**Missouri River Basin Team Meeting – 100th Meridian Initiative**

**August 6-7th, 2019**

**Comfort Suites, Bismarck, ND**

**Agenda**

**Tuesday, August 6th**

8:00 – 8:15 Welcome, housekeeping and introductions Jessica Howell, ND

8:15 – 10:00 State agency updates State coordinators

10:00 – 10:15 Break

10:15 – 12:00 State agency updates, continued State coordinators

12:00 – 1:30 Lunch break

1:30 – 2:00 Veliger lab update Stacy Schmidt, MT

2:00 – 3:00 MT fiscal report update and discussion Tom Woolf, MT

3:00 – 3:15 Break

3:20 – 4:45 WRDA language/legislative update and discussion Stephen Phillips, PSMFC

4:45 – 5:00 Day 1 wrap-up and discussion All

7:00 - 2019 bowling tournament All

**Wednesday, August 7th**

8:00 – 9:00 Asian carp tech comm update Emily Pherigo, USFWS

9:00 – 10:00 Federal updates/federal funding Federal coordinators

10:00 – 10:15 Break

10:15 – 10:45 Update wrap-ups All

10:45 – 11:00 New business All

11:00 – 11:30 Plan for spending 100th MI funds All

11:30 – 11:45 2020 meeting discussion All

11:45 – 12:00 Meeting wrap-up and discussion All

12:00 Adjourn

**Attendees**

|  |  |  |
| --- | --- | --- |
| **Name** | **Affiliation** | **Email** |
| Stacy Schmidt | MT Fish, Wildlife, and Parks | Sschmidt@mt.gov  |
| Thomas Woolf | MT Fish, Wildlife, and Parks | Thomas.woolf@mt.gov  |
| Stephen Phillips | Pacific States Marine Fisheries Commission | sphillips@psmfc.org  |
| Kenda Flores | MO Department of Conservation | Kenda.flores@mdc.mo.gov  |
| Jason Kral | US Fish and Wildlife Service | Jason\_kral@fws.gov  |
| Dan James | US Fish and Wildlife Service | Daniel\_james@fws.gov  |
| Beth Bear | WY Game and Fish Department | Beth.bear@wyo.gov  |
| Allison Zach | NE Invasive Species | Azach3@unl.edu  |
| Mike Greiner | SD Game, Fish and Parks | Mike.greiner@state.sd.us  |
| Chris Steffen | KS Wildlife, Parks and Tourism | Chris.steffen@ks.gov  |
| Nick Frohnauer | MN Department of Natural Resources | Nick.frohnauer@state.mn.us  |
| Emily Pherigo | US Fish and Wildlife Service | Emily.pherigo@fws.gov  |
| Jessica Howell | ND Game and Fish Department | jmhowell@nd.gov  |

**Notes and Discussion**

**State Updates**

*North Dakota*

2019 Highlights:

* New legislation assesses license surcharges and motorized watercraft fees. Surcharges are $2 on resident fishing (some exclusions apply) and $3 on non-resident fishing and waterfowl hunting licenses. Motorized watercraft fees are $15/3 year registration for watercraft registered in North Dakota and $15/year for motorized watercraft operated on North Dakota waters which are not registered in the state (these require a sticker as proof). Estimated revenue is approximately $750,000 per year. This legislation also provided 2 new FTEs (1 ANS Biologist – to begin later this year; 1 warden – a new district warden was hired and the ANS program is receiving hour equivalency across entire state).
* New zebra mussel finding at Lake Ashtabula, which also affects USFWS hatcheries. Game and Fish is working with the USFWS on a plan to still allow production and stocking out of the affected hatcheries.
* Bighead carp were documented in the state for the first time in the James River following sustained high water.
* See presentation for additional information.

*Minnesota*

* High water, especially on the Mississippi River, forced them to operate with open gates (essentially an open river) most of the year. There was a natural river effect in May and June for about 2 months. This led to higher catch rates of invasive carp, though there was no evidence of larvae or juveniles yet. There was a 68 lb bighead carp collected on the St. Croix River that contained 18 lbs of eggs. Still no evidence of reproduction yet.
* MN DNR got approval to tag invasive carp. One bighead has led to lots of catches of other carp, but they have not been able to capture the previously tagged fish yet, despite a lot of effort to do so. This documents that they are extremely net shy after being caught once.
* MN DNR has a large inspection program for watercraft as well as for detecting the presence of new ANS populations. There are a handful or so of new zebra mussel infestations so far this year.
* In June, Kelly Pennington of MN DNR organized with USFWS and UMAISRC to put on a genetic control workshop. This included discussions on what regulations should apply to genetic biocontrol techniques. Kelly is compiling meeting notes and results.
* A lot of work is being done on aquatic vegetation control throughout the state. There’s quite a bit of work and research being conducted especially on starry stonewort.

*Missouri*

* All their available funding is federal grant funding.
* Asian carp crashed the fishery at Creve Cour Lake near St. Louis. In order to allow harvest and removal efforts, they had to work to get around their wonton waste laws. In February there was a massive unified method event, which included collaboration with tons of partners. Approximately 47,000 carp were removed, mostly silver carp with some bighead carp. This equated to 119.2 tons of fish (10 dumpsters) over the course of 3 weeks of effort. There was a lot of media attention on this effort, but very little negative feedback (they got in front of it). There was a planned reintroduction of crappie. With all the high water this year, Asian carp were likely reintroduced.
* Hydrilla eradication remains a high priority. Fluridone treatments do best in drought conditions. Started some treatments in 2012, but real efforts began in 2013. There were 43 affected lakes in a relatively small area. Hydrilla was eliminated in several of the smaller lakes, with approximately 20 left. Treatments begin in April, then reapplied monthly. Tubers are hard to kill, so they use a tuber sucker to track tuber densities. They are afraid of hydrilla getting into Fellows Lake (approx. 800 acres), where there’s a good muskie population and is a popular recreation lake. They did document tubers there last year with the flooding, and have been working on inspecting. They think they caught it the first year – sample 250 sites, with no tubers in main lake, just surrounding wetland areas.
* Working on developing a hydrilla app, taking it statewide this year. This is being done through Survey 123. This is used by fisheries, stream teams, etc. for reporting hydrilla during field efforts.
* No real money to work on zebra mussels. They do deny possession permits.
* See [below](#MOreport) for full MO report.

*Nebraska*

* Steve Schainost retired. He was replaced by two steam coordinators.
* There is no state ANS Coordinator yet. Tony Barada is the NE Game and Parks contact for ANS issues - tony.barada@nebraska.gov.
* Nebraska is going to start doing eDNA sampling for Asian carp.
* NE started doing watercraft surveys and inspections using the western WID form. Very easy to personalize and use. Enter hull ID, pulls up all previous inspections and decontamination information. No need for wi-fi in the field, it auto-uploads when connected. Makes maps and reports easily. NE has 6 AIS technicians, 9 mobile decontamination units, they conducted 2 decons this year. 90% of watercraft were clean, drained, and dry. 98% of watercraft had no AIS issues.
* NE also samples high risk waters for ANS.
* They installed a CD3 unit at Lewis and Clark Lake at the Weigand ramp. So far it has 395 uses since it was installed May 9th. Cost about $5,000 to create pad and hook it up to the grid. Adam Doll with MN DNR would have more info on CD3 stations in MN.
* Lake Zorinsky will be delisted. They never found more than a single veliger hit.
* There are still ongoing discussions about the proposed trans-basin diversion with Kansas.
* The Omaha Power District is installing a chemical treatment system for their intakes. They will be doing an economic analysis with it.

*Montana*

Zebra mussel veligers were detected in the fall of 2016 in Tiber and Canyon Ferry reservoirs. No more veligers have been detected to date, and no adults have been found. As a response, there are mandatory watercraft inspections for watercraft exiting either reservoir, entering the state, or crossing the continental divide. Given 3 years of negative detections and the current status of “suspect,” Canyon Ferry will likely be delisted next year. It would be another 2 additional years for Tiber, which is currently listed as a “positive” water. Although unfortunate, these 2016 detections greatly boosted the ANS program. In FY 18-19, $6.3M program funded by hydropower (~50%) and fishing fees (~50%). Look at powerpoint from MT for additional information on proposed legislation changes and additional program information.

\*Other notes: Bed tax = hotels; FY20-21 looking at $5.3M, addition of $30 motorized or $10 non-motorized watercraft fees; MT uses 400-gallon trailered decon units, can only handle 1, maybe 2 ballast boat decons. Out of 13 mussel intercepted boats, only maybe 2 were potentially viable.

*Wyoming*

* Offer border state classes on how to self-certify for WID. Hired 45 technicians this year. Intercepted 13 mussel boats, all of which were very dead. WY is having to re-decontaminate boats that are coming off Lake Powell. For reference, it takes 2 people an hour to decontaminate a ballast boat.
* For ANS populations, there were 2 new detections of New Zealand mudsnail. There are a few waters with Asian clam, and a few waters with curlyleaf pondweed.
* Their program runs at around $1.3M/year, which is a combination of boat decals (~50%) , fishing fees and federal funds.
* WY is interested in seeing what other states do for private fish hatchery inspections. Many of theirs use boards to channel fish to remove non-target species such as vegetation, herps, etc.
* WY is working on developing rapid response plans, and has been very involved with helping the WRP develop fire response protocols.

*South Dakota*

* Not much for updates. They were in-between coordinators for a while.
* In 2018, SD increased their WID program by adding 8 mobile trailer decon units. They are working on funding for 2 more.
* They conduct statewide vegetation sampling
* In 2019 zebra mussels were detected in Lake Sharpe, with Lake Francis Case suspect (downstream of Sharpe). New Zealand mudsnails were also detected in a private hatchery that sits on/near Beaver Creek in the Black Hills. They conducted a lot of sampling on Beaver Creek, but did not find any snails. Access is difficult since it is primarily privately owned and landowners were not willing to give permission.
* Starting Asian carp telemetry work in the James River next year. It will be a grad student project, with GFP staff conducting the surgeries.
* Notes from the Lewis & Clark stakeholder meeting are available on the SD Least Wanted website.

*Kansas*

* KS is looking for curlyleaf pondweed more and starting to document it in more places around the state (~30 additional lakes).
* Phragmites is a growing concern in the western part of the state.
* Zebra mussels were detected in Lyon State Fishing Lake, bringing the total up to 31 lakes. Approximately 100 lakes are sampled each year for the presence of zebra mussels.
* At Clark State Fishing Lake, zebra mussels were documented in the stomachs of bluegills. The lake was drawn down about 12 feet, but no mussels were found on the lake bed. No veligers were present in any plankton tows.
* Rusty crayfish were found in a bait shop this year as well. They worked with Bob DeStefano, a Missouri crayfish expert, to identify. As a result, KS expanded wild-caught bait rules to all bait, not just fish.

**Veliger Lab Update**

See presentation from Stacy.

**MT Fiscal Report**

Summary tables in MT update presentation, full report [online](http://dnrc.mt.gov/divisions/cardd/docs/misac-docs/dnrc_economic_cost_dreisseid_mussels_0119.pdf).

**Legislative and WRDA Update**

See presentation from Stephen Phillips.

**Asian Carp Technical Committee Update**

The Asian Carp Technical Committee met in March in South Dakota in conjunction with the Missouri River Natural Resource Conference. At that meeting, a lengthy discussion on priorities in the basin dominated the meeting. Priorities from this meeting included:

1. Use available information to prioritize Missouri River tributaries for targeted sampling and, ultimately, management actions.
2. Assess Asian carp population in priority Missouri River tributaries using a suite of applicable gears and techniques.
3. Identify reproductive efforts in Missouri River tributaries.

**Federal Updates**

*Region 6 USFWS AIS Update*

With regard to FWS funding we provided 2018 R6 monies to fund:

* the MT veliger lab;
* PSMFC including the westernais.gov webpage, WIT, and Columbia River Basin team meetings, travel support for the Missouri River team meeting and table top rapid response exercises in the Columbia Basin.
* ISAN for Don't Let it Loose. Continued support to existing states. Expanded last year to include AZ, NM, NV.
* NSGLC is looking at hatchery biosecurity issues
* SD received funds for a Missouri River summit

Internal to FWS we funded:

* dive team operations and their travel to Montana
* pressure washer for Great Plains FWCO (SD)
* hatchery staff to conduct AIS inspections
* funds to support biologist/supplies for invasive trout removal in Rocky Mountain National Park
* fencing at Jones Hole NFH (UT) to aid in preventing introduction of NZMS
* visitor boots and gear at Jackson NFH (WY)

Planned expenditures for R6 2019 monies include:

* the MT veliger lab;
* PSMFC including the westernais.gov webpage, WIT, and Columbia River Basin team meetings, travel support for the Missouri River team meeting and table top rapid response exercises in the Columbia Basin.
* ISAN for Don't Let it Loose. Continued support to existing states. Expanding to include Idaho and to open talks with ‘creature kit’ manufacturers.
* Additional project proposals are still under consideration.

Internal to FWS we funded:

* dive team operations
* Stop Aquatic Hitchikers outreach panels for R6 hatcheries and refuges
* funds to support biologist/supplies for invasive trout removal in Rocky Mountain National Park
* hatchery staff to conduct AIS inspections
* flapgates and electrical barrier upgrades at Jones Hole NFH (UT) to aid in preventing introduction of NZMS

QZAP Funding

While Joanne Grady serves on the scoring panel, QZAP funds are distributed by FWS R2 by Barak Shemai. FY19 funded proposals are listed below:





*USFWS, Pierre, SD Update*

* They have been working on Offut Lake (~130 acres) to determine if the flooding of the MO River has spread zebra mussels from Offut to other area waters affected by the flooding. During this sampling, they found dead grass carp in the ditch. They are waiting for flooding to recede to be able to sample grass carp and other Asian carps. There were very low zebra mussel densities on settling plates – is there potential for siltation?
* They are seeing very few silver carp jumping in the James River this year. There’s been very high water all year, but no zebra mussels were found. There are still high densities of silver carp below Gavin’s Point Dam, though there is no known passage, despite high releases.

*USFWS, Columbia, MO Update*

Still using the Paupier gear to assess Asian carp population demographics. This gear, along with other gears such as the electrified dozer trawl, were on display at the April Asian carp sampling workshop. These new gears have also been used for removal efforts. They found increase catch rates at night.

*Pacific States Marine Fisheries Commission*

* Working closely with the Columbia River Basin Team of the 100th Meridian Initiative to conduct rapid response table top exercises. In the next month or so, they will try to put out a timeline and review of rapid response exercises to use as a case study/guideline for those looking to utilize rapid response.
* Working on a lot of other projects, some include ESA manual, BMPs, etc.

**Group Discussions**

* EarthTech QZ is persistent in calling after nearly every zebra mussel detection in Kansas to offer their product/services. Similar occurrences happen with CD3 in North Dakota.
* There was a brief discussion about whether veliger sampling was still the most effective means of detecting new populations of zebra mussels. Adult sampling and traps were also discussed, along with several other techniques (eDNA). It was agreed by the group that veliger sampling was still the most efficient manner of sampling.
* South Dakota looked for input on their pursuit of a WID program. They have >450 ramps statewide, so roadside checks seem to be the most efficient for them. However, containment is important as well at infested waters. Legislation is key – put some onerous on the boaters to make them “own” the issue as well. Another key component is getting Law Enforcement staff on board.
* There was a brief discussion that there is going to be an increased need for expanded lab capacities (private or public) as programs continue to expand monitoring efforts.
* Next meeting will likely be in July in Missouri, hosted by USFWS (Emily) and MDC (whoever replaces Kenda after her retirement).

**Action Items**

* All Coordinators/program managers – send out annual reports to the group each winter/spring when they are completed.
* Stacy – develop guidelines for what to expect for turnaround times on samples and explain where those fit into the existing MT framework.
* All coordinators – send Stacy a general list of which waters from your state are higher/lower priority (and try to ship in separate boxes) to help streamline processing.

2019 100th MERIDIAN COORDINATION MEETING

MISSOURI REPORT

Submitted by Kenda Flores

**Creve Coeur Asian Carp Removal Project, January 29 – February 21, 2018**

*Problem*

* Around 2009, Asian carp (AC) began entering Creve Coeur Park Lake (St. Louis County) during large Missouri River floods and to a lesser extent from the Missouri River connection to the lake from Creve Coeur Creek.
* After each flood event, the AC population density increased affecting native fishes and lake users.  Crappie fishing got much worse.  Paddlers and rowers encountered jumping AC.  AC fishkills cropped up as they overpopulated the lake.
* Traditional fish removal techniques attempted and failed to remove AC, 2015-16.  Bow fishing deemed ineffectual.  Commercial fishing permission denied.
* USFWS attempts with Paupier boats ineffectual.
* Two MDC/USFWS populations estimates made – average 59,000 AC

*Unified Method*

* Culmination of 18-month planning process involving MDC STL Region, MDC BRWFS, USGS, USFWS, STLCO Parks, ILDNR, and ILNHS.
	+ Use Unified Method, with additional techniques (EF herding, acoustics, sonar)
	+ Use of > 1.75 mile of netting
	+ Add’l “forwarding the science” techniques including:  eDNA and hydro-acoustic population estimates, radio telemetry to document fish movements, Iruka harvest net
	+ Continual project for 21 days straight, 10-16 work days involving 20-35 people and 8-10 boats daily.  Most staff and equipment came from Federal government.  MDC staff from STL Region Fisheries and D&D, CE Region Fisheries, and BRWFS.

*Results*

* Removed 119.2 tons of Asian carp in 10 dumpsters.  We estimated that to be about 47,000 fish 85% of the fish in the lake.  Since remaining Asian carp cannot reproduce in the lake, we consider this a very successful result.
* By-catch of native species was extremely low, literally only hundreds of fish (mostly drum, gar, and buffalo).  No bass and only about a dozen crappie were observed in our nets.
* Fish were disposed in landfill, per MDC WILDLIFE CODE.  Regulation changes?
* Demonstrated Unified Method to be first successful tool to selectively remove AC, with minimal impact on native species.  Could have potential for use by commercial fishermen.  Regulation changes?
* Expect native fisheries to restore themselves, including improved crappie fishing within 3-5 years.
* Expect negative interactions with lake users to be greatly reduced.
* All nets, equipment, and supplies have been removed from the park.  STL D&D restored the condition of the beach areas.
* Kevin Meneau had over 150 public inquiries and 40 media contacts (as far away as National Geographic TV) regarding this project.
* With respect to staff and costs, USGS/USFWS staff time easily dwarfed that of MDC and averaged at least 20 people/day for the entire project and use of 8 boats/day.  Over 30 USGS/USFWS staff were present on the busiest days.  Project costs were similar with USGS/USFWS expenditures greatly exceeding those from MDC.  Fisheries material purchases and share of landfill/dumpster charges (~$6000) were about $7000

**FY18 Annual Interim Report on the Collaborative Strategy for Deterrent Barrier Research, Design, Implementation and Assessment to Minimize the Spread of Asian Carps in the Upper Mississippi River**

*Project Highlights:*

Objective 4 - Quantify native and non-native fish passage at lock and dam 19, 15, and 14 as an assessment tool for the future testing of Asian carp deterrents.

* Transmitters were implanted into an additional 44 Bighead Carp, 47 Silver Carp, and 41 Paddlefish.  To date 465 native and invasive fish have been tagged and 407 were active during the year of 2018.  The smaller transmitters put in Walleye, Sauger, and American Eel are expired and some of the Lake Sturgeon and Asian carp tagged in this area prior to the study have also expired.
* During the three years of the study (2016-2018), 90 individual fish (some of those with multiple entrances) were detected in the lock chamber (for a total of 167 entrances), and 22 of those fish were detected on the receiver upstream of the chamber for a total of 27 passage events
* Of the 115 (46%) of Asian carp (Bighead, Silver, Hybrid Asian Carp, and Grass) that approached the lock chamber, 28 (14%) entered the lock chamber, and only 2 (1%) passed upstream into Pool 19
* Only Bighead Carp, Grass Carp, Bigmouth Buffalo, Paddlefish, Flathead Catfish, and Walleye were detected and assumed to have passed upstream into Pool 19.
* Two of the Paddlefish passage events were downstream back into Pool 20.
* Although 29 of 53 Lake Sturgeon (55%) were detected in or approaching the lock chamber, none were detected moving into Pool 19.
* Four fish (2 Bigmouth Buffalo, 1 Paddlefish, and 1 Grass Carp) were detected passing through the lock chamber into Pool 19, but then returned to Pool 20 without being detected by any of the receivers on the dam above or below.

**Black Carp:**

In 2018 MDC staff caught 72 YOY/Juvenile black carp near Cape Girardeau, MO ranging in size from 22 to 138 mm.  Staff also caught 3 adults while sampling for the Paddlefish and Alligator Gar projects.  One was a reproductive adult and was picked up by USGS researchers to be used in their study. Three adult black carp were collected and reported by commercial fishers on the Missouri River near Hermann, MO.

**2018 Hydrilla Eradication Summary**

One of the new projects that was tackled in 2018 was hydrilla monitoring in a large waterbody. By following the protocol that was developed for Lake Manitou near Rochester, Indiana (similar in size to Fellows Lake), a more strategic monitoring plan was developed and implemented. ESRI’s Collector App was incorporated as the data collection mechanism. This took some effort on the front end to setup but greatly stream-lined data collection in the field. These surveys or portions of them will be able to be replicated with comparable data effort from year to year.

The following are additional highlights from 2018:

**Treatments and Monitoring:**

* Started the year with 34 known hydrilla sites in southwest Missouri. Two of these sites were already in the “monitoring-only” phase due to early detection.
* Treated the remaining 32 sites throughout the growing season which required conducting a total of 121 individual treatments. This was less than expected due to the dry summer.
* Stocked Grass Carp at eight sites and requested additional fish for select sites in 2019.
* City Utilities of Springfield (CU) evaluated 68 water samples for fluridone levels throughout the treatment season. This partnership ensured target fluridone rates were being maintained with the variable flow conditions at many of the sites and allowed us to adjust the treatment rates as needed (minimize product waste).
* By the end of the 2018 growing season, nine additional sites reached the criteria to go to “monitoring-only” in 2019 by having another year with no tubers or biomass detected.

**Fellows Lake Highlights:**

With the 2017 hydrilla find in the upper end of the Little Sac Arm of Fellows Lake, intensified monitoring and inspection efforts continued:

* Department staff collected 50 more sediment samples from the known hydrilla area on May 10 and no tubers were detected. Since the detection of hydrilla, we have collected 150 sediment samples and still have not found a single tuber or turion.
* Treated the known stand area at Fellows Lake. In 2018, the water level was lower, so a total of four acres was treated on May 23 with 19.1 pounds of Sonar PR (30 ppb). Water levels continued to drop, leaving the majority of the area dry by mid-June. It remained that way for the remainder of the growing season. No additional treatments were needed.
* On June 18, 17 Department staff and working group members conducted intense plant biomass monitoring of the known stand and the surrounding area above the causeway on Farm Road 197.  They used a combination of visual (snorkeling and heron-style) and 4-Rake Toss methods to search the area.  Again, hydrilla was not detected. A total of 83 visual and rake toss collections were conducted in this area.
* Staff from the Department, CU, and Watershed Committee of the Ozarks (WCO) conducted intense inspection efforts on the rest of the lake on June 19.  Again, multiple search methods were used including diving with a total of 270 sites surveyed.  Hydrilla was not detected.
* Additional smaller scale search efforts were also conducted on July 17, August 2, and August 28.  Hydrilla was not detected.
* Efforts from the five monitoring/inspection events:
	+ A total of 452 sites surveyed:
		- Visual methods (snorkel, dive, and heron-style) were used to survey 39 lines totaling 1.49 miles.
		- A total 403, 4-Rake Toss surveys were conducted.
		- 10 visual (heron-style) spot surveys were taken where clarity allowed clear view of the substrate.

**Stockton Lake and Pomme de Terre Lake:**

* Corp of Engineers staff inspected public access points during the summer months. Hydrilla was not detected.
* MDC staff inspected the Aldrich area of Stockton Lake. They divided up a 667-acre portion of the lake into 10 sections and conducted a minimum of 4, 4-Rake Toss surveys in each section. Hydrilla was not detected nor were any other aquatic plants.

**Inspections:**

* Inspection numbers for the Aquatic Nuisance Strike Team were lower this year due to the concerted efforts at Fellows Lake and the Aldrich area on Stockton Lake. They completed 68 site inspections outside of the previously mentioned activities.
* External partners completed 85 additional inspections with Mitch Jackson and Stanton Raines leading the way by conducting 45 and 38 inspections, respectively, throughout the summer at the Corps of Engineers access areas at both Pomme de Terre and Stockton lakes.
* To date, 1,665 hydrilla inspections have been conducted statewide with most them being in southwest Missouri.

**Outreach:**

* Hosted two Hydrilla Identification Trainings for Stream Teams in Southwest Missouri. Only 11 members attended.
* Assisted with pond workshop which included aquatic plant ID, along with hydrilla, at Powell Gardens in Johnson County.
* Hosted a booth at the Springfield Lawn and Garden Show where we had information on hydrilla and other aquatic plants.
* Hosted an aquatic nuisance species display at River Jam.
* Developed a flyer on using native aquatic plants in backyard water gardens.

In summary, 2018 inspection efforts yielded **no new sites**. Several sites are being changed to “monitoring-only”. This means starting the 2019 treatment season there will be only 23 active treatment sites. Almost one-third of sites have made it to the next phase where they will be monitored for any signs of hydrilla at three different times during the growing season for the next five years. If a site stays hydrilla-free for the next five years, then it will be declared eradicated.