

**UMRR**  
**Long Term Resource Monitoring FY19 Activities (Living Document)**  
**(October 2018–September 2019)**

**Publications, Presentations, and Conference Attendance**

- An early release version of the article, “Keeping Science in Perspective: Lessons from Haida Gwaii,” is available at <https://doi.org/10.1002/lob.10264>. This article was written by KathiJo Jankowski during the Association for the Sciences of Limnology and Oceanography's (ASLO) “Be a Journalist for a Day” program, that took place during ASLO’s 2018 Annual Conference in Victoria, BC, June 10-15, 2018.
- Jim Grace (USGS, WARC) presented a 3-day workshop, “Structural Equation Modeling in Ecology,” at the USGS Upper Midwest Environmental Sciences Center in La Crosse, WI, December 11-13, 2018. Twenty-two USGS scientists from CERC, NPWRC, PWRC, UMESC, and WARC participated in the workshop, along with scientists from the U.S. Fish and Wildlife Service, Wisconsin Department of Natural Resources, and University of Wisconsin-La Crosse
- Bouska, K. L. and J. N. Houser. 2019. UMRS Ecological Resilience Assessment. Upper Mississippi River Restoration Coordinating Committee Meeting. Dubuque, Iowa. 27 February 2019.
- Bouska, K. L., J. N. Houser, and N. R. De Jager. 2019. An ecological resilience assessment to inform restoration of the Upper Mississippi River System. Upper Midwest Stream Restoration Symposium. La Crosse, Wisconsin. 25 February 2019.
- Fulgoni, J. Upper Mississippi River Conservation Committee Meeting – Dubuque, IA; Attended to meet members of the committee for the first time and to present a portion of my dissertation research.
- Sobotka, M. the section continues to discuss projects and future directions. A few individuals have some interesting ideas (water quality index for the UMR, using bald eagles as indicators of emerging river contaminants) they are perusing independently.
- Fulgoni, J. Resource Science Division Meeting – Columbia, MO; Attended the Resource Science Division meeting to get up to date on projects occurring within the division.
- Herzog, D. Resource Science Division Meeting – Columbia, MO; Attended the Resource Science Division meeting to get up to date on projects occurring within the division.
- West, J.. Resource Science Division Meeting – Columbia, MO; Attended the Resource Science Division meeting to get up to date on projects occurring within the division.
- Tripp, S., Q. Phelps, and D. Herzog. Recruitment Bottleneck(s) for Shovelnose Sturgeon. North American Sturgeon and Paddlefish Society Conference. Columbia, MO. October 24, 2018
- Bierman attended the UMRCC Water Quality Technical Section fall meeting in Dubuque – October, 2018.
- Bierman participated in quarterly UMRR Resilience Working Group conference call – October, 2018.
- Bales, Bierman, and Kueter attended district meeting in Maquoketa, Iowa – December, 2018.
- Nathan De Jager and Jason Rohweder, Molly Van Appledorn presented a talk entitled "Inundation dynamics of the Upper Mississippi River Floodplain: mapping spatial and temporal patterns of a critical ecosystem process to inform large-river management" at the Western Lakes Division - American Association of Geographers meeting in La Crosse, WI, Nov 1-2, 2018.
- Molly Van Appledorn (UMESC) and Nathan De Jager (UMESC), along with their colleagues from the U.S. Army Corps and Engineers and the National Great Rivers Research and Education Center, presented a classification of the floodplain forests of the Upper Mississippi River (UMR) based on

composition and structural attributes. In addition to identifying compositionally unique forest types, their approach distinguishes multiple forest types dominated by a single species (e.g., silver maple or cottonwood) that would otherwise be lumped together under previous classification schemes.

- Jankowski, K.J., C. Neill, E.A. Davidson, M.N. Macedo, C. Costa, G. Galford, P. Lefebvre, M.T. Coe, L. Maracahipes, D. Nunes, C.E.P. Cerri, and C. O'Connell. 2018. Deep soils reduce environmental consequences of increasing nitrogen fertilizer use in intensifying Amazon agriculture. *Scientific Reports* 8: 13478. DOI:10.1038/s41598-018-31175-1
- Jankowski, K.J., L. Robinson, B. Lubinski, J. Kalas, A. Carhart and J. Ruhser. Using airborne thermal imagery and continuous monitoring to map the thermal landscape of the Upper Mississippi River. Upper Mississippi River Conservation Committee, Water Quality Task Force, March 2019.
- Maxson, K., L. Solomon, T. Bookout, S. DeLain, A. Bartels, M. Bowler, E. Gittinger, E. Ratcliff, J. West, J. DeBoer, A. Whitten, S. Love, R. Maher, M. Marron, A. Casper. 2019. Status and trends of Smallmouth Buffalo in the Upper Mississippi River System. Platform presentation, Annual meeting of the Illinois Chapter of the American Fisheries Society, Champaign, Illinois.
- Maxson, K., L. Solomon, T. Bookout, S. DeLain, A. Bartels, M. Bowler, E. Gittinger, E. Ratcliff, J. West, J. DeBoer, A. Whitten, S. Love, R. Maher, M. Marron, A. Casper. 2019. Status and trends of Smallmouth Buffalo in the Upper Mississippi River System. Platform presentation, Annual meeting of the Upper Mississippi River Conservation Committee, La Crosse, WI.
- Maxson, K., L. Solomon, T. Bookout, S. DeLain, A. Bartels, M. Bowler, E. Gittinger, E. Ratcliff, J. West, J. DeBoer, A. Whitten, S. Love, R. Maher, M. Marron, A. Casper. 2019. Status and trends of Smallmouth Buffalo in the Upper Mississippi River System. Platform presentation, Upper Mississippi River Restoration Long Term Resource Monitoring (UMRR-LTRM) Component Meeting, Muscatine, IA.
- Blackert, A.E., S.S. Leberg, M.C. Susen, E.E. Dix, A.L. Stanley, K.A. Maxson, A.M. Anderson, A.F. Casper. 2019. Ecosystem response to bigheaded carp harvest: zooplankton recovery following the 2016 and 2017 Unified Method in the HMS Pits. Poster presentation, annual meeting of the Illinois Chapter of the American Fisheries Society, Champaign, Illinois.
- Doyn Kellerhals, Levi Solomon, and Kris Maxson attended the annual meeting of the Upper Mississippi River Conservation Committee in La Crosse, WI.
- Doyn Kellerhals, Levi Solomon, and Kris Maxson attended the LTRM component meeting in Muscatine, IA
- Levi Solomon and Kris Maxson attended the annual meeting of the Illinois Chapter of the American Fisheries Society in Champaign, IL.
- Kris Maxson attended the workshop "Multivariate Analysis in Ecology (& Other Sciences), using PRIMER v.7" in Long Beach, CA.
- DeJa, M. D., A. T. Wieland, E. C. Boone, L. E. Solomon, J. A. DeBoer, A. K. Fritts, M. W. Fritts, R. M. Pendleton, T.D. VanMiddlesworth, and A. F. Casper. Effects of white grub parasite on Illinois River sportfish from three distinct habitats. Poster presentation at Illinois American Fisheries Society conference.
- Whitten, A.L., O.M. Mendenhall, L.E. Solomon, and A.F. Casper. 2019. Operational impacts of a water management structure on the surrounding fish communities in the lower Illinois River. Oral presentation at the Illinois Chapter of the American Fisheries Society, Champaign, Illinois. February 28.

- L. Solomon, K. Maxson, R. Pendleton, A. Casper, E. Lampo, C. Anderson, R. Anderson, and J. Lamer Long term trends and age structure of selected sportfishes in the La Grange Reach of the Illinois River. Oral presentation at Illinois American Fisheries Society conference
- MNDNR staff attended the UMRCC meeting in La Crosse, WI March 20-21, 2019
- MNDNR staff attended the MNDNR Region 3 South District Climate Change meeting in St. Paul, MN on March 6, 2019
- MNDNR staff attended the LTRM all hands meeting in Muscatine, IA March 26-27, 2019
- Eric Gittinger and Ben Lubinski attended the Illinois Chapter of the American Fisheries Society annual meeting in Champaign, IL. February 2019.
- Ben Lubinski, Eric Ratcliff, and Eric Gittinger attended a meeting of state and federal agencies to discuss water level management and the USACE Environmental Pool Management plan for Mississippi River Pools 24-26. The meeting ultimately resulted in a UMRR Science in Support of Restoration and Management project to evaluate fish response to EPM, titled Development of a standardized monitoring program for vegetation and fish response to Environmental Pool Management practices in the Upper Mississippi River System. October 2018.
- John Chick accepted the Prairie Rivers Network's Outstanding Public Servant Award for 2018 on behalf of all Illinois Natural History Survey staff doing river research. The award honors dedication and work towards the science of river protection and conservation and to advancing public understanding of the importance of the biological and ecological integrity of the Illinois' rivers. October 2018.
- Bowler co-authored poster presentation "Bluegill Habitat Use on the Upper Mississippi River" with Ethan Rutledge, Colby Gainer, Hae Kim, and Quinton Phelps of the University of West Virginia for the 79th Midwest Fish & Wildlife Conference in Cleveland, Ohio – January, 2019.
- Bales, Bierman, Bowler, and Kueter attended the 75th annual UMRCC meeting in La Crosse, Wisconsin – March, 2019.
- Bales gave update on Pool 10 outpool vegetation sampling for the Wildlife Technical Section at the UMRCC – March, 2019.
- Jeff Houser, Jim Fischer, and Marshall Plumley presented at the 62nd Annual Conference on Great Lakes Research, June 10-14, 2019, in Brockport, NY (<http://iaglr.org/iaglr2019/>).
- KathiJo Jankowski participated in a training class on ecological forecasting, based on a National Science Foundation funded Near-term Ecological Forecasting Initiative, July 28-August 2, 2019, in Boston, MA.
- Bouska, K. L., J. N. Houser, N. R. De Jager, M. Van Appledorn, J. T. Rogala. 2019. Applying concepts of general resilience to large river ecosystems: A case study from the Upper Mississippi and Illinois Rivers. Society of Freshwater Science. Salt Lake City, UT. 23 May 2019.
- Bouska, K.L. and M. Bowler. 2019. Estimating age-0 lengths of fish species from long term monitoring of the Upper Mississippi and Illinois Rivers. Mississippi River Research Consortium. La Crosse, WI. 25 April 2019.
- Kristen Bouska attended Wildlife Management and Climate Adaptation workshop, April 16-17, 2019 in Madison
- Mendenhall, O. M., L. E. Solomon, and J. T. Lamer. 2019. History of fish and vegetation monitoring at the Emiquon Preserve. Invited oral presentation at the North Central Division of American Fisheries Society Rivers and Streams Technical Committee, Milan, Illinois. April 3.
- Whitten, A. L., O. M. Mendenhall, L. E. Solomon, and A. F. Casper. 2019. Operational impacts of a water management structure on the surrounding fish communities in the lower Illinois River.

Invited oral presentation at the North Central Division of American Fisheries Society Rivers and Streams Technical Committee, Milan, Illinois. April 3.

- Jim Lamer, Kris Maxson and Levi Solomon attended the Mississippi River Research Consortium in La Crosse. April 24-26, 2019.
- Whitten, A. L., J. A. DeBoer, L. E. Solomon, A. K. Fritts, M. W. Fritts, R. M. Pendleton, T.D. VanMiddlesworth, and A. F. Casper. Playing to stay in the game: a sportfishes adaptive response to change. Platform presentation, Mississippi River Research Consortium
- Deja, M. D., A. T. Wieland, E. C. Boone, L. E. Solomon, J. A. DeBoer, A. K. Fritts, M. W. Fritts, R. M. Pendleton, T.D. VanMiddlesworth, and A. F. Casper. Effects of white grub parasite on Illinois River sportfish from three distinct habitats. Poster presentation, Mississippi River Research Consortium
- Whitten, A.L., O. M. Mendenhall, L. E. Solomon, and A. F. Casper. 2019. Operational impacts of a water management structure on the surrounding fish communities in the lower Illinois River. Oral presentation at the 13th Annual Emiquon Science Symposium, Lewistown, Illinois. May 8.
- Deja, M. D., A. T. Wieland, E. C. Boone, L. E. Solomon, J. A. DeBoer, A. K. Fritts, M. W. Fritts, R. M. Pendleton, T.D. VanMiddlesworth, and A. F. Casper. Effects of white grub parasite on Illinois River sportfish from three distinct habitats. Poster presentation at the 13th Annual Emiquon Science Symposium, Lewistown, Illinois. May 8.
- Mendenhall, O. M., J. T. Lamer, and L. E. Solomon. 2019. Pulling the plug: Reflecting on changes of species abundance and composition. Oral presentation at the 13th Annual Emiquon Science Symposium, Lewistown, Illinois. May 8.
- Solomon, L., K. Maxson, O. Mendenhall, and A. Casper. Progression of the Fish Community at the Nature Conservancy's Merwin Preserve. Invited Platform presentation at the 13th annual Emiquon Symposium
- Maxson, K., L. Solomon, T. Bookout, S. DeLain, A. Bartels, M. Bowler, E. Gittinger, E. Ratcliff, J. West, J. DeBoer, A. Whitten, S. Love, R. Maher, M. Marron, A. Casper. 2019. Status and trends of Smallmouth Buffalo in the Upper Mississippi River System. Invited Platform presentation, Upper Mississippi River Restoration Coordinating Committee UMRR-CC, St Louis MO
- Blackert, A.E., S.S. Leberg, M.C. Susen, E.E. Dix, A.L. Stanley, K.A. Maxson, A.M. Anderson, A.F. Casper. 2019. Ecosystem response to bigheaded carp harvest: zooplankton recovery following the 2016 and 2017 Unified Method in the HMS Pits. Poster presentation, Mississippi River Research Consortium. La Crosse, WI.
- Blackert, A.E., S.S. Leberg, M.C. Susen, E.E. Dix, A.L. Stanley, K.A. Maxson, A.M. Anderson, A.F. Casper. 2019. Ecosystem response to bigheaded carp harvest: zooplankton recovery following the 2016 and 2017 Unified Method in the HMS Pits. Poster presentation, annual Emiquon Symposium, Lewistown, Illinois.
- Bierman and Bales attended the UMRR HREP workshop in Dubuque, Iowa – May, 2019.
- Bierman gave presentation entitled "Integrating HREP and LTRM: Examples and Ideas" at the UMRR HREP workshop in Dubuque, Iowa – May, 2019.
- Bales attended the UMRR water level management workshop in Dubuque, Iowa – May, 2019.
- Bales and Bierman attended the Lower Pool 13 HREP Kickoff Planning Charette in Thomson, Illinois – May, 2019.
- Molly Van Appledorn presented at the 6th Biennial International Society for River Science Symposium September 8 - 13, 2019. Molly delivered an oral presentation co-authored with Nathan De Jager (UMESC) and Jason Rohweder (UMESC) entitled, "Characterizing inundation regimes in space and time to inform floodplain forest management in the Upper Mississippi River System, USA."

- Jennifer Sauer attended the 8th Annual Meeting of the Mississippi River Cities and Towns Initiative (MRCTI), September 17-19, 2019, in Memphis, TN (<https://www.mrcti.org/>).
- Jayme Strange gave a presentation on the development and use of the Upper Mississippi River System's bathymetry data, at a USGS and NOAA inland bathymetry workshop, September 17-18, 2019, in Tuscaloosa, AL.
- Kristen Bouska presented on the development and application of ecological indicators of general resilience for the Upper Mississippi River System, at the Lower Mississippi River Conservation Committee's (LMRCC) Annual Meeting in Memphis, TN, September 16-18, 2019.
- Molly Van Appledorn gave an invited seminar, "Floods and forests: disentangling complex eco-hydro-geomorphic relationships in bottomland ecosystems," September 30, 2019, at the Winona State University's Department of Geosciences, Winona, MN.
- Andrew Strassman presented on Upper Mississippi River (UMR) bottomland forest GAP mapping, at the Restoration Forestry Guild Gathering: Bottomlands, Bluffs, and Birds, September 24-25, 2019, in La Crosse, WI. The presentation reviewed how UMESC scientists are using lidar data and imagery to create a forest gap layer on select pools of the UMR to assist U.S. Army Corps of Engineer foresters with forest monitoring and restoration management decisions.

#### **Technical activities and assistance:**

- Kristen Bouska attended Earth Science Women's Network Leadership Training, October 2018
- Herzog, D. Reviewed Asian carp planning document with Kevin Meneau and Lynn Schrader to develop impediment to floodplain lake
- Herzog, D. Participated on Asian carp working team to edit permitting document for Asian carp disposition.
- Herzog, D. Spoke with Kasey Whiteman about collective/collaborative sampling between field stations programs for data consistency with Missouri's Big Rivers
- Herzog, D. Met with SE regional fisheries staff to discuss alligator gar and grotto sculpin projects.
- Herzog, D. Met with Southeast Regional Coordinating Team and volunteered for Ozora sampling station lead for mandatory sampling.
- Bales assisted Maquoketa Wildlife Unit staff with CWD collections in Delaware and Dubuque Counties – December, 2018.
- Nathan De Jager and Molly Van Appledorn participated in the Upper Mississippi River Regional Forestry Meeting, November 27-29, in Pleasant Valley, IA. The U.S. Army Corps of Engineers facilitated the annual meeting to coordinate forestry activities and research projects on federal lands along the Upper Mississippi River (UMR).
- Molly Van Appledorn participated in the UMRS Geomorphology Workshop in La Crosse, WI, November 14-15, 2018.
- Molly Van Appledorn participated in an Adaptive Silviculture Workshop, March 25-26, 2019, in Minneapolis, MN. Attendees discussed the state of the science on climate-adapted forest management techniques, especially as they might apply to floodplain forests of the Mississippi National River and Recreation Area (MNRRA).
- Molly Van Appledorn attended the annual UMRCC meeting (March 19-21, 2019) and delivered an invited oral presentation on changing flooding patterns of the UMRS entitled, "Putting the Flood in the Floodplain: detecting changing patterns of inundation in the Upper Mississippi River."

- Wisconsin DNR hosted the 75th annual UMRCC meeting in La Crosse, and LTRM staff were involved in many facets of meeting planning and execution.
- Levi Solomon and Kris Maxson helped Sarah King (UIUC) retrieve her acoustic receiver array as part of her gar telemetry project.
- Levi Solomon and Kris Maxson provided freshwater drum, collected through routine LTRM sampling, to Hudman Evans for ongoing graduate research on black carp.
- Levi Solomon served on Search Committee for IRBS field station Director and LTRM Team Lead
- Levi Solomon provided data from ongoing silver carp age/growth project (SOW 2018B6) to Jan Hoover, USACE, for presentation at the Mississippi state American Fisheries Society conference.
- Steve and Chris began removing the otoliths of bluegill and perch to age the fish for a pilot diet study. Steve consulted with other MNDNR fisheries staff on the sexing of smaller yellow perch, and plans to send YOY Yellow Perch to MN DNR researchers. Age, length and sex will be examined to see if yellow perch are maturing at age 0. This work is being done statewide and will help verify what is going on in lower Pool 4.
- Eric provided information and data on methods for estimating emergent plant cover to Shawn Giblin (WI DNR) on October 8th.
- Eric completed spatial analysis and review of slides in support of presentation to be given at West Lakes Division of the American Association of Geographers (WLDAAG) annual meeting in early November (Drake and Lund).
- Eric attended Integrated Spatial Design workshop (held in Portland, OR) via webex on October 23rd
- Eric collaborated with LTRM staff and drafted a proposal to conduct aquatic vegetation sampling over a three-year period on the Illinois River in order to determine whether proposed 2020 lock closures promote growth of submersed or emergent plants.
- Megan provided review and comment to the UMRR program's communication plan.
- Megan participated in quarterly UMRBA and UMRR CC meeting in St. Paul, MN on October 30-31. After these meetings there was an add-on meeting regarding HREP sequencing with all UMR partnership agencies.
- Chris and Steve collected more bluegills and perch to continue their pilot study effort to determine diet of these two species in the backwaters of Pool 4. They finished processing (age, sex and diet) the samples and began statistical analyses.
- Eric completed peer review of draft paper "Mapping the thermal landscape of the Upper Mississippi River: Completion Report," by KathiJo Jankowski, Larry Robinson, John Kalas, Alicia Carhart, Brian Lubinski, and Janis Ruhser. Submitted to USGS (Lowenberg) on January 14th.
- Rob presented zooplankton-sampling techniques from a prior study to LTRM water quality staff at the All-Hands meeting in Muscatine, IA on March 26.
- Steve presented results from the fish diet study pilot project to the fish component staff at the LTRM All-Hands meeting in Muscatine, IA on March 26.
- Eric and Megan attended several Illinois Waterway (IWW) monitoring planning conference calls (Feb 8, & 14th, and March 14). They attended an in-person meeting in Muscatine, IA on March 27. Eric facilitated collaboration with USGS geospatial branch staff (Dieck, Strassman, Hop) re: vegetation study proposals and participated in conference call on March 28th.
- Eric collaborated with LTRM staff (Drake and Jankowski) on potential monitoring of barge impacts on water quality within vegetation study framework of the IWW monitoring effort.
- Megan participated on a UMRR program's communication plan conference call with Corps of Engineers, WI DNR and UMRBA staff on Jan 24th.

- Megan attended the UMRR HREP selection process meeting in Muscatine, IA March 27-28, 2019.
- Megan attended in a UMRR External Communications Meeting on February 27 in Dubuque, IA.
- Megan attended A-team meeting on Feb 6th.
- Eric Ratcliff provided the Riverlands office of the USACE with LTRMP data regarding softshell turtle trends in Pool 26. December 2018.
- Bales served on Fisheries Statewide committee – January-February, 2019.
- Bales served as secretary/treasurer of Iowa AFS and assisted with setting up Iowa Chapter’s annual meeting – January-March, 2019.
- Bales served as webmaster for Iowa AFS, Fisheries Management Section, and Student Subsection of the Education section, updating and maintaining each site – January-March, 2019.
- Bierman participated in several conference calls regarding Iowa DNR’s involvement in UMRBA’s “Clean Water Act Southern Pilot Study” in Pools 18 and 19 – January – March, 2019.
- Bowler compiled sauger and walleye historic night electrofishing, tailwater sampling records (LTRM Pool 13; 1993-2001) for Bellevue Research – January, 2019.
- Bowler compiled and provided geo-referenced records of threatened and endangered fish species in Iowa collected in 2018 from Pools 9, 10, 12, 13, 16, and 18 for Kelly Poole, Iowa endangered species coordinator of the Des Moines office – February, 2019.
- Bowler compiled and provided geo-referenced records of threatened and endangered fish species in Illinois collected in 2018 from Pools 12, 13, 16, and 18 for Tara Kieninger (Heritage Database Program Manager for the Illinois Department of Natural Resources) and Jeremy Tiemann of the Prairie Research Institute in Champaign-Urbana – February, 2019.
- Bales assisted the joint Coolwater and Mid-Continent Warmwater Fish Culture Workshops planning committee – February, 2019.
- Bales attended a webinar on Hatchery Design – February, 2019.
- Bales reviewed and provided comments on the Lake Sturgeon chapter for the UMRCC Fisheries Compendium – February, 2019.
- Bales lead the Early Career Professional Committee conference call discussing AFS 2019 in Reno, Nevada – February, 2019.
- Bales participated in conference call for reviewing AFS Hutton applications – February, 2019.
- Bales participated in webinar on WOTUS – February, 2019.
- Bierman participated in the quarterly FWIC/OSIT meeting webinar – February, 2019.
- Bowler calculated length parameters of shovelnose sturgeon populations in the Cedar River (Study 7047) for Bellevue Research – March, 2019.
- Bales became the vegetation committee chair for the Wildlife Technical Section of the UMRCC – March, 2019.
- Bales participated in hybrid watermilfoil workshop on skype – March, 2019.
- Kristen Bouska taught the macroinvertebrate portion of the Environmental Explorers camp hosted at UMESC (June 26)
- Levi Solomon and Kris Maxson hosted and led a training on LTRM style sampling for upcoming lock closure project on the Illinois River. Included discussion of methods, rationale, and tips to assist in efficient field sampling, data collection, and data management and included Illinois DNR, FWS, and USACE.
- Levi Solomon provided photos and video to Rich Pendleton, NY DEC, for upcoming presentation about invasive silver carp in New York.

- Kris Maxson and Levi Solomon provided silver carp to Tony Breitenbach, Illinois State University, for bait for hoop netting for ongoing turtle sampling program.
- Kris Maxson and Levi Solomon provided silver carp to Tih-Fen Ting, University of Illinois-Springfield, for bait for ongoing osprey reintroduction program.
- Bowler sent multiple UMR fisheries reports to Mary McCann, Senior Aquatic Scientist, for HDR Inc. in Salem, Oregon – April, 2019.
- Bowler reviewed and edited 4th edition of the UMRCC Fisheries Compendium – April, 2019.
- Bales assisted Green Island Wildlife with spring spotlight surveys in Delaware County, Iowa – April, 2019.
- Lamey and Nayers assisted Bellevue Research with collections of shovelnose sturgeon from the Cedar River – May, 2019.
- Bowler compiled and sent centrarchid fyke netting CPUE summaries and bluegill mortality estimate histograms (Pool 12 Overwintering; 2018) to Bellevue Research for an annual report – May, 2019.
- Bowler provided walleye CPUE analysis of wingdam electrofishing (Kruskal-Wallace; LTRM; 1994-2018) in Pools 8 and 13 to evaluate pre-and-post slot limit regulation changes in Iowa for Bellevue Research – May, 2019.
- Bowler entered 2018 incidental turtle catches from Pool 13 into master dataset – May, 2019.
- Bowler calculated and summarized mean length-at-age of bluegill (Overwintering; Pool 12; 2006-2018) for Jeff Janvrin of the Wisconsin DNR – May, 2019.
- Bowler generated and plotted random sampling points in ArcView for Special Projects Outpool sampling in Pool 16, 2019 – May, 2019.

## Outreach

- Fulgoni, J. Silver carp demonstration – assisted Sara Tripp at a Silver carp fry and filleting demonstration at the St. Louis Science Center.
- Herzog, D. P. September 29, 2018. SEMO Ichthyology class trip intro to Big River Fishes. Cape 20 attendees
- Herzog, D. P. August 10-11, 2018. Floating the River. Cape. 70 in attendees
- Herzog, D. P. August 17, 2018. Ag Leaders of Tomorrow. George O White nursery. 50 in attendees
- Herzog, D. P. September 14, 2018. SEMO District Fair. Cape. 5000 attendees
- Bierman assisted USACE and Iowa DNR Maquoketa Unit Wildlife staff with a tour of the Maquoketa/Mississippi River confluence area focusing on the ecological benefits of floodplain connectivity for a group attending the 11th annual Upper Mississippi River Conference – October, 2018.
- Molly Van Appledorn participated as a panelist at the Western Lakes Division - American Association of Geographers meeting in La Crosse, WI, Nov 1-2, 2018 in a session exploring geography careers in federal government agencies.
- Andy Bartels cataloged almost 300gb of video of Pool 8 LTRM activities and produced a revised LTRM sampling video that is used for education and outreach opportunities
- Andy Bartels presented "Careers in Natural Resources" to two advanced biology classes at Holmen High School in late January.
- Molly Van Appledorn served as a judge at the Southeast Minnesota / Western Wisconsin Regional Science and Engineering Fair held at Winona State University, February 22, 2019.



- Jankowski, K.J. Human impacts on river systems: Stories from the Mississippi and the Amazon. Macalester College, St. Paul, MN, Nov 2018. (Invited)
- Interview, Wisconsin Public Television “Wisconsin Life” Special on Upper Mississippi River Restoration Program, November 2018
- Appointed as committee member for Jeff Hendersen, UW-La Crosse; mentoring on large woody debris project.
- Doyn Kellerhals participated in the 2019 Fulton-Mason County Eagles and presented a booth of water quality activities for children and adults at the Dickson Mounds Museum in Lewistown, IL.
- Steve brought out Noah Devan from Lake City high school for a job shadow experience. Noah assisted with electrofishing that day. Steve talked with Noah about different college options in natural resources and course work requirements for natural resource jobs.
- Steve submitted an abstract for the MRRC conference, (held in April); Diet composition of Bluegill and Yellow perch in Three Backwater Lakes in Lower Pool 4 of the Upper Mississippi River, 2018
- MNDNR staff assembled a presentation exploring impacts of climate change using LTRM data in combination with other data sources to MNDNR Region 3 South District team at their March 6, 2019 meeting. The title of the presentation was “Long –Term Ecological Trends on the Mississippi River: Climate Change, Hoax or Something Else?”
- The Great Rivers Field Station held an open house meet and greet for Illinois Representative Monica Bristow (111th District), Illinois State Senator Rachelle Aud Crowe (56th District), and Illinois DNR Staff. March 2019.
- Bowler gave an overview of the Bellevue LTRM field station and the UMRR program, and the programmatic effects of the government shutdown to Jennifer Lu of the La Crosse Tribune – January, 2019.
- Kueter gave environmental careers talk at Marquette Catholic School in Bellevue, Iowa – March, 2019.
- Bowler made maps of flathead catfish capture locations (LTRM Pool 13; 1993-2018) for local angler – March, 2019.
- Levi Solomon and Kris Maxson participated in the Clean Water Celebration at the Peoria Civic Center on April 29, 2019.
- Levi Solomon hosted TOT TIME! at Dickson Mounds Museum. Included demo of live fish for ~50 local toddlers, small children, parents, and grandparents.
- Jim Lamer and Levi Solomon and were interviewed by WMBD news out of Peoria, Illinois. A news crew came through Havana to view flooding and saw field station staff building the flood wall to protect our field station from rising waters. The interview covered recent flooding, discussion of how our flood wall works, and how fishes benefit from flooding and respond to seasonal flood events.
- Bowler gave phone interview on the potential impacts of Mississippi River flooding on fish and wildlife populations to Ally Hinga of the Dubuque Telegraph Herald – May, 2019.