab Update – Eileen Ryce

Process samples for KS, NE, MO, ND, SO, WY, MT, and IA. The number of samples has been drastically increasing through time. In 2014, over 1600 samples were processed, with about 500 from Montana and 100 from other states. Currently planning to expand capacity for samples, but this is a long process (about 3 years to train a new lab technician fully).

PNWER Update – Stephen Phillips

PNWER is focused on advancing a regional defense against Dreissenids in the Pacific Northwest. Objectives are to 1) Define and describe an effective, efficient, and practical perimeter strategy (framework)—structure, cost, and policy needs, 2) Work with stakeholders to assess possible sources of long-term sustainable funding for perimeter defense., 3) Provide a high-level estimate of the avoided costs saved by focusing on prevention, and 4) Produce and distribute the framework to member states/provinces, Congressional delegation, stakeholders, and others.

On the West911 website (www.west911.psmfc.org), there is an online tool to view all watercraft inspection stations in the Pacific Northwest and boat inspection and interception data.

A November or December 2015 Great Northern Landscape Conservation Cooperative meeting will host well-established QM/ZM researchers to identify greatest research needs.

Prioritized recommendations for the regional defense system include:

1. Contain dreissenids at the source.
2. Develop and foster long-term sustainable funding solutions for dreissenid and other aquatic invasive species prevention efforts, including industry participation.
3. Build and fund the institutional capacity for collaboration in the region to monitor, assess, and renew regional AIS strategies, including enhancing the effectiveness of perimeter defense, on an annual basis.
4. Establish and implement a real-time rapid response notification database.
5. Coordinate annual watercraft inspection and decontamination stations in the Pacific Northwest and with neighboring states and provinces annually using an online database.

6. Fund adequate infrastructure, including installing permanent decontamination stations at key locations, along the perimeter of the PNW.
7. Fully fund State Aquatic Nuisance Species Management Plans.
8. Facilitate, through PNWER, consistent and comprehensive cross-border training for United States/Canada border patrol officers, equipping them with the necessary information, materials, and training to effectively.
9. Develop boater movement models to predict the most likely locations for an introduction of dreissenids in the Pacific Northwest.
10. Request and document the status of vulnerability assessments for all hydropower facilities in the PNW quarterly.
11. Ensure all chemical options for dreissenid treatment are registered for use in each state and province and that coordination among states and provinces continues through the established Rapid Response Working Group.
12. Support mechanisms to share resources across jurisdictions.
13. Develop an AIS coordinator position in the US Army Corps of Engineers in Washington, DC.
14. Strengthen alliances with organizations in Lake Tahoe and the states and provinces through consistent communication and collaboration and sharing notification, watercraft inspection and decontamination station, and fouled conveyance interceptions via real-time online databases.

Other items of note: UMPS III is currently in the review process. The US Forest Service has a document with chemical options for decontaminating firefighting equipment.

ABYC Update – group discussion

American Boat and Yacht Council summit went well. Both sides (ABYC and ANS) learned and created four groups to advance next steps. Groups include hull, engine, components, and trailer working groups.

Building Consensus Update – Joanne Grady

IBEX – International Boatbuilders Exhibition & Conference – will take place in KY. The ANS community has been invited to host a booth and give a presentation.

Federal Land Managers Group will soon be releasing a documents highlighting the roles, responsibilities, and authorities of federal land managers to address ANS issues on federal lands.

Building consensus WID group moving forward by having regional conference calls.

Bulk of Region 6 grant money is currently going to Building Consensus efforts.

Federal Updates – Joanne Grady

Senate & House bills propose to increase state ANS management plan funding from \$1M to \$2M. Regional ANSTF Panels will still receive \$40K annually, but there is a proposal to increase to \$47K annually.

NCTC is crafting a new HACCP website and wizard that will be available to anyone who took the HACCP Train the Trainer Course.

Region 6 Dive Team gained 2 new members, which should increase the availability of the Region 6 Dive Team to state partners. This process requires a surface support team (provided by partnering agency), but allows for divers trained in invasive mussel training. Region 3 also has about 3 divers stationed in Columbia that may be available for assistance.

Dan James (USFWS, Pierre, SD) is available to take any samples for confirmation of presence of didymo.

Hatchery Biosecurity Group Discussion

Iowa Hatcheries – Kim Bogenschutz

Rathbun Hatchery – Zebra mussels found in the supply lake in 2007, disappeared from 2012-2014 but reappeared in 2015. KCl and Formalin treatment initiated in 2007 in response to initial discovery. Treatment included 1500 mg/L KCl for 12 hours followed by 50 mg/L formalin for 2 hours. In addition, filtered water used in hauling trucks. Continued monitoring continues, though zebra mussel veliger densities have diminished. Goal is to reduce exposure to zebra mussels and reduce risk by filtering hauling water with 10 micron filter bags, reducing amount of water moved with fish (approximately 190 mL per load), and continued inspections for zebra mussels and other undesirable organisms.

Tested KCl/Formalin treatment on walleye fry – In 2013, tested a 750 mg/L KCl for one hour followed by 25 mg/L formalin for two hours treatment on 3-4 day old walleye fry. Monitored dissolved oxygen, pH, and mortality for 3 days. Dissolved oxygen and pH were within tolerated ranges, and there was no significant difference in survival between control and treated fish. In 2014, tested 1-2 day old fry and 3-4 day old fry using 3 and 6 hour treatments and higher concentrations, for a total of 7 treatment combinations: 1) 1-2 day old fry control, 2) 1-2 day old fry with 3 hour treatment, 3) 1-2 day old fry with 6 hour treatment, 4) 3-4 day old fry control, 5) 3-4 day old fry with 3 hour treatment, 6) 3-4 day old fry with 1500 mg/L KCl for 12 hours with 50 mg/L formalin for 2 hours control, and 7) 3-4 day old fry with 1500 mg/L KCl for 12 hours with 50 mg/L formalin for 2 hours treatment. No significant difference was found among the three treatments (control, 3-hour, and 6-hour) on the 1-2 day old fry. No significant differences were found between the control and 3-hour treatment on the 3-4 day old fry. Nearly all fry died when exposed to the high-dose treatment.

Delayed fertilization technique (DFT) of walleye eggs – In response to zebra mussel presence at brood waters, Rathbun Hatchery staff developed a technique to collect eggs while minimizing risk of spreading ANS. Eggs are collected without contacting water (delays fertilization window and prevents risk of moving water) and are fertilized at their destination with preserved semen. Protocols include the following: 1) Dryer towel dries each fish, 2) Stripper wears raingear - no water is allowed to run into pan with eggs, 3) Spotter observes operation as quality control and has final say if eggs are good, 4) 250 ml eggs put into each storage container, 5) Containers are packaged in coolers for shipment and transported up to 4 hours, and 6) Eggs are fertilized with preserved semen upon arrival at the hatchery. After tinkering with specific details (hard plastic containers instead of ziplock bags; extra padding in the cooler), eye up rates were above 75%.

Montana Hatcheries – Eileen Ryce

Montana has 12 state hatcheries (10 funded with license fees and federal aid; 2 funded as mitigation hatcheries), 3 federal, and 12 private hatcheries. They have a regulatory fish health

program that also addresses fish movement. The AIS program is now housed in the Habitat Bureau (as of January 2013).

Montana's bio-security philosophy: 1) just say "no", 2) evaluate and minimize risk, and 3) take action with measured risk. They minimize and evaluate risks associated with all aspects of culture, including water sources, fish/egg movements, visitors, and staff actions by conducting inspections, establishing and enforcing administrative rules and policies, and developing and implementing HACCP plans.

Montana hatcheries can be quarantined (state, private, or federal) if they fail inspections or fail to abide by the administrative rules and policies. BMPs are strictly outlined and followed to address disease and ANS concerns. Examples of this include filtering water (sand filters) for spawning, capping spring water sources, quarantining diseased or ANS-positive facilities, isolating unknown or wild broodstock and eggs, controlling access of people and animals at hatcheries, disinfection and separation of gear and equipment, and annual facility inspections (disease, water supply, and discharge).

Kansas Fish Transport Treatment Assessment – Jessica Howell

Kansas currently uses a 750 mg/L KCl 1-hour pre-treatment followed by a 2-hour 25 mg/L formalin treatment to reduce the risk of spreading zebra mussels in fish hauling tanks for stocking or fish transfer events. This treatment was developed for use on zebra mussels veligers, but subsequent testing on closely related quagga mussel veligers proved to be ineffective. Kansas thus decided to re-test the current treatment under a simulated hatchery stocking in Kansas, where the treated veligers are released into fresh lake water and allowed to recover. Veligers were collected from a known population, and approximately 2,000 veligers each were put into 5 aquaria (2 control, 3 treated). Control and treated veligers were treated similarly in the fish hauling box (use of oxygen for aeration, time in tank, etc.), except for the application of the treatment to one side of the two-box fish hauling box.

There was no significant difference in the numbers of veligers colonizing settling structures among any of the aquaria after approximately 9 months. The presence of live settlers in the treatment tanks constituted a failure for the treatment, which was assumed to be 100% effective based on the initial and subsequent testing for treating zebra mussels. Kansas will be working toward finding an alternative solution for reducing risk in fish transports and stockings.

Hatchery Biosecurity Group Discussion

General consensus that hatchery biosecurity is an issue that should be addressed. Howell will send out an information request to the group for fish health specialists, hatchery managers, and ANS coordinators to provide information on current practices in the Missouri River Basin states.

Bowling Tournament Results

Dan James (USFWS in SD) won the individual trophy. The northern team (Dan James, Mike Smith, Beth Bear, and Nick Frohnauer) won the team trophy.

Wednesday, July 15th, 2015

Asian Carp Plan Background – Joanne Grady and Kim Bogenschutz

There is a strong need to complete the Missouri River Basin plan soon, as funding may be available very soon. Upper Mississippi River Basin had to scramble to complete their plan and receive funding, but Missouri River Basin can learn from their experience and complete ahead of scheduled funding availability. The plan should address grass carp, black carp, bighead, and silver carp, not just the bigheaded carps.

Asian Carp Plan Development Discussion

Joanne Grady had edits from February 2014 but has not been able to incorporate the edits, so Mike Smith volunteered to take on the plan editing/assembly. South Dakota or North Dakota may have maps available for inclusion in the plan.

A draft should be completed by October, with Mike leading the plan development and asking for assistance as needed. Joanne will work on getting some coordination by then.

A call should take place in October to discuss the plan progress, review a draft of the plan, and coordinate next steps.

Priorities for the plan include population assessment, basin risk assessment (vector-based), and prevention.

100th MI Funds

No clear number on how many funds are available, as they just come from Region 6 USFWS funds. General interest in sourcing and purchasing small replicas for the basin states with 100th MI funds. Allison Zach will take the lead on sourcing and purchasing and work with Joanne Grady and Stephen Phillips to determine available funds.