HTF Fall Coordinating Committee Meeting

# Sept. 27-29, 2017 • Biloxi, MS

## Sept. 27, 2017

## Welcome/Agenda Overview (Barry Tonning, Tetra Tech)

## Mississippi Welcome (Mike Freiman and Alina Young, MDEQ)

* + Aline Young discussing Office of Restoration @ MDEQ and RESTORE funding as a result of the BP oil spill
  + Oyster restoration as a means for working across funding streams

## Website Analytics (Kyra Reumann-Moore, EPA ORISE)-**note all presentations for the Coordinating Committee Meeting should be on Share Point**

* + Kyra primarily in charge of HTF website, contact her for updates
  + More people checking out website post-press release of 2017 hypoxic zone size

## Normalizing flow in the delivered loads (Lori Sprague, USGS)

* + Weighted Regression on Time, Discharge, and Season model: WRDTS overview; application of WRTDS to assess progress in the MRB; water quality trends in water quality
  + Flow normalized trend line is less influenced by short-term trends
  + Cons: method is not as straight-forward as the 5-year moving average
  + WRTDS can be used for both trend and load estimation- both actual and flow-normalized
  + In 2018 USGS will begin reporting annual and may loads using WRTDS
  + Discussion on whether we can set targets for nutrient load levels rather than reductions are hypoxic zone sizes?
  + Discussion on causes of nutrient load increased: attributable to fertilizer use increases, land use changes, management practice changes, weather patterns.
  + Is land use change data available to support nutrient load trends? NASS data as potential source, USDA as well.
  + Back to original question: can we change our target- using reliable USGS sensor data set, using flow-weighted concentration data…
  + Concentration data is not as reliable as load, should be using loads
  + Behavior differences between phosphorus and nitrogen

## USDA-NIFA hypoxia related projects (Ali Mohamed)

* Cover crops, to water use, and water recycling
* Spent about $83 million in last 10 years
  + Data included LGUs and experiment stations- Hatch and MacIntire-stennis funds
  + States getting the most USDA-NIFA funds are Iowa and LA
  + 17 states receive 75% of funding
  + Have observed a decrease in received proposals focusing on hypoxia since 2000
  + Proposals are needed
  + Have only received 2 small business proposals
  + Good to know when proposals will come out
  + Proposals should have a broad scope

## Susan Holdsworth- EPA

* National Aquatic Resources Survey: MS River watershed nutrient reduction
* NARS: focus on 1. Assessment of biology and recreation condition and changes overtime of nations waters using indicators/ stress conditions. 2. Ranking stressors. 3. Build and enhance state/tribal monitoring and assessment
* Focus on Lakes, wetlands, streams/rivers, coastal waters
* Randomized design
* 2013-2014 data coming together now
* Showing MRB nutrient concentrations and biomarkers by ecoregion- TN and TP
* Poor biological condition is 2x as likely when N & P are high
* Concentrations can support loads in assessing environmental change/ water quality
* Landscape/land use attributes can be used to determine probability of good conditions in unmonitored streams. 75% accuracy of assessment tool> determine candidates for protection> smaller streams, some larger in Midwest…

## Point source working group (Kyra Ruemann-Moore; Adam Schnieders)

* 58% of systems monitor effluent for N and 73% for P
* Facilities without monitoring probably don’t have advanced treatment –using actual flows in data
* TPC- typical pollutant concentrations
* Sewage treatment plants: 54% of systems monitor both N and P; 74% monitor N or P- unsure of the accuracy of this data
* Adam Schnieder discussing nutrient baseline data- using 1980/1990 data to use as baseline in current and future attempts to track progress
* Determined 8/51 POTWs contributing majority of P

## Alan Lewitus- NOAA: 2017 Hypoxia Zone Analysis

* Presentation includes discharge data, showing late spring increase in discharge
* Gene Turner’s data from LSU- showing increase in spring N concentration
* Tropical storm Cindy came through in June, increasing wind speed and wave height; conditions recovered after two weeks
* Storm increased oxygen, decreased to hypoxic levels within 2 weeks
* 2017 cruise ran out of cruise days, actually didn’t get to map the whole hypoxic zone
* Included data from Katja Fennel and Arnaud Laurent showing how P limitations can enhance or decrease hypoxic zone > causing N use delay>delay in algal blooms
* Migrations of water mass during P limitations can also cause a spatial shift in the hypoxic zone; may not observe decrease in hypoxic zones until nutrients are reduced up to 50%

## Cooperative Federalism –Katie Flahive

* Wants to use HTF as an example of cooperative federalism and showcase that to new leadership

# September 28, 2017

## State Highlights

* Indiana: moving through new watershed tool/storyboard- link available in recent emails
* Illinois: all credit goas to stakeholders; connections with landowners; increasing awareness of hypoxia, 26 organizations that have gotten involved to share information; formation of a number of specific committees in different priority areas. Updating science assessments, turnover at the local level.
* Kentucky: Amanda Gumbert letting all farmers know about KY Water Quality Act, Ed materials, Ag water quality plans. Also using volunteers to monitoring HABs alongside remote sensing.
* Wisconsin: using Clean Water Act tools; identifying point sources and farms for water quality trading by lbs; Producer Led watershed groupds- have modest funding; Partnerships at the watershed scale
* Tennessee: considering two soil test recommendations; are focusing on soil health and cover crops, partnering with NRCS; looking into runoff equations- what factors are we changing, how are we monitoring, fertilizer applications, and supporting producer led advice.
* Arkansas: In state of budget retraction, everyone is spread thin, looking to decrease eligibility requirements to get farmers going
* Iowa: working to assimilate proper baseline data, point and non-point source data (both presented yesterday). Are revamping and updating their state strategy.
* Minnesota: moving through developing strategies for all 81 watersheds- have 1/3 done, most others are started. Are developing strategies and plans for tracking progress. Their Department of Ag is proposing N rules to restrict fall applications of N; 80% of farmers would need to adopt minimal BMPs; are working to complete implementation of buffer law and the governing is aiming for a 25 by 25 goal of a 25% reduction in nutrient runoff by 2025. Developing and Ag Water Quality certification that would grant a 10 year period new regulations don’t affect those that attend.
* Mississippi: Taking a data driven approach with implementation and strategies. Collecting data in 12-digits HUCs, cooperative with USGS, have collected robust (14 years worth of data) at Steale Bayou as case study, both baseline and storm. Most of states investment has gone toward NWQI watersheds with every structural BMP possible, now focusing on cover crops and looking at it from the farm level, especially in relation to the farm budget.
* Missouri: Developing Numeric Nutrient Criteria in lakes by Dec. 15th, using Nutrient Tracking Tool, collecting numbers for all conservation practices by acre (annual)
* Ohio: Major focus on Lake Eric and HABs; Developing a state mass balance- on share point site; Developing legislation to prevent manure application within 1 inch rain within 24 hours
* Louisiana: Annual report came out in April 2017; investigated water quality trading feasibility.

## Matt Lechtenberg discussed non-point sources

* Using USDA practice data- EQIP; categorizing of implementation and interpreting data
* All slides on share point
* Focused on next steps: combining data (private data, CRP, FSA, CSP)
* Quantifying load reductions with practice data
* More money is going toward P and sediment related practices
* Are prepping for the upcoming progress report to committee

## Reid Christianson: Walton project to consolidate BMP information

* Data coming from USDA, State level, private, and survey sources
* Assimilating to determine where are we and where do we go from here
* Which practices address WQ and how much money to reduce 1 lb of N
* Need to track practice benefits along with adverse effects
* Many issues with survey data
* Also issues determining acres treated and determine when practices might be double counted between different sources

## Richard Ingram: Social indicator update

* Tracking progress via social indicators
* Linking environmental indicators with social
* Determining drivers for implementing conservation- is often social pressure, so maybe we need to speak louder

## Open discussion:

* General needs: communicating success, and the staying power to structural practices; innovations
* Challenges: keeping people engaged, more local issues take precedence, ground water protection, tile drainage in Midwest, source water protection, long-term investment, amount of land that is rented, soil health, using turbidity as surrogate

## Scale and Practices Needed to Reach Interim Reduction Goal (Matt Helmers and Rebecca Power)

* Interim 20% goals: we need it all> N management, cropping practices and management, EOF practices
* Practice performance figures for Midwest- need a combination of all practices
* Iowa specific N reduction goal (42 and 45%) would require a suite of specific practices to meet goals for N and P
* About 8 million ag acres in Iowa with wetlands, 6 million with bioreactors, 12 million with cover crops
* Even with interim goal (20%)- 4 million acres in cover crops, 2 with wetlands, about 1 with bioreactors
* MN aiming for 1.6 million acres of living cover, drainage water treatment on about 600,000 acres… to meet 20% reduction N
* How do we get to the level of treatment we need to start moving the needle on reducing downstream nutrient loads?
* **Getting to scale:** using perspective of franchising…. Leveraging knowledge of successful systems and successful adaptation strategies
* Increase attractiveness to investors and customers
* Share administrative resources, e.g. grant writing, technical expertise, etc.
* Also need to identify consistent elements of our theory of change- determine how to replicate operating model: design growth strategy; design the network; determine the role of network founders-ensuring quality, facilitating learning, providing central services.
* Individual change: theory of planned behavior… attitude toward a behavior (the belief that the action makes a positive or negative contribution to ones life, conservationist or productionist), subjective norm (social context, cultural norms), perceived behavioral control…. Demonstrating success?
* Leading to behavioral intention and then an actual behavioral change
* Baseline condition slide- biophysical impairments, funding, historical projects, watershed groups and plans, adoption and enrollment, partnerships, farmer champions, etc.
* **Eleanor Ostrum**- nobel prize winning economist working on managing common pool resources- formal and informal rules that help us move forward to get to scale- establishing clear boundaries
* Match rules to local needs and conditions, where rule cost matches benefit
* Ensure that those affected by the rules can participate in modifying the rules
* Make sure rule making rights of community members are respected by outside authority
* Develop a system, carried out by community members for monitoring member behavior
* Use graduated sanctions for rule violations
* Accessible, low cost means for dispute resolution
* Build responsibility for governing the common resource in nested tiers
* Rules structures: limits (narrative or nutrient criteria), limits on behavior (performance based), incentives (pay for performance, pay for practices, social pressure and support); barrier removal (signal that the behavior is valuable); IT MATTERS WHO MAKES THE RULES AND AT WHAT SCALE RULES ARE IMPLEMENTED
* EXAMPLES OF WHAT THIS MIGHT LOOK LIKE:
  + Watershed numeric goals for N and P at state level, adapted to local conditions
  + Timeframe for goals at state level
  + Statewide HUC 10 monitoring
  + HUC 10-12 watershed projects with plans
  + Statewide network of watershed coordinators to support projects
  + Local networks set local rules
  + Graduated sanctions for not meeting goals
  + Human capacity and workforce development
  + Skills and training
  + Professional training- certification, professional org, compensation
  + Recipe for scaling up- bringing all fundamental pieces together… does state agency take the lead?
  + Questions: Wes Burger- can NRCS and conservation districts take lead here- since they are in every county… with local technical expertise…. Can we lean on that infrastructure that was implemented 80-100 years ago… when are we going to collectively decided this is what we need to do and this is how we are going to do it. Not sure if that means we have to hire professionals in a certain career- much of the work is advocacy- may only need one person to cover planning portion, can we leverage the local conservation district folks in each county…
  + How do we leverage the infrastructure we have in place… local folks are not trained or hired to do watershed work in most cases…. Along with basic soils training. Developing professional dev opportunities.
  + Richard Ingram: how can we make this issue more personal for everyone?
  + At farm level… getting more employees in conservation district offices to build capacity and targeting practices in the places we want … developing baseline modules were all watershed coordinates need to complete coming in for transparency and setting expectations for what we want them to accomplish.
  + Ohio: 17 years of experience with funded watershed coordinator programs; lessons learned in placing coordinators- working in multiple districts…. All other people in districts around them seem to leave them hanging, and it becomes difficult for the watershed coordinator to get buy in from all other agencies and districts to participate and facilitate.
  + Amanda: elevate the importance of that role of the watershed coordinators… when you have turnover you start back at zero… to sustain somebody.
  + Good feedback in terms of thinking about this like a business or a franchise- selling improved land management…
  + Jane: alternative ways to get to scale… watershed-based approach… or taking MN approach toward regulation… MN as great example
  + Forbes: working with NRCS…
  + Roderick Thompson, former DC in county office…. Thinking about selling good land management… discuss it with producers… what they’re planting and how they are managing… showing results… more NRCS in house… education at the county level.
  + NWQI- Dee- all about the partnerships
  + Matt: When offering 100% assistance in 1000 acre watershed, got 50-60% response- maybe covercrops…. Wetlands… just because there are so many wetlands required for acres farmed… would have to complete one a day for next 3 years

## **SERA-46 Meeting, Sept. 28th, 2017- 3:30pm**

## Comments from Eric Young- wants to see real and clear impacts in annual report

* Impact writer will use annual reports first to develop impacts
* If your association with SERA-46 had anything to do with initiation and development of a funded project that should be included in annual report
* Could also include quoted feedback from SERA-46
* Annual report is due 60 days after meeting -> November 2017
* Brainstorming on impacts and items that we want to accomplish/add to agenda- leadership transition; identification of multi-state opportunities; existing SERA-46 membership and needing to bring in more participation
* NIFA funding: multistate does already receive preference- also identified with a multi-state project will provide preference; also with major extension outreach component.\*\*\*\*\*\*
* Reporting activities of group that translate back to institutions and also how we address shared priorities
* Developing template for compiling written report that includes points of pride to include in projects
* Jane: Impressed by accolades given to LGUs by states who reported out to the task force\*\*\*
* Rebecca: would like to know their thoughts about SERA-46 being in on meeting
* Found out of the box thinking to be helpful- Katie found it to be invaluable to have our unique perspectives- felt more like it was one group.

## Updating Shared Priorities

### Strengthening Networks

* SN1: a regional publication is available and that is a document that we can share with the HTF
  + ACTION ITEM: Share N two-pager to communicate that larger document to the HTF, once this is completed- Larry Oldham, Forbes, and Fabian to lead- with a tentative deadline for December- with a focus on Phosphorus-this will share the work of another multistate project with the HTF
* SN2: Rather than be a clearing house- can share CRIS data base with HTF; topics will come up that they don’t know the literature on- connecting them to what is already known. Perhaps include some of that information on a CC monthly call. Pull a summary from the CRIS database to develop a summary of the funded projects, related to this project area. Linking that into the NCRWN webinar series (Rebecca has completed). Share research relevant to the task force work- sharing monthly/regularly. Just update the document to reflect that and keep priority. Information that comes out of the work group may be helpful to direct shared information
* SN3: Develop consistent messaging across disciplines and specialists; a number of states have programs; consolidate ext and outreach programs in each state; ACTION ITEM: develop a consolidated progress report. Notes: this item was more internal to our institutions, could revisit this…. Mike Daniels also involving NRCS to do joint county demonstrations with extension agents. Strike this priority or move to continuous work. ACTION ITEMS: any states that feel that they are moving forward with this to submit paragraph to Amanda for report. Consider aligning messaging with state agencies. Have paragraph to Amanda by Oct. 15th. This priority will be considered done.
* SN4: Strengthen relations between SERA-46, HTF, and ag and food industry- like field to market. Hosting Ag sustainability summit. Katie goes to public meetings to engage. Water quality tool metric; hired a consulting firm to develop a model to develop metric. May engage on an individual basis. Katie not wedded to this, could understand what they are doing. Clarify to strengthen communication between us and ag food industry… to communicate our collective gains and open up the doors to new opportunities… “to explore opportunities for collaboration toward HTF goals” “agriculture and the food industry”.
* SN5: Wes did this. Putting slides out to share point. Potentially developing 2 pager for HTF. This priority will be complete.

### Conservation Systems Research and Outreach

* CSRO1: Midwest cover crop council has this, southeast cover crop council, and southern cover crop council… consolidating all of the existing and growing body of work on the costs and benefits of cover crops. If you have ongoing work- can send Amanda a paragraph; also have a regional committee. Perhaps introduce CC to sources of information during a call- perhaps a presentation? Katie- most states are already contribute a good amount of cost share. NCCC211- cover crops and environmental protection. This would then drop off current list.
* CSRO2: This item has been referred to (NCERA-217 is drainage) and with Laura’s extension document- include a link and then this would be done. There was a CC request for a similar document on P. Forbes did 32 fact sheets on P for SERA-17. Updating existing ones… and perhaps do some extension. Will continue this for strengthening networks.
* CSRO3: research and outreach on multifunctional ag landscapes that provide societal and ecosystem services… Intern assessing this? Matt has paper coming out in PNAS that responds to this. Prioritizing practices that have multiple functions over those that those that serve less. How do we share this information? Katie thinks CC wants to know how to do it. Should we have an extended dialogue about this. Challenges with NRCS rules- how do we engage in a dialogue with new administration, which may be Bill Northey. Matt sharing his paper with team; interested team members include: Wes, Matt, Rebecca, Beth, Amanda, Jane (Multifunctional Landscapes Team). Katie sending us information on their healthy watersheds team. Combining FSA, NRCS, and RMA…. Have an audience to share info with.
* CSRO4: Fertilizer efficiency metric- EDF: nitrogen balance approach to monitoring progress- nitrogen loss response to a nitrogen balance.
* CSRO5: Fertilizer industry and markets can support increased implementation… MN nitrogen rule aimed to limit fall applications.. open for public comment. Impetus is groundwater, not surface water. Fertilizer industry is conducting exactly the opposite types of research. Value in research. Consolidating existing data.. Communicating progress without leadership. Perhaps applying a risk analysis… getting back to 4Rs… slow release fertilizers… etc. SERA-103 (novelty products). Originally posed as a barrier…. This may be a social science research question. MN rule is really a social tool to motivate change. Decision making plays a larger role than science. Code of conduct. Informing CC of barriers, challenges- both environmental and social. (mostly a corn belt issue) Developing two pager: Fabian, Matt, Laura (lead), Forbes, Joe. Pull together by early January or late Feb. Include economic pieces.
* CSRO6: Social indicators and NC1190: revised recommendations to get operationalize results. Want to use metrics developed to track progress. In Midwest, region 5 required all 319 to use SIDMA system. Useful when you don’t have the water quality metrics. Recommendation is to use it in at least one of those to try to use it, and those that have it incorporated into their 319 programs have found it useful. You’d want someone who is knowledgeable of the system and the purpose of the tool. Perhaps having an NC1190 meeting in lower basin with 319 coordinators. ACTION ITEMS: success statement from Richard and edit item A to say implement and move to phase II. Richard to also do a regional EPA webinar?
* CSRO8: Create a network of watershed practitioners. REBECCA, AMANDA, and JOE Project.
* CSRO9: nutrient management- ag 101? Laura thinks it’s really important… Jane did something is like this a long time ago. Rebecca did face to face ag 101 sessions with EPA region 5, agencies, and practitioners… it was a curriculum. Targeted at particular people and EPA paid for it. KY: Farm city field days- joint with partners- 450 people… wanted to see new stock yards, 2-3 talks were water quality…annually with FARM Bureau…. For urban folks that are disconnected. CTIC tours for EPA leadership. Get more information from Amanda about this. Reid: 1-2 min you tube on state centric ag? Dropping this priority.
* CSRO10: work in partnerships with ASA’s CCA program: meeting with Luther in St. Louis. More recent meeting between Katie and Luther… CEUs. Where program needs help, is the soil and water CEU area. Soil and water hours are by far the lowest- increasing competency in that area. Process: go online and apply through portal. Forbes: inheriting CCA exam, and now cannot do trainings. Content: comprehensive systems planning. Conservation planning. Address state regulations and policies. Strike item B. C-“increase opportunities for soil and water conservation training.”A-summarize and identify pertinent training in each state (keep). Keep d. ACTION ITEM: continue to get information that Kyra had. Matt (lead) tracking that. Beth and Larry moving forward with southern region.

### Monitoring and Tracking of Progress:

* MTP1: edge-of-field measures from other states: show special issue of JSWC as product. Encourage standardized sampling procedures.
* MTP2: Combining EOF data is made available more broadly… combine with number 1 and communicate EOF data as it becomes available. Water quality trading.. answering it with models? Laura’s managed databased- nutrient edge-of-field database. And identify gaps.
* MTP3: Walton family foundation Reid and Laura to formulate language on this.
* MTP4: Delete

### Other things we are doing:

* Otto Doerhing: been working with Cathy Kling and that together, they are consolidating an annotated bibliography associated with top 10 papers on economics by Christmas 2017 (move it under CSRO). May be an opportunity to articulate gaps identified. Assuming he’s looking basin wide
* Moving social indicators over to monitoring and tracking impacts (Richard reframing that)

## Leadership Transition:

* Matt moves to advisory committee, Amanda and Beth will co-chair. Secretary will be Mike Daniels.

Impact: Katie writing blurb on impact of SERA-46; maybe memo from coordinating committee. Next CC call is Oct. 12th (maybe 2-3 weeks after). Maybe incorporating a state agency person to give feedback.

Organize outputs, outcomes, and links on SERA-46 page.

Robin and Eric: money, numbers, grants submitted, diversity of sub-teams, truly integrated teams. What are you leveraging? Diversity of Extension and Research. Many projects are research only. Making sure incoming feedback includes proposals and not just funded projects.

## FUNDING OPPORTUNITIES: (let Eric know when we are submitting)

* + Opportunity for CIGs, practices that could be EQUIP eligible, also will fund outreach. Native warm season grasses and pollinators; paying farmers incentive to implement;
  + RCPPs sound like a nightmare.
  + 2018 AFRI
  + potential 2018 EPA
  + Potential for bringing ideas to Walton.
  + EPA small grants (25k)
  + USGS 104G and 104B through WRRIs; cooperative research grant program also; WRRIs in midwest will collectively address HABs
  + Brainstorming with foundations and companies- McKnight;
  + FFAR, Matt and Laura found one
  + Buffet Foundation matched for cover crops in past

## Existing SERA-46 Membership:

* KY: to check on
* LA: remove John Westra; replace with Naveen is now the one to work on regional projects. Her work is in water policy.
* Ohio: Andy Ward? Margaret replaced? She is not in NIMS system.
* TN: Dan Yoder listed for research (RUSLE guy), economist?