A-Team Meeting Notes for 7.20.2021

Scott Gritters- Iowa DNR and A-team Chairperson

Final Notes

Attendance:

A-Team reps: Scott Gritters (chair, IA), Matt Vitello (MO), Matt O'Hara (IL), Shawn Giblin (WI), Steve Winters (USFWS), Nick Schlesser (MN)

USACE: Karen Hagerty, Marshall Plumley, Kat McCain, Davi Michl, Eric Hanson, Lucie Sawyer, Jon Hendrickson

USGS: Jeff Houser, Jennie Sauer, Jennifer Dieck, Molly Van Appledorn, Nate De Jager, Kristin Bouska, Brian Ickes

MN: Eric Lund

WI: Deanne Drake

IA: Dave Bierman with Ashley Johnson, Seth Fopma

IL: Jim Lamer, John Chick with Eric Gittinger, David Weyers, Courtney Weldon

UMRBA: Andrew Stephenson, Janelle Guan

NOTES

Next UMRR meeting is needed before the UMRR CC November 17, 2021 meeting. This is also the 35th anniversary of UMRR.

Matt O'Hara - UMRCC – The Fall fish may be canceled in-person because of Illinois' inability to travel. They will look into a virtual meeting for the Tech sections.

Andrew S – was that in-state or out of state travel for Illinois? TBD, Meeting to be held in Itasca – so out of state was not possible. Was going to be an issue for WI but they were getting it through.

Karen H – I will work with Scottie to set up doodle for next A-Team meeting.

Jennie S – USGS travel has not changed yet either. Has been going slow -not sure what it will be in the future.

Nick S: Will run the meeting for foreseeable as Chairperson Gritters is in a meeting in a remote location at the Minnesota DNR office in Brainard Minnesota and is having connectivity issues. May go in and out throughout the meeting but will have to manage. If Scott is gone, Nick will run the meeting.

Steve Winter – I would like to see my edits added to the draft minutes.

Chairperson Gritters connected back to the meeting…

KH – Scottie – could you send out revised notes? SG, yes all revision you have made have been added to the notes, we will sent final version back out when I am back home, Apologies, can ask for approval from voting members via email. I also incorporated all of Karen Hagerty revision into one document and spent a lot of time correcting minor grammatical issues.

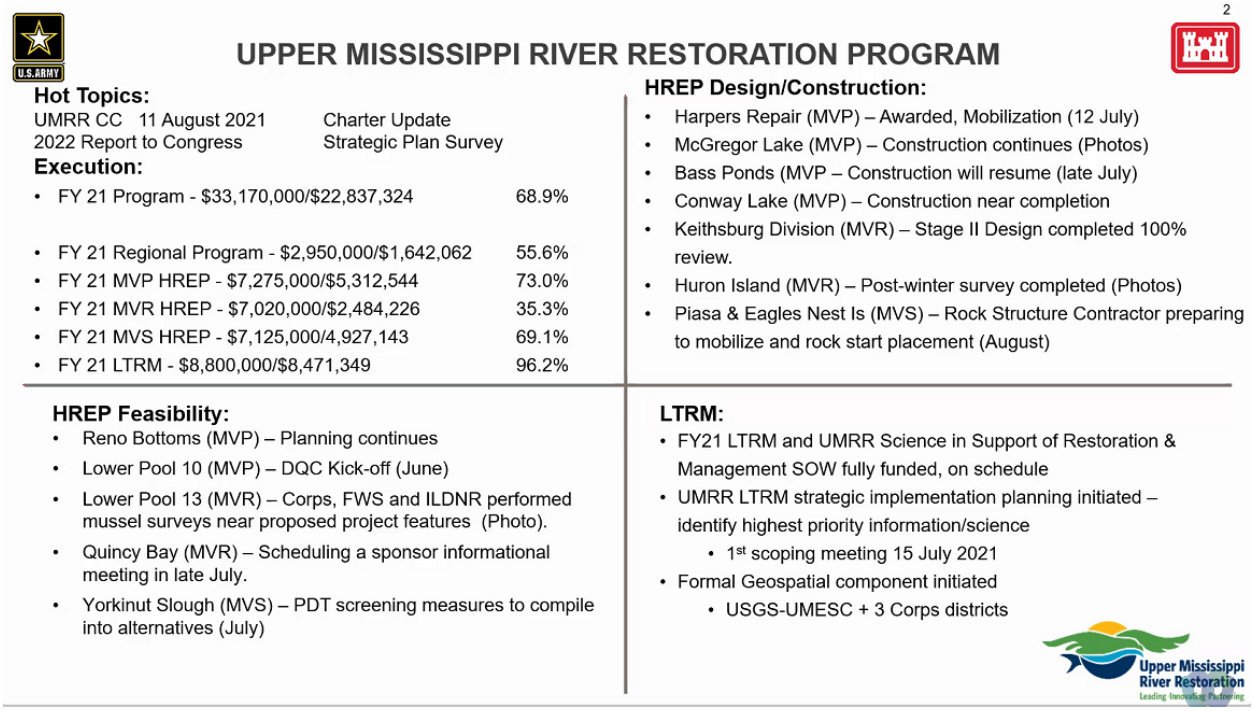
Steve Winter – fine with me.

Shawn Giblin – works with me as well.

Nick Schlesser – I'm sending to state reps the string of approval votes that contains language that Steve got approved. Language is all the way at the bottom of the string of emails.

Scott G – Had Steve's notes. I will make sure that is reflected and caught some additional consistency errors that you may have missed.

UMRR Update - Marshall Plumley



2022 Report to Congress – every 6 years, required for providing Congress with program update to identifying program success. Have been talking about for a year – UMRR CC and a small scoping team. Have initiated drafting of that – had kickoff meeting yesterday with authors and collaborators. Have ambitious schedule. November 2022 is the delivery date. With reviews and adequate time for partners to have time to review and ensure messages are appropriately conveyed – we have ambitious goal of pulling together draft this year – then a variety of

States and agencies aren't just providing feedback, but are helping draft language and craft document so that it reflects the multitude of viewpoints in the partnership and speaks as one voice. The information in these reports gets used in many venues.

Last year, we had interim review of Strategic plan and did some reflection as a group . We now are in a position to reach out to larger partnership. Marshall has been working with UMRBA and Andrew Stephenson to craft a survey that will go out in the next month or two to solicit feedback on the strategic and operational plan. We've accomplished a great deal of objectives laid planned for. The following step will be looking for feedback on what to prioritize on remaining window of planning period.

In terms of program spending we are where we want to be and accomplishing good work that folks in Congress have asked us to do on LTRM and HREP sides. Have two months left in fiscal year.

HREP projects in feasibility. Start with the Reno Bottoms which is a large and ambitious project. The team continues to work through planning. District Quality Control and identifying the TSP now then going through first step of review process started in June. Next step is making case to Division on TSP. For Lower Pool 13, mussel surveys have been conducted and some bed identified. Quincy Bay is starting soon and has had a good amount of local political support but is a good project. At Yorkinut Slough, the team is working through various measures that were identified to bundle into alternatives.

HREP Design/Construction: The Harpers Slough repair project is underway. During the previous year's extreme high water, damage to the fresh project occurred and working through that. The McGregor Lake is also well underway. Bass Ponds is moving well in MVP for this water control project on refuge. Low water has favored construction over winter time. Conway Lake is anticipated to be completed this year. Keithsburg is in construction and Stage II design completed. We are looking to advertise next construction contract. Huron Island the post-winter survey is complete. Piasa and Eagles Nest Island has the contractor mobilizing.

At Huron Island, the June survey were done on ERDC plantings with early indication of success. The Lower Pool 13 mussel surveys sampled 18 species found as part of that effort. The project is in feasibility right now. At Clarence Cannon and Crains Island, earthwork is continuing.

Aquatic Ecosystem Restoration National Perspective

Here is some additional context with other Corps efforts going on in the country for 2012-2022. Nationally, the number of acres restored is at 332,657 acres and the UMRR contributes 10% of those at 31,370 acres. We've been stuck at 106,000 acres for some time mostly due to high water delaying construction.

By end of this calendar year, we are hoping to complete 5,590 acres, and then 2022 adding another 9,810 acres. Of course, we are at the mercy of the river, but should see some number changes. It is exciting to talk about this to make case of importance of this program and how your work contributes to this success.

<u>LTRM – Karen H</u>

Fully funded and on schedule with everyone's plates full and working hard. As you may know, in December, WRDA 2020 was passed and increased authorization for UMRR from $33 to 55M. LTRM increased to $15M. LTRM management team has discussed how to prepare for potential additional funds.

Appropriations, work plan, congressional earmarks are all possible venues for additional funds. UMRR CC directed scoping team to start this process. We will be going to UMRR CC in August with a draft guidance document and recommendations for facilitators. The goal is on focusing on identifying specific information needs that are not being met and identifying specific actions to meet those needs. Instead of just gathering more data we also need to consider analyzing and making more available. The draft guidance documents will be shared and facilitator recommendation at the UMRR CC meeting.

Jeff H – Once we have facilitators to work with and moving this forward, it will be critical to organize a group that represents the entirety of the partnership's perspectives.

Karen H – Now that Nate De Jager is leading geospatial component for LTRM, we know that Corps has a lot of GIS and geospatial activities. There is a concerted effort to have those groups work more closely. The first meeting of the Geospatial component was held in late June and we will continue to develop scope of work items for that. Otherwise, field stations are working on budgets for next year. Finally, MVR staff is back in the office and able to work remotely one day per week.

Marshall Plumley – Pres. Budget had not been released before last A-Team meeting but the UMRR was in the Pres. Budget for $33.17M. Now we are waiting for House and Senate to do their work. Have additional capability under authorization which is exciting. There is a possibility that there would be additional funds available but waiting to see where Congress comes down on that.

<u>Agency update on COVID impacts/restrictions</u>

Karen H – Each district is doing it differently.

Kat McCain – MVS in office with regular and reoccurring telework in office Tuesday-Thursday and work from home Monday and Friday.

Eric Hanson – MVP, the current policy is to request up to two days for telework from supervisors or two additional with higher up approval. The expect everyone back in the office after Labor Day.

Davi Michl – RPEDN is following MVP guidance on it but expect people teleworking until Labor Day.

Steve Winter – Back to normal mostly. Government vehicles are considered public transportation we're supposed to be wearing masks regardless of vaccination status when riding with more than one person in a vehicle. Other than that, Steve is not aware of travel restrictions or capacity restrictions in vehicles. No need to wear masks outside of vehicles.

USGS – Jennie S – Jennifer Dieck may add more but the USGS is basically under same regime and access request as we have been. They are working on potentially increasing occupancy at UMESC to 50% but only for those people supporting field work. Not expecting any decision about going back to the Center until a new telework policy from DOI is shared. Still need to put in requests for field work and travel and they have to be mission critical or essential.

Jennifer Dieck – expect new guidance in the fall. Then Centers will have 30 days to develop respective plan and then employees will have 30 days before plans are enacted. Anticipate this to happen in October. Vaccinated and unvaccinated individuals may have different requirements regarding masks.

Minnesota – Nick Schlesser guidance as of Monday is that DNR staffs are allowed to go back to office. For next 2 months, staffs are allowed to telework as desired. Then, after Labor Day, the DNR hierarchy is

looking at reapportionment process for teleworking and some will continue to telework indefinitely. Vehicle restrictions have been lifted for vaccinated folks but not for unvaccinated individuals. We are not allowed to ask vaccination status. Not sure how and if any increases would reinstate restrictions but taking cautious approach right now. Divisions within MN DNR have doing things slightly differently as well.

Karen H – can you electrofish with 3 people?

Nick Schlesser – not officially. We can ride three people in a car but not in an open air boat. This may differ by division within the DNR

Iowa – Scott G, the Iowa DNR is mainly open for business and will be allowed to do hybrid work. Not a lot of guidance on it. As things change, planning changes. No restrictions on masks and vaccines. The DNR is mostly operating back as normal with still a lot of telecommuting.

Illinois – Matt O'Hara Will let John and Jim speak as well but the Illinois DNR is also open for business at this point. Everything is going well. On the river, sampling, going forward as planned.

Karen H – But no out of state travel?

Matt O'Hara – we can do it, but requires approval. There is limited ability at this time with approval.

John Chick – We've been back to normal operations since field season began. Forget how many people can be in a truck right now. This was a big impact last year with renting vehicles to spread people out. My staff is all fully vaccinated except one person who wears a mask if working closely with someone else or in a vehicle.

Jim Lamer – have a few unvaccinated folks but they ride separate. Have not travel restrictions for in state or out of state or hotels.

Missouri – Matt Vitello – Missouri is mainly back to normal and I have received out of state travel approved recently. Masks are not required at offices and car travel back to normal. We are developing plans to allow teleworking hopefully starting in September. Will require approvals but right now, everyone is in the office. We may be moving back to hybrid option in September.

Wisconsin – Shawn Giblin - Wisconsin came back to office on July 6. People can apply to supervisor to do two days of telework per week. We are allowed to ride in vehicles if vaccinated. In office, if vaccinated can be unmasked but unvaccinated persons need a mask.

Jennie Sauer – Field station personal while they are at UMESC will need to follow USGS policy or whatever is most stringent policy. As far as teleworking, that should only occur if they need to be at center and hooked up. Vehicles are state property and can follow state regulations.

UMRBA – AS – We are working mostly remotely at this time. UMBRA is developing guidance but following state rules at this time. Anticipate hybrid model and already have call forwarding in place.

Scott G – tough times to get through, but the program fared well, applause to everyone.

Jennie Sauer – Sorry for the interruption but Benjamin Finley is doing survey work in La Grange. Is there flooding and power lines down in La Grange?

Jim Lamer – we were getting pretty high but were probably going back down. Not aware of issues.

Matt O'Hara – It is in flood stage, but dropping. Everything else looks good.

Charter

Scott G- The charter has been mostly completely but I asked Nick to inform the group about some potential minor loses ends in the approval.

Nick Schlesser – I am trying to make sure we had the right stuff included in the minutes. At the end of the last meeting, we had gone through a number of changes we were going to make and hashed out some changing language related to statement in the charter. One of the main topics was on the statement to "ensure perspectives from the public…." This was modified by "any specific actions will be coordinated with and directed by UMRR CC" – Steve W ran that up the USFWS leadership and received approval and had the voting members approve. Nick presented everything at the UMRR CC meeting. They had back and forth discussion around how they would approve things. Know that it got approved. Didn't vote on the whole package but this part was approved.

Andrew S – approved the A-team recommended changes. Then the UMR CC approved the overall package.
Nick S – Is final language available?

Andrew S – Yes, clarifying appropriate authority of signatories to the Charter.

Marshall P – MVD folks took a look at the Charter. Have some minor additions to add to the authorization which doesn't change anything there. It will be part of the agenda packet.

AS – Charter language will be in the upcoming packet as a read ahead.

Scott G – appreciate all the work done on that. Great work Nick and seeing us through that process. For now, I will plan to leave it as a simple five minute agenda item to cover next time when the Charter is all wrapped up.

Scott G – Next up is Molly Van Appledorn, she came to me wanting a spot on the A-team agenda and I appreciate that when looking for discussion items. I have lost connectivity a few times so far in the meeting so if I do not respond, Nick will take over and we can have a seamless meeting.

Molly Van Appledorn – Shared progress on proposal made regarding future of system's hydrology. The project has a number of moving pieces and wants to make sure everyone is in the loop. Many of these ideas come out of the hydrology and geomorphology group at the last Science meeting. Molly is using past data sets, current data sets to determine what the future of the river might look like. This is a two-part proposal. The first part generates a database that is well documented and undergone QA/QC procedures. This includes Corps' gauge data on the river. Also, implementing a way this to be a living database so that it can compile data as the data is received. This is an "in progress" effort and happy to answer questions about it offline.

The Second part is looking ahead toward future hydrology of river system. Using a working group, to discuss long standing needs to understand the river of the future and the potential for what it should look like. Molly would like to have quantitative monitoring effort to fully quantify flow stages, etc. In order to get there, would like to discuss what we actual need in specific terms and also for develop a

blueprint for the technical aspects for developing such data. Proposal funded to support scoping workshop with main product being a proposal budget for this hydrologic modeling effort for the river. Lucie and I have been in the thick of planning, as things have evolved. Through discussions with ourselves and planning team and others that were involved in some way, we've broken workshop out into three pieces.

UMRR Program
Climate Changed Hydrology Meeting Series

PIs: Molly Van Appledorn (USGS UMESC) & Lucie Sawyer (USACE MVR)
Funding source: Upper Mississippi River Restoration Program - Science in Support of Restoration
Meeting series facilitator: Rebecca Seal-Soileau (USACE)

Event	Dates	Format	Attendees	Purpose	Outcomes
Meeting #1	FY21 Mid-Sep.	Virtual Webinar and Discussion (2 half-day sessions)	Broad attendance from the UMRR Partnership	Identify UMRR priorities for understanding climate changed hydrology	Prioritized list of program needs
Meeting #2	FY22 Late Oct. / Early Nov.	Virtual Webinar and Discussion (2 half-day sessions)	Broad attendance from the UMRR partnership and technical experts	Identify potential datasets and approaches to addressing UMRR partnership priorities	Description of ideal quantitative future hydrology dataset; ID Meeting 3 participants
Meeting #3	FY22 TBD	Workshop Hybrid? Virtual? (16 hours)	Technical experts and UMRR partnership representatives	Develop a proposal for a quantitative modeling effort	Proposal for a quantitative modeling effort

Climate Change Hydrology Meeting Series – have a professional facilitator from the Corps who has been involved with similar efforts in the past. Each meting builds on previous meeting to make sure we're taking time to air all ideas for what the partnership needs and understanding ways to address those needs fully and digging deep into technical nitty-gritty to put pen to paper and develop a proposal. First meeting is scheduled for Mid-September and doodle polls have been sent out. COVID has resulted in uncertainty around the format of events but are planning on virtual component. We possibly could have some hybrid attendance in person if LTRM people could come back to the office but will keep it flexible for now.

Meeting 1 - Broad attendance from UMRR partnership. Here the goal is what the needs are for the River and what priorities do we need to meet. What are the questions we need to ask and answer with a dataset on hydrology? Many answers, but hopefully end product from that meeting will be a prioritized list of our needs as a partnership.

Meeting 2 – One-month later, a second meeting to allow folks the time to prepare. We hope for same attendance as first meeting plus technical experts to help. It will be a matching activity. We will match needs to actions that can help meet or address needs. This may use existing data available or new hydrologic modeling approaches which will be needed. Output should be a description of what we want to achieve with future hydrologic dataset. Then we hope to identify people who are willing to write proposal to get that work done. Those folks will be involved in the third meeting. Again the goal is to be flexible and well-coordinated with the next LTRM Science meeting, as we want to mesh with that group.

I foresee a shorter list of people needed on the third meeting to hash out budgets and figure out details. We will rely on technical experts and UMRR partners who desire to be involved. Want to put together a well-drafted proposal for funding to undertake a modeling effort.

Participants

		Meeting #1	Meeting #2	Meeting #3 / Workshop
UMRR Partnership	A Team members (or designated reps)	Y	Y	?
	HREP Experts: 1 Biologist and 1 Engineer from each USACE District	Y	Y	?
	LTRM Scientists	Y	Y	M
	UMRBA	Y	Y	?
	UMRR Technical Experts	Y	Y	M
Technical Experts	USACE CPR-CoP	Some	Y	Y
	Other Technical Experts	M	Y	M

We would like good diverse participation within the partnership but, in turn, if we opened to everyone, it would become inefficient. So right now, we are identifying groups and people we'd like to be involved and represent agencies and organizations/opinions. Also these folks will need to be able to do the work-ahead and be able to communicate at the workshop. A-Team members should've received messages (which they did). We're having two people from each Corps district, UMRBA representative, LTRM scientists, UMRR technical experts, then outside experts as well, USACE and will meet with Corps guidance on any modeling effort, The Corps has been providing feedback along the way. They will be involved in Meeting 2 in particular but could use other technical experts as well. We need to ensure we can thoroughly discuss the options available to the partnership.

Don't have exact participants list for Meeting 3 – hoping to clarify after Meeting 2. Want interested folks who can help craft the proposal.

Timeline

- **Finalize dates of Meeting 1 & 2** – Monday, July 26
- **Distribute Briefing Book** – appx 3 weeks before Meeting #1
- **Meeting #1** – mid September '21, two 4-hour blocks
- **Meeting #2** – late October/early November '21, two 4-hour blocks
- **Meeting #3/Workshop** – January or February '22, 16 hours
- **Proposal Complete** – circa 2022 Science Meeting?

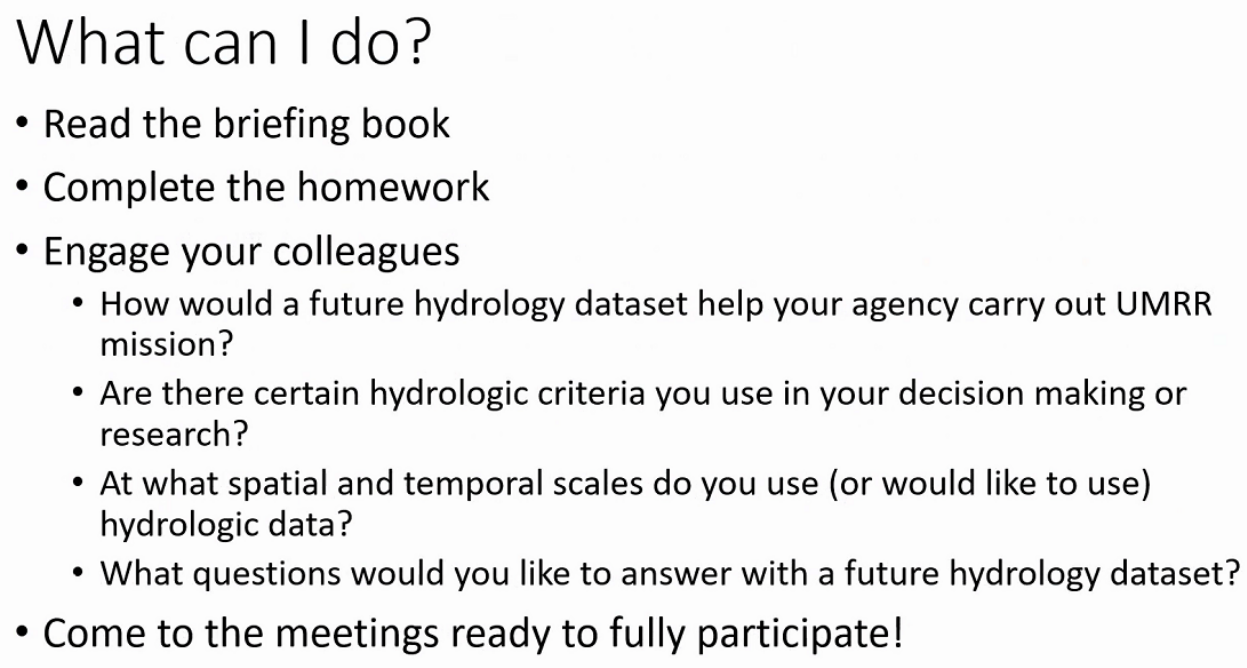
Folks should receive communication about this next week. Polling so far, no one date has popped out for everyone's availability but want to ensure we have representation from each group.

Lucie and I are putting together a briefing book to familiarize participants with discussion topics and to prepare for discussion at meetings. This briefing document is to be sent out three weeks before meeting number 1. This packet explains background on project, climate change, hydrology, review of different approaches to understanding hydrology. It has a focus on the future. Some homework will be involved as well.

Meetings are scheduled for two four-hour blocks for each of first two meeting. It may be longer for meeting number 3. Hope to have proposal completed by 2022 science meeting.

Karen H – want this to be considered at the science meeting for funding?

Molly VA – Actual funding source we would target is not yet known.



Homework may take time to do but it is intended to ensure we have engaging meeting.

Lucie Sawyer – Great presentation, nothing to add but can help answer questions.

Scott G- Thanks for asking to be on the agenda, if you need anything from the A-Team, I will help coordinate that.

Shawn G – Seems like there has been an issue with getting the Corps stage data in a timely basis. What mechanism are you using to get the current data – stage data from a week or two back?

Molly Van Appledorn – Lucie and I have worked closely with water control chiefs in each district and other folks with access to water control data. In terms of getting data for API extraction process is in the works. This communicates with Corps servers to access data but is not finished yet and we are still problem solving for now. Some districts are switching servers which may inhibit access. Corps has been great to work with once the best point of contact for technical side of things and have been helpful at

getting scripts written and troubling shooting process. Once we are there and the servers are switched over, I think the scripting process that Ben has set up will move things along to do automatic downloads on a schedule. Then we can then do it in house QAQC and compile with existing data and serve through LTRM website.

Shawn G –Is this fairly close to real time? Wondering how quick the turnaround will be.

Molly VA – Haven't decided how often the scripts will run. Guessing it will not be in real time. Access to water database, the Corps uses should be up eventually in near real time and I believe you can download two week datasets from them. I will work with Ben and Corps staff to determine best use of the API scripts.

Nick S – I was struggling when Corps stuff was pulled offline last October. It's back and up. I have a set of excel sheets designed to scrape the Corps database for Minnesota Pools which I can share with you.

Shawn G – That real time hold up affected us last year.

Nick S – That real time data did get stored, but it wasn't being served for 5-6 months.

Macroinvertebrate Update – Jim Lamer

Last A-Team – based on recommendations from the group and comments about macroinvertebrate component; it was decided good option would be to write a proposal for restarting sampling. Worked back and forth with Jeff, Jennie, and Shawn to understand how program ran historically. I also worked with Brian Ickes to generate sample strata to ID percentage of change from year to year and the proposal is in development. The Invertebrate ad hoc will be ready to review the draft proposal in 2-3 weeks and expect to have something to the A-team to present by the next meeting. We would like to address concerns about who might be leading or curating the data and concerns on who will do the analyzing and writing up historic and new data. It is still a work in progress taking into consideration sample size and strata and considering database and field stations. Agreed upon proposal after ad hoc group meeting should hopefully be ready for review and discussion at next A-Team meeting.

Scott G – thanks for taking up that proposal it seemed like a lot of interest among the partners to get this accomplished.

LTRM Updates - Jeff Houser

Scott Gritters- Having some connection issues again so Nick be ready.

Jeff House- this is a segment we used to do at A-team meetings and I contacted chairperson Gritters if it was something we should take up again. Lots of publications are flowing out and sometimes people miss the publications:

First off is: the Community analyses at a contiguous backwater lake-scale by Bouska et al

Think this is a good example of what can do with a mature monitoring program that LTRM is. The paper made use of collection of data sets such as LTRM vegetation, LTRM WQ, USACE water surface elevation, and topobathy datasets.

Explore how to estimate SAV occurrence based on LTRM rake data based on assumption that errors occur.

Next we got the Understanding constraints on submergent vegetation distribution in a large floodplain river: The role of water level fluctuation, water clarity and river geomorphology by Carhart et al.

Bluegill habitat use in the Upper Mississippi River by Rutledge et al.

As most of you know, this paper confirms that Bluegills are more common in backwaters than in channel habitat. Bluegills respond best to areas of very low water current velocity.

Probabilities of detecting submersed aquatic vegetation species using a rake method may vary with biomass by Brian Gray

This paper is of detection error when a species is present at a site but not detected on a rake sample and how to improve estimate of SAV prevalence.

Staff also participates in numerous other conferences and publication efforts such as Kathy Jo Jankowski help with a paper entitled Integrating perspectives to understand lake ice dynamics in a changing word. Kathy Jo also helps publish an overview entitled Aquatic ecosystem metabolism as a tool in management.

Scott G – appreciate this short presentation – will plan to keep it in the agenda for the future.

Jeff H – appreciate the opportunity to provide this overview to this group.

<u>Aquatic Vegetation Community Analysis - Kristen Bouska</u>

This paper has been accepted with revisions.

Want to recognize that I'm not an expert in aquatic vegetation. Know more than I did a year and a half ago. Especially when it some to sampling protocols for monitoring, how to use the data and understanding how to use aquatic vegetation technology.

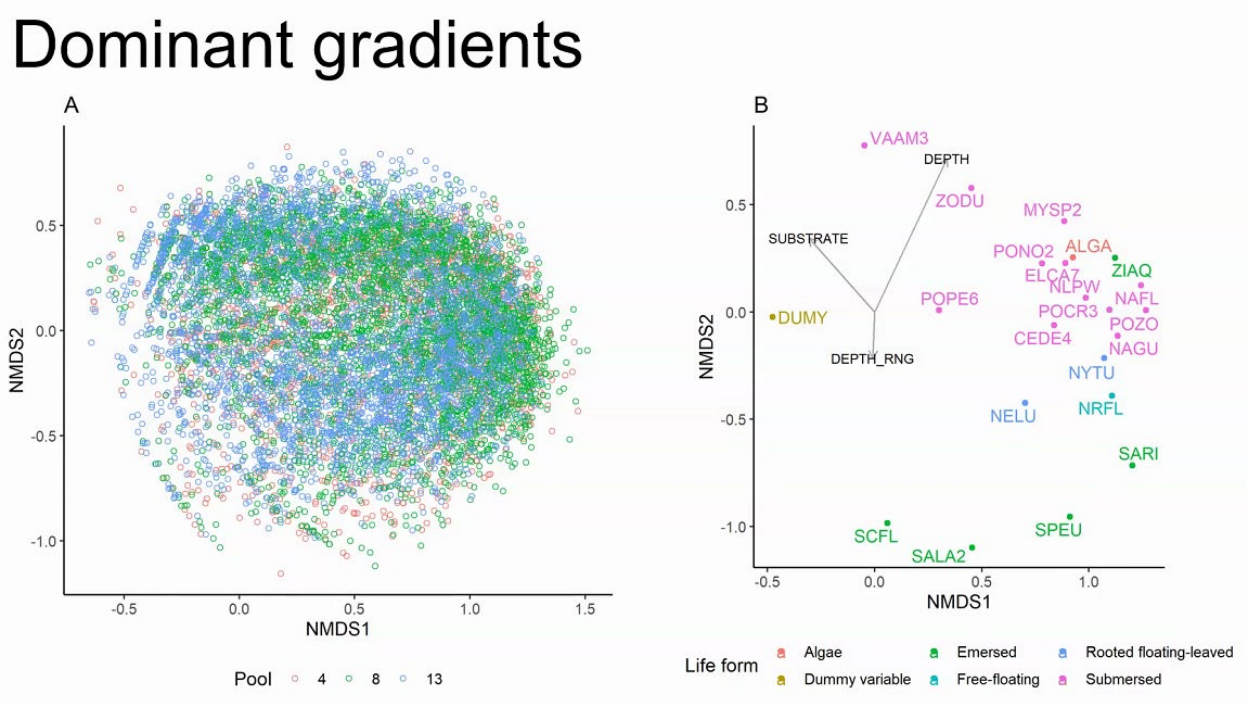
Project began with different objective than it ended with. This project was part of ongoing resilience assessment when I turned my attention to aquatic vegetation. Yao Yin and Jim Rogala who are both retired but postulated a simple model on how vegetation responds to changing conditions and this stuck a chord with me because I didn't know much about veg to begin with. I am sure it was not a perfect example of how vegetation works, but put together thoughts on changes they saw.

In no vegetated state, from mainly upper impounded, wild celery started to colonize. That colonization expanded under normal discharge. In areas with lower flow refugia, we see other species intermixing with wild celery. In a Stable state system, wild celery may be driven out of some areas but dominates in areas with higher velocities. A flood even may reset you back to wild celery dominant state If area undergoes several years of drought, other species may displace wild celery through competition. Then a flood event may even displace all vegetation because they are not adapted to high flows.

Can we say some things empirically about aquatic veg species resilience to disturbances? After some review and considerations, I realized there were missing pieces about community dynamics that we needed to address first.

I identified two objectives 1). Identify dominant gradients in and local factors associated with aquatic vegetation assembly (all life forms) 2). Quantify changes in community composition and plant diversity over time at lake and pool scales.

Ran NMDS and took sites and matrix of relative species abundance and similarity index. It is an assessment of which sites are more or less similar in terms of their composition.



There are 18,200 sites on the left and on the right is the retained weighted mean of each species.

Color-coded based on type of vegetation – algae, submersed, free-floating. Similar types are more often found close together.

DUMY variable- sites in this area lack vegetation which allows me to include all sites that lack aquatic vegetation.

VAAM3 wild celery is often found alone without other species. The submersed community is at 45 degrees. Free floating species are represented by blue-green algae. This diagram explains how species generally exist relative to each other.

The X-Axis is associated with diversity, both in species diversity as well as life form diversity. The Y-axis associated with depth and velocity. Wild celery would be in deeper, higher velocity species, immersed species in shallower, lower velocity areas. Much variation could not be explained by those factors so a lot is going on in the river with simple gradients of depth and velocity.

So I wanted to put these results in spatial and temporal context.

When looking at strata and pool-scale trends, took lakes that have greater than 50 sites over the period of record. Upper pool 4, lower pool 4, pool 8, and pool 13. Took Veg data and overlaid on aquatic areas dataset. These are polygons and unique identifiers that would be in aquatic areas dataset and only those with greater than 50 sites in time frame.

Separated lakes by geographic areas. – Each color is a different lake and then each dot within polygons is annual averages. Helps visual in NMDS space where each lake is in terms of community composition.

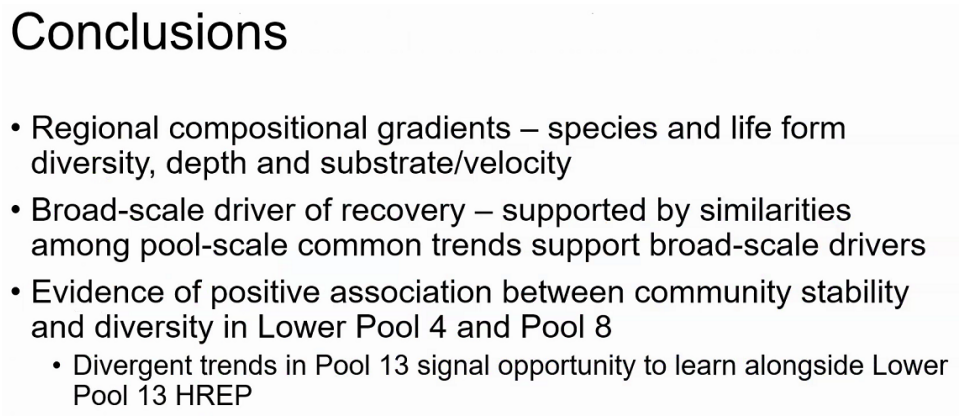
Lakes in Upper Pool 4 have lower diversity, lower prevalence and are closer to the DUMY variable. Other lakes expand out a little more. Pool 13 Gomer's lake has more rooted floating and emersed vegetation. We can infer at lake scale what community on what is happening and how it has changed over time. I wanted to see if there were geographic differences in temporal stability. Tighter the polygon is the more consistent it has been. Larger polygons on the converse show greater change. Upper Pool 4 and Pool 8 impounded showed significant difference (verify?).

Upper Pool 4 and Lower Pool 4 were treated as different reaches when looking to establish common trends in dissimilarity. Analysis says that across lakes there was a common trend in the way the community changed over time. In Upper Pool 4, earlier years (lower values) from year to year the community was fairly similar. In mid-2000s the community started to change. More change was seen up to 2014 common trend to lakes. Early composition stayed the same, and then changes. Areas of stability…

Pool 13 – had increase in diversity, and then came back at end of period of record where it wasn't very different from start.

Pool 8- Showed similar trends then goes up into right hand quadrant indicating increasing in diversity and shifting from emersed species to greater prevalence of submersed species.

Lower Pool 4 followed a similar trend to Pool 8. All pools show shift in NMDS1 – but then magnitude is very different across study reaches.



Scott G- great presentation and agree with Jeff's earlier comments on maturity of program. There is just so much data and just learning how to crunch these massive datasets is impressive.

Kristen B – have done a lot of community assessments, but not on 18,000 sites, needed a lot of computational power. Computer struggled.

Andrew S- Any way to tie with the Carhart presentation? Types of communities that can form in the areas identified through Carhart work?

Kristen B – did look at associations between common trends and extreme discharge events as well as TSS trends. Limitation of analysis I conducted. The dynamic factor analysis only looked at linear

associations when we know that might not be the case. I guess it did not surprise me that those results were not significant.

Opportunities to consider and look at drivers of community change. I would think that some of these communities that occupy different areas of NMDS how different communities respond differently over time. Danelle Larson is working with Eric, Alicia, and others at UW-L and looking at communities in a more discrete manner. (e.g., - when you have this amount of this species you have this type of community) I was looking at it as a more continuous approach. Think it's more appropriate to look at those associations as what community, you have and responses to drivers. Carhart model is great at getting look at land with primary physical factors, but not temporal aspect. If I remember right, it's average conditions over a certain period. That might limit the ability to bring them together.

Karen H – So, once the Lower Pool 13 group decides on what the features are going to be, can you use what you've used to hypothesize how the vegetation may potentially change and is this opportunity to do some targeted sampling and learning?

Kristen B – Yes and I have started formulating some ideas. Feel project may be targeted at wild celery. But that will depend on next few PDT meetings. Think that's the direction it's going.

Karen H – Wild celery is always a concern of the USFWS but all the communities should be affected by whatever we do there, some more than others.

Steve W – The project we needed to scale down as we had high aspirations. We know we want to do a lot of work and lots of work is needed. The scale of planning is being reduced down to SW corner of original project area. That corner, most of the work we would be doing to address wild celery – SAV – but want to focus on wild celery in that portion of the entire project area.

Jennie S – I asked that same question that is about potentially validating or testing with a presentation from John Delaney on stable states… With Kristen's work. I think there are some great opportunities there.

Karen H – Great opportunity to do some work collaboratively here with HREP and learn some stuff. There is LTRM presence on PDT meetings – Jeff or Jennie? Want to stay engage so we can propose in a timely matter.

Jeff H – I'm on that PDT – Kristen has been attending those meetings mostly as well as a way to think about opportunities that may be there.

<u>New Staff</u>

USFWS – Steve Winter – Casey Brian – new wildlife biologist in… Then Angela Diedrickson in Savanna District. She's been on detail before. Also getting new District Manager in McGregor District (Note: this position has been hired, find Steve's email on this subject and other USFWS hires-SAG)

UMESC – Jennie Sauer – Deputy Director at UMESC, Anna Hess. Will probably be at UMRR CC meeting and A-Team. From Minnesota DNR.

UMRBA - Janelle Gaun – Water Resources Policy Intern for UMRBA. Janelle is a graduate student with the UCSB Bren School of Environmental Science and Management. She's studying environmental science and management.

USACE – Karen H said new reps are Davi Michl, Eric Hanson and Kat McCain (but Kat has since taken a different position – Lane Richter will be replacing her)

Minnesota – Nick Schlesser – Megan Moore moving positions. Eric Lund will be acting head of LTRM side of things. Still working out who will replace Megan Moore in other policy areas. Megan is still on UMRR CC for now – until we get a person figured out for that aspect of her position.

Eric Lund – We have big shoes to fill as Megan has 25 years with program. Agency appears to be moving fast in attempt to fill position. Agency's hiring freeze was recently lifted. Managers are prioritizing across the agencies – when filling positions. LTRM supervisory position is one of the higher tiers. That position will probably be filled in the next couple-few months.

Nick Schlesser – Dan Dieterman retired last summer. Neil Rude has moved up into work out of class in that position. Have not gotten word on making that permanent or filling behind him. Down a person and expect to be for foreseeable future.

Scott G – will be a shock to the system to lose Megan and Dan.

Wisconsin – Shawn G – La Crosse office changes – Deanne can discuss field station changes. Kurt Rasmussen moved to inland position – Sara Strassman is filling his role. Kale Severson also moved to inland position. Backfilling that is up in the air.

Deanne – covering field station hires. Alicia Carhart is vegetation specialist after 1.5 years of hiring freeze at WI. She's in the field doing work now.

Illinois – Matt O'Hara – hired commercial fishing program Sara Tripp who replaced Rob Mayer who also was a previous A-Team representative from Illinois.

Jim Lamer – Jim Lamer - We hired a new post doc, Mike Spear, at the beginning of the year to assist with coordination and analysis of the IWW Lock Closure Study. The lock closure study has collected two years of data, pre, during, and now working on the 2021 post-closure data collection throughout the IL River. This project will continue as part of the Multi-agency Asian carp monitoring program. We have hired two new carp biologists at our Yorkville location (Alex Catalano and Madison Myers) and we now have a biologist, Andrew Mathis and technicians that are sharing an office at Starved Rock state park with ILDNR fisheries to assist with the IWW lock closure/Multi-agency Asian carp monitoring on the Upper IL River.

Iowa DNR – Seth Fopma is the Bellevue Station's new vegetation specialist in Pool 13. Was in Iowa, South Dakota, Nebraska, now back on Mississippi River. Ashley Johnson is now the WQ crew lead in Bellevue and was in Illinois at Havana. She did undergrad with Jim Lamer. She also worked with MDC and pallid sturgeon on Missouri and is now on Mississippi and happy to be part of LTRM team. We are happy to have her on the team.

Missouri – Matt Vitello – Ross Dames took a different position and was replaced by Annie Henchke – Sara Tripp left MO field station, haven't replaced yet.

<u>Great River Field Station Overview – John Chick</u>

Scott G – Want to concentrate on a field station, staff member for each A-team meeting. John Chick agreed to kick this off from the Great River Field Station this time. Since I know the least about the

Great River field stated and wanted to know more and who makes up your staff and ask them to talk a bit about items you're working with.

Laura Gittinger – WQ – worked since 2000.

Amanda Carter – tech for 4 years and has successfully completed her MS degree at Southern Illinois University Edwardsville Spring of 2021.

Megan Cowan – 2007 – worked as a technician before being hired as a permanent/part-time staff.

Julia Hampton – worked for a little over one year as technician. Now is a Graduate student at the University of North Dakota pursuing a Masters.

Andrew Staffer – Technician for 4 years. Andrew started at the Havana station in 2016. Has now left the INHS moved back to Pennsylvania. I do not know his current job situation.

Eric Hine – started as permanent staff member in 2019 – technician before that. Split between fish component and WQ. Now, he is the LTEF coordinator for the GRFS – conducting electrofishing on surrounding pools near 26.

Emily Fulton – Technician in her first official field station position. Participated in the NSF Research Experience for Undergraduates Program (Carol Colaninno and John Chick PIs) in 2019 and got a taste for field work. Getting experience and likely to move on to graduate school.

John Gatto – Post-doc researcher, who started beginning 2020, works with LTRM data in both fish and WQ – looking at trends in fish community over past 25 years. Looking at how UMR system has changed functionally. Specifically, how invasive carp have changed community composition.

David Weyers – second year at Great Rivers. Has a master's degree from St. Louis University in plant ecology and is currently working as a field technician at GRFS.

Eric Gittinger – Long hauler of group. Started in Havana in 95, received masters out of Great Rivers and has been with fisheries component since 2000. Component leader for fisheries component since Radcliff left. Did a restructuring of how we do things by adding a post-doc.

Courtney Weldon – Graduate student Co-advised by John Chick and Jim Lamer and with the program since the fall 2019. Presently is writing her thesis on EPM effects on small fish communities. Her stipend is funded through the LTEF project and she assists with field work for that project in addition to her MS research.

Lillian Ward, – Was an undergraduate student on Colaninno and Chick's REU project in 2015 and became a field technician with the GRFS in 2019.

John Chick – Old guy in charge.

Scott Gritters – Couldn't get this done without people on the screen. I started out as WQ specialist in Bellevue and this time included some of the best things I learned in my career. Don't diminish your work, it's hugely important. What has been created is a monumental dataset, and when I started I could have never envisioned its functionality.

I want to work at keeping the human component in this program, in this partnership.

Matt Vitello – Is your mural saying we're tilting at windmills with our research?

Scott G – Don Quixote (mural) shows there is world research going on down there.

John Chick – pastoral background was there when we moved into the field station. When we were moving out of NGRREC and had Eric Gittinger's sister draw the Don Quixote scene.

Scott Gritters – thank you Great Field Station for being the first to go on this component of the meeting, and are looking forward to meeting others.

Agency Updates

Wisconsin – Shawn Giblin – Nitrogen, TSS, Chloride quite a bit of movement in WI on all three areas. Nitrogen has broken up into two groups and talking about criteria and one about BMPs to reduce Nitrogen coming out of WI. Focus is going to be on Large Rivers and the Mississippi River data. Chloride group in WI wants to bring down levels in WI.

Also looking at project on backwater residence time, and flushing rates. I think this will be a useful project for restoration down the line. Finally digging into some emerging contaminants in recent years and conducted first sampling to look at Neonics in Mississippi River and Major Tributaries.

Scott G – anticipate hearing more on emergent issues. Could be an agenda item into the future?

Illinois – Matt O'Hara, The Rivers program for IDNR has adopted LTRM protocols for electrofishing. We want to be able to take our data and make it usable for LTRM data. Adopted those protocols this season and this is the testing year. So far, seems to be working out well. Excited about to be able to match our data with LTRM data and the long term electrofishing data that Illinois DNR conducts.

Iowa - Iowa mussel blitz. I organize every year. I have had ~237 volunteers on the list that have come out to help with mussel surveys over the years. The Blitz will be help the week of August 16 and will be on Cedar River by Charles City. Big days are Tuesday, Wednesday, and Thursday. Have all kinds of people who show up to help do mussel surveys. They sign consent form and we go out on the river. I have people take vacation to do this activity. Of course with Covid this was cancelled last year. Don't remember the date for Cordova mussel but think it is August 4? Joe Jordan organizes that and Jeremiah Haas does the cooking. The Cordova search is a great event on the Mississippi. Had a bevy of other items concerning construction permits on the river and illegal barge parking in unpermitted sites. Low water means they can smash mussel beds pretty quickly.

Missouri – Matt V – no further updates.

Motion to adjourn

Nick S moved, Matt V second. Unanimous votes.

Chat

from Andrew Stephenson to everyone: 1:04 PM

Andrew Stephenson, UMRBA

from Steve Winter to everyone: 1:04 PM

Steve Winter USFWS

from Nick Schlesser to everyone: 1:04 PM

Nick Schllesser MN DNR

from Molly Van Appledorn to everyone: 1:04 PM

Molly Van Appledorn - UMESC LTRM

from Jeff Houser to everyone: 1:04 PM

Jeff Houser UMESC

from Eric R Hanson to everyone: 1:04 PM

Eric Hanson - USACE, St. Paul District

from chick to everyone: 1:04 PM

John Chick, INHS, Great Rivers Field Station

from Kat McCain to everyone: 1:04 PM

Kat McCain USACE St. Louis

from Jennifer Dieck to everyone: 1:04 PM

Jennifer Dieck - USGS-UMESC

from Jim Lamer to everyone: 1:05 PM

Jim Lamer, INHS, Illinois River Biological Station

from Jennie Sauer to everyone: 1:05 PM

Jennie Sauer, USGS

from Davi Michl to everyone: 1:05 PM

Davi Michl USACE, Rock Island

from Matt OHara to everyone: 1:16 PM

Matt O'Hara Illinois DNR

from Dave Bierman to everyone: 1:16 PM

Dave Bierman, Iowa DNR LTRM

from Kristen to everyone: 1:16 PM

Kristen Bouska , USGS UMESC

from Eric Lund to everyone: 1:30 PM

Eric Lund, MN DNR, LTRM FS1

from Karen H Hagerty to everyone: 2:12 PM

Molly, can you share your slides with Scott G?

from Molly Van Appledorn to everyone: 2:24 PM

Sure thing!

from Karen H Hagerty to everyone: 3:03 PM

If you haven't put your name and organization in the chat yet, please do so before you leave the meeting. Thanks!!

from Eric G to everyone: 3:03 PM

Eric Gittinger, LTRM, GRFS

from Deanne Drake to everyone: 3:55 PM

Deanne Drake WI DNR

from Karen H Hagerty to everyone: 4:00 PM

Chick, can you send a list of the names to Scotty?

from David Weyers to everyone: 4:01 PM

David Weyers, LTRM, GRFS

from Seth Fopma to everyone: 4:01 PM

Seth Fopma, LTRM, IA DNR

from Ashley Johnson to everyone: 4:02 PM

Ashley Johnson, LTRM, Iowa DNR