

2013 Missouri Basin Team Meeting

June 25-26th, Cheyenne WY

Meeting Notes

State agency updates

North Dakota (Fred Ryckman):

- Fred gave a review of the ND Aquatic Nuisance Species (ANS) program including the list of prohibited ANS, the rapid response protocol, and an assessment of existing ANS and impacts. There is a need to revise the previous risk assessment completed in 2003.
- 2012 summary: about 150 waters were sampled, mostly by visual surveys. Species found included common carp, curly pondweed, silver carp (James River). Bait removal is now prohibited in the James River to limit the spread of silver carp. Sampling did not find Eurasian watermilfoil (EWM), zebra or quagga mussels (ZQM), rusty crayfish, or didymo. EWM was not detected in sites where it was previously found. Zebra mussels are in the Ottertail River, MN about 25 river miles from ND. There is ongoing intensive trapping for crayfish.
- Anglers are not allowed to bring live bait into ND; nonresident wholesale bait vendors must be inspected prior to receiving a permit to export live bait into ND – and then can only sell to a resident bait vendor. Commercial live bait must be transported in ground water. There is also concern about the movement of water through oil and gas development (water permitting is regulated by the state water commission). In ND, GF can prohibit commercial removal of water from GF owned or managed waters.
- Inspections were conducted on commercial equipment through the 404 permitting process. No mandatory boat inspections are conducted. Tournament sponsors are required to inspect boats before all permitted tournaments. Future plans are to train GF staff, especially enforcement personnel. Decontamination, if needed, will be undertaken at GF district offices utilizing existing power washing equipment.
- NDG&F has an active outreach program. In addition, outreach is conducted by the Friends of Lake Sakakawea and other angler groups; this effort includes conventional TV, radio and newspaper ads, plus messaging on ice coolers, gas pump signs, etc. The number of people in ND that are aware and think ANS is a concern is increasing based on their angler survey.

Kansas (Jessica Howell):

- Ongoing work includes sampling of over 100 waters sampled for ZQM veligers. Disease sampling for VHS and channel catfish and largemouth bass viruses continues. Bait shop inspections done on over 240 licensed shops. Movement of bluegill and green sunfish is allowed throughout the state. During inspections bait shops are given outreach materials such as don't dump bait stickers.
- Kansas currently has 17 zebra mussel positive waters. No movement of live fish is allowed from ZQM positive waters.

- Outreach: a lot of attention has been focused on creating a brand that people can relate to. Outreach materials include ANS designated water signs, brochure, zebra mussel (ZM) watch card, radio ads, digital ads, swag (sunscreen packets, collapsible bait bucket), ZM muffins (acrylic mussel displays). KS has an outreach crew that visits 32 waters up to 3 times each and conducts the 100th meridian boater survey to gauge awareness. Outreach packages including literature, swag, and display holders were mailed to regional offices, state parks, marinas, and bait shops and were very well received. Shadow boxes were created with Asian carp mounts, and ZQM propeller display with an encrusted native mussel and a bottle of water indicated the number of veligers that could be present have also been developed.

Colorado (Elizabeth Brown):

- Colorado's program focuses on all ANS including aquatic and terrestrial species. Program increased when veligers found in Pueblo Reservoir in 2008. A \$1 million grant was established for inspections at Pueblo and the Colorado ANS act was passed shortly after in 2008. Colorado has about 168 boatable waters. In 2008, 6 more waters were found to have ZQM veligers. In 2009 Blue Mesa Reservoir was added to that list.
- Colorado has several protocol documents for watercraft inspection, decontamination, boat compendium, etc. In addition to CWP locations for inspections, there are over 50 other authorized locations for watercraft inspections. There is a quality control program at inspection stations throughout the state to ensure protocol is followed by all inspectors. CO intercepted 10 mussel boats in 2012-many from TX waters. From 2009 to 2013 there were over 56 total mussel boat interceptions from the eastern US, Arizona (Lake Pleasant and Havasu), Great Lakes, and a few from Lake Mead.
- Bait – need a CO dealer receipt dated within the last 7 days if bait is held in water. No live bait fish is allowed over 7,000 ft east of the Continental Divide. No live fish are allowed west of the Continental Divide except for Navajo Reservoir. Many changes have been made to regulations concerning bait; bait caught must be used in the same water (except for the Arkansas River below Pueblo), it is illegal to move crayfish west of Continental Divide and east of the Divide in an area with rusty crayfish.
- Sampling – 305 waters were sampled in 2012 for all ANS. About 70% of public waters have been surveyed over the last 5 years. Some new species of aquatic plants are showing up. CO is attempting to combine the current three lists for prohibited plants to stop the movement through the nursery trade. New Zealand mudsnails (NZMS) were mapped in 2012 and CO is considering positive water signs and wader wash stations. NZMS have spread downstream in Green River and a new population was found in Fountain Creek which has no public access.
 - Rusty crayfish- four current locations. Surveys are conducted to catalog native species and find exotic species. Control/containment is being attempted through mechanical removal (trapping) and regulation.
 - EWM – mapped populations and conducted chemical control in some areas. The City of Boulder has a long standing mechanical removal program which has seen success in reducing the population.

- Outreach – developed a boaters guide so boaters know what to expect from a boat inspection. Through “AG in the Classroom” have been spreading the word about invasive species. Also use pocket guides, rack cards, and other outreach materials.
- Research – Developing a risk assessment based on boater movement data. Also looking at the economic impact of noxious weeds and ballast tank veliger filtration.
- CO ANS budget is stable through 2014 and program currently has 3 FTE. CO is finishing up their ANS management plan.

Iowa (Kim Bogenschutz):

- Recently found ZQM juveniles/adults in Spirit and Okoboji Lakes and are monitoring for veligers. The 2011 floods allowed Asian carp above two physical barriers which look to be the 2010 year class. In Lake Rathburn ZQM veligers were found from 2008-2011 and none were found in 2012-2013. Water levels in the lake do fluctuate rapidly. A fisherman caught a 97 lb bighead carp estimated to be over 18 years old in Lake Rathbun (federal flood control reservoir on the Chariton River).
- Law changes – now illegal to transport any aquatic plants. All water must be drained from boats upon exiting a water and the bilge plug must be pulled during transport (fine for violation is \$75). Can still collect bait from an ANS infested water but must transport it in clean water. Proposed to add diploid grass carp as ANS and only allow triploids.
- Funding – the program receives a portion of boat license fees which amounts to an annual budget of \$600,000. There are 2 FTE and 19 season staff.
- Research – Contract with Iowa State University to look at the distribution, age/growth of Asian carp in the Mississippi River and tributaries in southeast Iowa. Have found no evidence of bighead or silver carp reproduction (no larvae or eggs). Grass carp have successfully reproduced in the Iowa River.
- Several new plants found in Mississippi River in MN including parrot feather, water hyacinth, and water lettuce.
- The Iowa DNR, Minnesota DNR, and local organizations paid for installation of an electric barrier below the Spirit/Okoboji chain of lakes in an attempt to keep additional Asian carp from entering the lakes.
- Outreach – Have produced 15 second t.v. ads to educate the public on regulation changes and the Clean, Drain, Dry message-cost is about \$3,000 for airing 400 times/month for 2 months. New brochures and signs are also in development. The Mississippi River museum has developed a traveling AIS display featuring ZQM, Asian carp, and EWM and will be back in Iowa at the museum.

Montana (Allison Begley via phone):

- Law changes – new law (HB586) designates a state management area with the goal of preventing new species like ZQM. Still in the rule making process to implement this law change. \$1.58 million added for biennium for control and eradication. The Governor’s Office also released their Blueprint for AIS in Montana, which included consolidating the authority for all AIS to FWP, including aquatic plants to FWP from Agriculture. MT DOT added to the Act so it now includes 4 state agencies.

- Watercraft inspections – expanded inspection stations at borders. Operating 20 sites with a staff of 67 people. Through mid-June they had inspected over 4,000 boats a few of which had mussels present but none were viable specimens. Inspection stations have also caught live bait and live fish being transported.
- Sampling – Waterbodies surveyed in Montana are prioritized based on: previous years' work, angler/boater pressure, water quality data, risk of introduction, etc. AIS early detection and monitoring includes: invertebrate and macrophyte sampling, and plankton sampling for veligers (samples processed at the FWP lab in Helena). Priority locations for sampling include the 10 state, 3 federal, and 12 private hatcheries. Sampling is ongoing for 2013, and will also include lake surveys for aquatic plants. We anticipate sampling more than 100 waterbodies. See Lab update for more specifics on veliger lab.
- Bait - FWP is currently reviewing bait practices and regulations. There is a concern that current bait practices may increase the risk of importation of invasive species and/or pathogens into the State or increase the spread within the state. In addition to potentially impacting native minnow populations.
- Outreach – 2012 surveys indicates an increase in public awareness of AIS. Outreach continues to be key component of the program, and FWP will be evaluating where to go next (e.g. changing behavior).

Missouri (Tim Banek):

- MO currently has six reservoirs positive for ZM- a new water recently is Barber Lake. Australian water clover has also been found in a private pond. Hydrilla is present in several SW Missouri private ponds. Had regulations in place prohibiting the sale of live crayfish for bait that was implemented to protect the 34 native species in MO, including 8 species endemic to the Ozarks. However, the regulation was recently amended to allow the sale of one species, the virile crayfish (*Orconectes virilis*), which is not native to the Ozark Region. Asian carp are present in the Missouri and Mississippi Rivers and in all tributaries up to reservoir dams or other barriers.
- Outreach – Suggested using the Play, Clean, Go website (<http://www.playcleango.org/>) for information and outreach ideas. MO is doing radio ads on 61 stations and outreach is also being conducted by several private lake associations. MO is getting the Whac a Mussel game for the state fair.
- Near Kansas City there are 16 lake associations, one on a ZWM infested lake, with differing restrictions ranging from no outside equipment use to closures. Developed an agreement with a contractor for an AIS containment project in the Kansas City area.
- Considering adding round gobies to MO's AIS list of prohibited species. There has also been an extensive NZMS removal effort which Tim discussed during an additional presentation.

South Dakota (Mike Smith):

- Personnel – 1 FTE that does AIS 60% time, 6 summer interns from May through August. In 2013 4 interns will do boaters surveys and monitoring.
- Outreach – survey shows that the most viewed place for AIS information is the fishing regulation booklet. SD has contracted with an advertising firm for \$50,000 to develop

marketing for AIS. The slogan is SD Least Wanted which is being used in conjunction with a Clean, Drain, Dispose message. Have displayed message on billboards, ice chest wraps, and are considering wraps for fish cleaning tables. They have also teamed up to display information on the Take Me Fishing website and have information at the state fair and outdoor expo.

- Regulation – added purple loosestrife and western mosquitofish to AIS list. Can write citation for any aquatic plant on boats and can order decontaminations.
- At Lake Byron on the James River commercial fisherman are harvesting silver carp. Silver carp are below Gavin's Point dam which is thought to be a physical barrier to any natural upstream spread. Other barriers include Sioux Falls and the Lake Vermillion Dam. There are few successful take methods for Asian carp. The population in the James River is exploding in both quantity and size of individuals. Some waters in that area have been closed to the taking of bait.
- Didymo has spread in the Black Hills and a didymo suitability model has been developed. A few new locations with curly pondweed have been found.
- Sampling – sampling is conducted on high risk waters every year, medium risk every 2 years, and low risk every 3 years. Over 350 total waters are included in sampling. Missouri River reservoirs also have ZQM veliger tow sampling done annually.
- The new Landa boat washer was purchased and is being used mostly for outreach to boaters.

Wyoming (Beth Bear):

- Legislation - several species were added to the prohibited list of AIS which now includes: zebra and quagga mussels, New Zealand mudsnail, Asian clam, rusty crayfish, brook stickleback, Asian carp (bighead, silver, black), snakeheads, hydrilla, Eurasian watermilfoil, and curly pondweed. From March through November, any watercraft entering Wyoming must have an AIS inspection before it can launch in the state. This requirement also applies to water hauling trucks, firefighting equipment, and any conveyance capable of transporting AIS. At all times of year if a watercraft has been in a zebra/quagga mussel water within 30 days, it must be inspected before launching in Wyoming.
- Outreach - outreach in 2013 has focused on educating boater about new inspection requirements. Boaters have been notified through direct mailing, newspaper ads and articles, radio ads, website updates, and regulation booklets. New outreach for the 2013 year is a "Don't Let it Loose" aquarium/pet brochure which will be sent to all 4th graders in Wyoming in the fall. Since 2010, over 49,000 different boaters have been contacted during inspections and have received an AIS educational message.
- Watercraft Inspections - In 2012, 38,705 inspections were conducted at 35 waters, eight regional offices, and two Port of Entries. A total of 251 high risk inspections were conducted and 104 resulted in decontamination. Four of those watercraft contained dead invasive mussels. In 2013 watercraft inspections shifted to 15 locations at Port of Entries and other border locations. From mid-April through May 31st, a total of 5,911 watercraft inspections have been conducted. Of these, 181 have resulted in a high risk inspection and 57

watercraft have been decontaminated. To date, 10 watercraft have been intercepted with attached mussels; on all but one watercraft the mussels were dead.

- Monitoring - 63 waters were surveyed for aquatic invasive species during 2012. All samples were negative for larval zebra/quagga mussels. Curly pondweed was found in three locations. Asian clam were confirmed in one location. New Zealand mudsnails were confirmed in three locations.

Federal agency updates

USFWS (Joanne Grady):

- Training - Hosted a HAACP training class attended by several state coordinators. It has been required by the national FWS fisheries program for all activities for several years. The R6 ecological services staff is interested in implementing this for all of their field stations after two of their folks attended the training.
- Developed a draft hatchery inspection protocol. The FWS will begin to inspect FWS hatcheries in CO and WY including visual surveys and veliger tows.
- The FWS dive team spent a week in Lake Powell searching and documenting mussels. A total of 235 mussels were removed from moored boats by over 30 divers.
- Funding – State Plan Funding – still needs forms from several states. Next fiscal year is not looking good for invasive species with cuts in the budget.
- Lower Colorado River funding from FWS R2. Eleven proposals were submitted for a total request of \$1.3 million. There is \$900K in funding designated for work on the lower Colorado River area.
 - The Missouri River Basin team has \$4,000 left in previous years' 100th Meridian funding to spend. The funds are sitting in a grant agreement with PSMFC. There will not be any additional money this fiscal year aside from \$15,000 to support the veliger lab. The team should discuss if they'd like PSMFC to continue servicing team funds or move to another NGO within the basin. A list of project ideas generated at this meeting would be used to craft request to FWS for federal FY14 funds.
- Asian carp management plan – **the Missouri River Basin needs an Asian carp management plan.** There is a national surveillance plan that this management plan could tie into. Current Asian carp funds are going to the Great Lakes and Mississippi River basin and without a plan the MO River Basin will not likely receive any future funds. \$5 million has been designated to be spent on Asian carp next year. There is potentially up to \$20,000 in FWS FY12 funds that could be used for plan development. Need to find someone who can work on mapping and Asian carp risk assessment. Tim Banek will talk to Duane Chapman to see about guidance on this.
ACTION ITEM: Designate an Asian carp plan lead from the group.
- AG workshop – a follow-up to the 2012 Phoenix Attorney General meeting will be held August 13-15th in Denver. This will be a workshop meeting with the goals of defining AIS terms amongst states and developing model AIS legislation. Limited travel support for the meeting is available.
- Federal agencies are working on better defining roles and responsibilities related to AIS and on consistent regulations on federal lands.

Veliger Lab Update

Allison Begley (MTFWP):

- In 2012 over 300 samples were processed from other states, and the lab processed over 800 total. In 2013 the lab has received 168 samples to date. Funding is secure for the lab for 2014; the lab is funded using MT's state plan funding and additional FWS funds through the basin team. Canada may start sending samples to the lab for processing.
- States could send some extra samples in 2013 and Allison did not feel the lab would be overwhelmed with a few more.
- There is not a set amount of samples that each state is allowed to send or that the lab can process from out of state.

eDNA Lab Update

Mike Smith (SDGFP):

- The SDSU lab received a \$12,000 grant to get the lab up and running. They had a protocol from Notre Dame that others have since discussed was not reliable. A new protocol is needed before much work can be done at the lab. The seed money helped to pay for one thermo cycler at the lab and \$8,500 to process samples from the states.
- The lab is potentially a few years out before they can start processing samples due to the issue with a reliable protocol.
- General eDNA discussion – an eDNA calibration study is being conducted by several federal agencies. eDNA can be picked up in many ways, not just from live fish which makes interpreting results difficult. It is also unknown how long the eDNA can stay in the system.

New Zealand Mudsnail Eradication Project

Tim Banek (MDC):

- NZMS are currently on the prohibited species list in MO.
- In 2008, the Columbia Environmental Research Center received a shipment of bliss rapid snails from ID for research. NZMS and pebble snails were also found to have been in that shipment. The Center removed the specimens, isolated the tanks, and treated the water with chlorine.
- In 2012, NZMS were confirmed in the lab, pipes, and trenches but not yet in the lagoon or ponds. Several treatment options were attempted with the goal of killing 100% of the NZMS. Tested effectiveness of NaOH, heat (58C), and 3% hydrogen peroxide. Used high pressure hot water to disinfect and also freeze all debris and old pipes at -10C for 48 hours before disposal. Animals in lab were treated with 20ppt of NaOH. Used 32% hydrogen peroxide in the pipes and pond, and drained, dried, and froze (for 11 days) the ponds. Lagoon was drained and sprayed with NaOH.
- Treatments lasted from February through May of 2013 and cost over \$200,000. No live NZMS shells have been found since. Monitoring will continue for several years.

Business

- 2014 meeting will be held in Bismark, ND (thanks Fred!) and will occur either the 3rd or 4th week in June.
- It was agreed that the team does not need a chair and that the host of that year's meeting could handle the meeting arrangements and agenda.
- Funding – of the \$4,000 remaining \$1,000 will be spent on shipping bait buckets to the team. The remaining funds will be used for travel support to the 2014 meeting (Joanne Grady has since verified this can be done).
- Future funding – The Team is requesting FY15 funding for the following uses:
 1. \$20,000 to go to the MTFWP veliger lab to process plankton tow samples for the states.
 2. \$5,000 for 2015 meeting travel support (location to be determined).
 3. \$15,000 in equipment
 - Containment pads for Kansas to use with their existing decontamination units = 2 @ \$500 each = \$1,000
 - Decontamination unit for North Dakota (similar to Landa model purchased by SD or stationary units for offices) = \$14,000
 4. \$10,000 for team outreach materials. Ideas for this include scrub brushes for cleaning boats and other gear, mussel decal for boat ramps, etc.

Total FY15 Funding request = \$50,000