UMRR Analysis Team Meeting April 25, 2018
La Crosse, WI

Attendance: (* indicates phone attendance)

A-Team Reps:
Shawn Giblin - WI
Scott Gritters – IA*
Rob Maher – IL*
Nick Schlesser - MN
Matt Vitello - MO
Steve Winter - USFWS

USGS:
Jeff Houser
Jennie Sauer
Kristen Bouska
KathiJo Jankowski
Jim Rogala
Teresa Newton
Molly Van Appledorn
Andrew Strassman
Faith Fitzpatrick*

USACE:
Karen Hagerty
Kjetil Henderson
Dave Potter
Jon Hendrickson
Andy Meier
Marshall Plumley
Marv Hubbell*
Kat McCain*

MN:
Megan Moore

WI:
Jim Fischer
John Kalas
Deanne Drake*

IA:
Dave Bierman

IL:
John Chick

MO:
Dave Herzog
Molly Sobotka

Time and place for next meeting: Matt Vitello will send out Doodle Poll for dates near the first week of August to determine date. Meeting will be webinar only.

Approval of October Minutes: Approved minutes.

UMRR Update (Marshall P.): Funding: FY17 received a plus-up to full authorization for $33.17 million. In FY18 we received full authorization which did not require a plus up. That demonstrates that both chambers of Congress see value in this program. FY18 dollars include regional administration of the program across all three districts ($1.1M), Regional Science and Monitoring ($9.3M - LTRM base funding, science in support of rehabilitation and management, habitat evaluation, HNA 2), and District HREPs ($22.8M). FY 19 PBUD has the program at full authorization again. FY18 Monitoring and Science – 2 SOWs in FY18 for fully funded LTRM element at $5.75M and additional $2.15M for science.

HREP Projects: 56 Projects completed by the program to date benefitting 106,000 acres.

- Rock Island District:
    - Projects in Planning/Feasibility: Beaver Island – plan to get to construction this year. Keithsburg – draft feasibility report under review at Division, plan to have out for public review in May with a final in August timeframe. Steamboat Island – in initial planning phase, partners with USFWS and State of Iowa, held open house in March in Iowa, approximately 100 people in attendance and additional attendees on Facebook Live.
    - Projects in Construction: Huron Island – awarded contract and on schedule to complete construction in 2019, Pool 12 – scheduled to complete in 2019
- St. Louis District:
    - Clarence Cannon – in construction with planned completion in 2019. Piasa/Eagles Nest – Feasibility due to be complete at end of FY18. Crains Island – several months ahead of Piasa/Eagles nest, hoping for potential construction in 2019
- St. Paul District:
    - Conway Lake – in contracting process hoping to resolve this summer. MacGregor Lake – in feasibility, ongoing discussions with partners, anticipating feasibility report this summer. Harpers Slough – nearing construction completion

Have asked the river teams to identify new HREPs for evaluation to carry through until 2020. St. Paul and St. Louis have each identified 1 project and Rock Island has 3 projects to take to the RRCT on May 2nd. These recommendations will be brought to the UMRR CC at the May 16 quarterly meetings for endorsement to forward fact sheets to Division.

FY18 Science Proposals:

Opening Questions:

- How much money is there to allocate to the science projects?
    - Maximum of $2.15 million available
- There are several projects that rely on other portions of a project, or a subset of another portion of a project. How do we rank these taking that into consideration? It is clear on the fish that the vital rates need to take place for the other parts. It's less clear on others, for instance the woody debris.
    - The woody debris was broken into two options, one option removed a portion of the project, otherwise they are identical.
    - The hydrogeomorphic projects are all independent. If they all occur there is a link between them, but they can occur independently

WG1: Conceptual Model and Hierarchical Classification of Hydrogeomorphic Settings in the UMRS

- There is a planned workshop in the proposal, is there a budget for the workshop?
    - Yes, there is a budget for the travel and participants

WG1: Develop a better understanding of geomorphic changes through repeated measurement of bed elevation and overlay of land cover data.

- What is the +/-, the range variability that can be measured?
    - Dependent on multiple things: Equipment can get within ½ a foot, but there is some spatial error with water surface elevation
- You have 25 established transects in the upper pools, but won't have as many in the lower pools, correct?
    - Yes, there aren't as many backwaters in lower pools
- Are there quantitative metrics for island dissection?
    - The ability to detect change is based on what has been seen in deltas, but more complicated for islands. Will be more confident in measures in lower portions of pools where water level fluctuates less.

WG1: Water Exchange change in UMRS Channels and Backwaters, 1980 to Present.

- Does the same data planned to be used for this exist in Rock Island or St. Louis Districts?
    - Don't believe so. Was discussed in winter workshop, data that does exist is limited in extent and frequency. Most of the HREPs and navigation projects in St. Paul have been focused on altering water exchange rates, so that was important data to gather. Through the 90s/early 2000s we saw the water exchange rate increasing but lately we've seen a tapering off.

WG2: Understanding constraints on submersed vegetation distribution in the UMRS: the role of water level fluctuations and clarity

- Is dam operation, hinge point vs. dam point, taken into consideration?
    - Yes, daily stage data will be used, most pools have multiple gages, areas between gages will be interpolated, so management differences should be captured in the daily stage data.
- Short term large magnitude fluctuations are more critical than seasonal max to min change, will the short term changes be captured?
    - Yes, the SAV band for each year will be generated by the daily stage data. 20 years of data will provide 20 SAV bands that will capture how it fluctuates through time.
- Will the transparency data collected at the dams be included too?
    - It will be looked at to see what best option for water clarity parameter is. Leaning towards TSS currently.
- Why were Pools 1 and 2 excluded?
    - The proposal was revised and Pools 1 and 2 are being included. Text was legacy from previous documents.

WG2: Effectiveness of Long Term Resource Monitoring vegetation data to quantify waterfowl habitat quality

- Proposal was unclear how data would be used to formulate projects or inform HREP selection. It certainly could be used to evaluate habitat quality. Limiting analysis to main channel strata excludes potential areas in lower pools and open river that could support vegetation.

    - Sampling would be done in the lower impounded strata, in Pool 4 samples would be done in backwater contiguous strata. We understand the geographic limitations, but that is the only place where this data exists and where LTRM is expending effort. This information could be utilized in the future in other reaches if vegetation were to be established.
    - For selecting project sites, this could be used by looking at distribution of kilocalories across impounded reaches and using that to design project features to preserve those kilocalories or identify areas lacking in kilocalories.
- LTRM habitat data is often tied to fisheries, but that is not done for other biota. This is a step to apply the LTRM habitat data to another biota, waterfowl.

WG2: Part A: Intrinsic and extrinsic regulation of water-clarity over a 950-km longitudinal gradient of the UMRS, Part B: Does nutrient supply limit algal growth and suspended particle quality, and ultimately drive water clarity in the UMRS?

- This was split, though they deal with the same issue, they are separate studies. Part A can be done with retrospective data, while Part B informs Part A but requires experimental component. Can be funded separately.
- Could you include/consider predatory fish biomass as an intrinsic indicator?
    - Yes, concentrated on carp because over time this was biggest component of fish biomass, but we would be happy to include fish predators.

WG3: Systemic analysis of hydrogeomorphic influence on native freshwater mussels

- Was open river considered?
    - Didn't consider open river, but original draft did consider Pool 26. Wanted to leverage existing data from all LTRM pools. Because of the complexity of diving in Pool 26 main channel not feasible. If Pool 26 were done while excluding main channel it would not be comparable to other pool data.

WG4: Dendrochronology

- With the choice of old growth pecan stands, are they in leveed areas or exposed to flood conditions?
    - Stands were exposed to regular flooding to the extent that their elevation allowed.
- Why the choice of northern pecan?
    - Representative of hard mast community and site characteristics of hard mast communities. Pecan not present in St. Paul but the conditions similar to other hard mast species in St. Paul. St. Paul was not included because of existing agreement with University doing dendrochronology work that is comparable.

WG4: Reforesting UMRS forest canopy

- Is there duration of study long enough to address countermeasures being analyzed? How generalizable are the study results across sites?
    - Study is designed as a management application to Japanese Hops but would be applicable to other invasive species across the system. Treatments would be reproducible in different areas because sites susceptible to invasive will have similar characteristics.

WG5: Woody Debris in the Upper Mississippi River System: its quantity, distribution, and ecological role

- Option 1 is full study, including spatial distribution work, comparison with fisheries data and experimental placement. Option 2 has experimental placement removed.
- How does this snapshot of woody debris help us considering the mobility of woody debris? What would we do with this data to inform project design?
    - 2 components of snapshot: the distribution data collected with sonar layered on to additional data from the visual surveys. Hope to use to calibrate past data. Transport is a more difficult question, this would be a first step towards understanding where debris is, where it accumulates and identify sources and sinks.
    - This information would provide more data about how and if fish are using woody debris, potentially informing the need for placement in habitat projects or project configuration to accumulate wood.
    - The experimental placement of wood would inform what is the ecological role of woody debris, is it attracting insect biomass, growing periphyton?
- Are there regulatory concerns with removing wood from the floodplain?
    - This project does not plan to move debris.
- As emerald ash borer recruits in the next 20-30 years we will see a lot more woody debris as trees die off. It will be important to understand where that would is going and if it can be beneficially used.

WG6: Investigating vital rate drivers of UMRS fishes to support management and restoration

Vital Rates:

- Some fish species have already been collected (freshwater drum) but are included in this study to be collected again. Are there ways to reduce the number of fish being collecting and still get vital rates for the abiotic and biotic relationships? From a cost-benefit standpoint?
    - At this point drum and carp are the only species that have been collected at a systemic scale. We may be able to use previous year datasets coupled with this data to provide more insight. The more years of data will increase the precision of estimated rates.
- The proposal lists 2 graduate students over four years, so 4 graduate students total. Is there something we could be looking at to streamline?
    - The relative number of products that can be produced by 2 graduate students will be more informative on a systemic scale in terms of age and growth of species.
- Why were largemouth bass not included for pools 4, 8, and 13?
    - That was a culling issue. Removing that many largemouth bass would be frowned upon. Also very ecologically similar to bluegill which are already included. We can add it in to the study if the field stations are ok with that.
- There may be some wildlife collector permit issues that need to be resolved for transporting fish to West Virginia.
- Is there potential to use the gill structures from these fish to look for encysted mussels?
    - That was discussed. Theresa and Mike Davis were evaluating alternate funding mechanisms to look at those.

WG6: Microchemistry:

- Thinking about connectivity. It'd be really valuable to know if certain tributaries are serving as nursery areas for fish or mussel species.
    - Microchemistry component is focused on natal environments. The question is about the resolution of the data. Much of the current data is focused lower in the watershed so it is unclear whether we will be able to detect certain tributaries.
- The microchemistry work is beneficial for the highly mobile species, but if we don't have fine resolution for a species that only moves 3-4 miles its entire life is it worth the effort to analyze those species.
    - We often assume that some species are not highly mobile but previous efforts have seen more movement than expected.
- How much work has been done to analyze the strontium/calcium ratios? Are the gradients large between tributaries?
    - It's variable. Certain tributaries have high ratios. Other tributaries do have unique markers. We may have to use additional markers other than Sr:Ca. There currently is not a lot of data from the upper reaches.
- How much water quality samples are needed and will they be collected?
    - Water quality samples will be collected alongside the fish sampling throughout the year to expand the dataset.

WG6: Genetics:

- Thinking about propagation programs across the system. Do we have those and are we molding that into the equation to evaluate contributions of the propagation programs?
    - Not for these species. We may be able to see some outliers that could be hatchery stock that have migrated from tributaries or were historic stockings.
- Curation of the genomic material needs to be built into that so future advances in genomics can be used to re-evaluate if necessary.

Final rankings of science proposals were displayed based on averaged scores of agency rankings. WI expressed concern that the proposals from WG1 ranked low, especially the Conceptual Model and the Water Exchange proposals. Discussions on ranking methodology, why some proposals were ranked lower by some agencies, and what could be included based on available budget. It was determined to leave the rankings as they were and allow agencies time to review the rankings and provide feedback for consideration by the LTRM Management Team in the final decision of proposals to fund.

Discussion about need to re-evaluate the Proposal Ranking worksheet and revise if necessary. Will be included as an agenda item at future A-team meeting.

Adjourn