

**UMRR Analysis Team Meeting October 3, 2018**  
**Dubuque, IA**

Attendance:

A-Team Reps:

Shawn Giblin - WI  
Scott Gritters – IA  
Rob Maher – IL  
Nick Schlessler - MN  
Matt Vitello – MO

Elizabeth Bruns  
Nicole Manasco  
Travis Schepker

IA:

Dave Bierman

USGS:

Jeff Houser  
Jennie Sauer  
Kristen Bouska

MO:

Jessica Fulgoni  
Molly Sobotka

UMRBA:

Lauren Salvato

USACE:

Karen Hagerty  
Kat McCain  
Kjetil Henderson  
Marshall Plumley

Met Council:

Erik Herberg  
Hong Wang

**Time and place for next meeting:** Meeting will be webinar in January/February timeframe. (Request was made to have face-to-face meeting to discuss

**Approval of April Minutes:** Approved minutes.

**UMRR Update:**

- UMRR CC meeting coming up October 31.
- Keithsburg division HREP – recently held public meeting to discuss project. Had good turnout from public and received a lot of good feedback.
- FY18: fully funded at \$33.17 million. Obligated 99% of the funds. Appreciate everyone’s hard work in making this execution rate possible. 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: Have a budget as of October 1. Did receive full authorization of \$33.17M FY19 plan: Region administration \$1.1M, Regional science and monitoring \$10.3M, HREPs \$21.7M. This is subject to change.
  - o LTRM + Science – \$8.67M - Base SOW is completed (\$4.92M); analysis under base SOW being drafted (\$1.25M) (total LTRM is \$6.17M). Science in Support of Restoration and

Management will include funding for LC/LU. Additional science proposals will be requested. Total additional funding \$2.5M

- HREP Projects: 56 Projects completed by the program to date benefitting 106,000 acres.
  - o Rock Island District:
    - Keithsburg - accelerated project by 1.5 month to get Feasibility report to Division office for approval, should get approval this month, hope to get construction project awarded in FY19; Steamboat Island – team has developed final array of alternatives and will begin cost/habitat benefit analysis, TSP in January/February timeframe; Beaver Island – groundbreaking delayed due to construction contract protest process
  - o St. Louis District:
    - Piasa/Eagles Nest – report approved by Division office, moving into design stage; Clarence Cannon – several construction projects underway, contract was awarded in September
  - o St. Paul District:
    - MacGregor Lake – scheduled to begin public review this month
- HNA 2 – document is approaching completion. Review complete last week. Will seek UMRR CC endorsement at Oct. 31 meeting
- Working with communications team and UMRR CC to develop a programmatic communications plan. Idea to develop how we communicate the program to stakeholders and decision makers as a partnership.
- Discussions ongoing to have an HREP Workshop. There will be an element on integrating LTRM and HREPs together. The HREP Workshop has been scheduled for May 6 – 8 in Dubuque.

#### **LTRM Update:**

- Quarterly Products:
  - o *Feasibility of using UMRR land cover to map delta formation in backwaters of the UMR.* Rogala and Hansen. Recent completion report. Methods development and testing to evaluate using LC/LU data to assess delta formation in off channel areas of the main river. Looking at transitions from aquatic classes to willow communities was a consistent indicator of where deltas are forming. Expanding this work for a project funding in 2018 for geomorphic change.
  - o *Experimental and Comparative approaches to determine factors supporting or limiting submersed aquatic vegetation in Illinois River.* Looking at where aquatic veg still exists and what characteristics are associated with its presence/absence. Most vegetation is in Dresden reach.
  - o *State-level Freshwater Mussel Programs.* Non-LTRM but may be of interest. Work Kristen Bouska did prior to joining LTRM. Survey of states work regarding mussels and a research framework to aid in mussel management and conservation.
  - o *Large wood distribution and effects on fish community in the UMR.* Not a report, but work that was conducting in summer 2018. UW-La Crosse undergrad research. Used

LTRM woody debris and fish data. Looking at distribution of large woody debris as presence/absence and at differences in fish community in sites with wood and without. Will be developing two manuscripts

- UWL submitting more grant proposals to continue this kind of work. Next proposal is Ecological Modeling of the UMR
- Work underway from FY18 funds
  - LTRM veg data to quantify habitat quality
    - Veg sampling done in Pool 4, 8, and 13
    - Graduate student has been meeting with UMESC to discuss methods and details
    - Sediment core sampling occurring between September 24 – October 12
  - Fisheries Vital rates
    - Collected a lot of fish this summer. Midway through period 3. Low on bullhead minnow samples, going to take what we can get.
    - Water chemistry being collected.
    - Also collecting genetics opportunistically although that portion wasn't funded.
  - Geomorphic Change
    - Begun initial work on setting permanent benchmarks to set transects.
- LTRM WQ Analysis Lab
  - We do have additional capabilities that if desired
  - New Equipment
    - ICP-OES Machine (Inductively Coupled Plasma – Optical Emissions Spectrometry) – can measure lots of different parameters
- If you aren't on the LTRM Distribution List for completion reports, let Jeff or Jennie know.

### **Resilience Assessment**

- Broad Goals of Resilience Assessment
  - Improve understanding of the resilience of the system and how resilience concepts apply to the system to inform how management and restoration can influence resilience
  - Develop potential indicators of resilience and identify areas of uncertainty
- Relied on some guidance documents to begin assessment – Resilience Adaptation Transformation Assessment Procedure – used this framework as a roadmap. Main elements:
  - System Description: synthesizing how we understand the system to function, how it has changed over time, and social aspects of what people value in the system
    - Manuscript published earlier this year: *Developing a shared understanding of the Upper Mississippi River: The Foundation of an Ecological Resilience Assessment*
  - Assessing the System. Element B2 in framework – General Resilience – properties that confer capacity to deal with environmental change (meshed well with HNA 2 efforts). Properties: diversity and redundancy in the biotic and abiotic community; manage connectivity; manage controlling variables that underlie the structure of the system
    - Developed a series of indicators, some are in HNA. Ten indicators total. Manuscript in review.

- Next steps/Working on currently
  - o Element B1 in framework: describing potential alternative regimes that are plausible to exist in the system
    - What are the potential states? What are the drivers of change between states? Are the drivers changing in a direction we need to be aware of? How far from a threshold are these drivers? How does this information help us decide how to select restoration projects?
    - Conceptualizing Regimes (3 regimes focusing on)
      - Lentic: Clear vegetated state to a turbid and sparsely vegetated state
      - Lotic/lentic: diverse native fish community state to an invasive dominant state (carp)
      - Floodplain: diverse floodplain forest state to reed canary grass dominant state
- Resilience group call on October 16
- Longer term
  - o Linking specified resilience to understand HREPs influence indicators
  - o Synthesis of all work to influence/inform how we manage the system

### **UMRBA WQ Efforts**

- Two Water quality work groups within UMRBA – directly relate to state’s CWA responsibilities on MS River
  - o WQ Task Force – technical level
  - o WQ Executive Committee – Policy level decisions
- Current efforts
  - o Chloride
    - Understanding each state’s efforts related to chloride. Current standards, what monitoring and assessment is occurring, as well as TMDLs in each state.
    - Main sources: road salt application and household water softeners
  - o Nutrient Reduction Strategies
    - Comparing each of the states. Different methods of calculating baselines. How each state is implementing the strategies
  - o Harmful Algal Blooms
    - Communication list to help each state to respond in the event of HAB occurrence. Maps, spatial information, communication tools, toxin guidelines and capacity evaluation.
  - o Emerging Contaminants
    - Bald Eagle blood sampling 2011-2017 to explore levels of legacy and emerging contaminants. PFCs, pharmaceuticals.
  - o CWA Monitoring Pilot
    - Reach 0-3: Minnesota and Wisconsin. Finished in 2017 Currently wrapping up reports and expect to have them finalized by the end of the year.

- Reach 8-9: Iowa, Illinois, Missouri. Taking lessons learned from Reach 0-3 pilot: HAB monitoring, fish tissue sampling. Monitoring to begin in 2020

### **Land Cover/Land Use Decadal Collection**

- Collection will begin in 2020. Most of the effort will be funded from FY19 funds. The first year will be acquisition and 4 subsequent years of post-processing. \$2M funding will take us through 2023 (proposed).
- Standard Process: begin by processing trend pools first (4,8,13,26, open river and La Grange).
- Jennifer Dieck (heading the process out of UMESC) asks for partner priorities to address after trend pools.
  - Shawn G: Pools 10 and 11 to look at stable state dynamics. Pools are at edge of turbid/vegetative state. There is a large HREP in planning stages in north Pool 10
  - Scott G: Pool 14. Two HREPs Beaver and Steamboat
  - Kjetil: If possible during flight scheduling, Illinois river closure will be underway in 2020. Would be a great opportunity to get low water though drawdowns are not currently planned.
  - It is possible to only do a portion instead of the entire pool.
- Processing is done by number of frames (i.e. area). Ranges from 2000-2100 frames.
- Need to get schedule out to A-team to review specifics.
- UMESC does have drones now. Could be possible to do pre- and post- project flyovers. Something to explore.

### **Status and Trends**

- Last Status and Trends report was published in 2008. Want to get another one going, had been waiting for some other key documents (HNA/resilience). Would like to start this year in scoping the S&T report. Following the 2008 S&T, the A-team requested to review the indicators and made a number of recommendations. There is a report on the LTRM website with those recommendations. Need to review recommendations
- Have thought about pulling in some of the resilience and HNA indicators.
- Who is our target audience? How technical should the report be?
- Goal for this fiscal year:
  - Outline structure of report
  - Determine audience
- Are there trend reports we should emulate?
  - State of the River reports
  - California Bay Delta – interactive web portal
- What stories are we telling/should we tell?
  - Synthesize across indicators?
  - Pre and post invasion on non-natives?
  - Changing climate?
- A lot of data at our disposal. Are there new interesting metrics/displays we can use?

### **Additional FY19 Science Funds**

- Request for proposals will be released soon
- Will not have a big winter science meeting like last year
- Would like to use focal areas from last year as basis of proposals. Revisions of last years unfunded proposals are possible
- Encourage multi-agency collaborations
- Plan to have large science meeting in 2020 (similar to 2018). This spring we will begin identifying focal areas.

### **Adjourn**