SERA-46 Meeting Notes

*Crowne Plaza Hotel, downtown St Louis, MO*

Yellow highlighted areas = action items for SERA-46

Day 1: April 25, 2016

Attendees:

Matt Helmers

Richard Ingram

Rebecca Power

Amanda Gumbert

Jack Jones

Mike Schmitt

Fabian Fernandez

Joe Engell

Jason Hubbart

Jane Frankenberger

Joe Bonnell

Bob Broz

Leslie Holloway – Missouri Farm Bureau

Laura Christianson

Paul Davidson

Beth Baker

Forbes Walker

Elections:

Matt Helmers will move into Chair position from Co-chair, Amanda Gumbert will move from Secretary to Co-Chair; nominations asked from the floor for Secretary, seeing none Rebecca moved Beth Baker be elected secretary to SERA-46, Joe Bonnell seconded, motion passed.

Jack Jones – presented update on numeric nutrient criteria (NNC) for MO’s reservoirs

2005 – 1st stakeholder mtg (community representatives, researchers, activities, farmers, etc)

2009 – NNC approach adopted by the state

Regional

Focused on P (correlated with N and chlorophyll)

Predicted TP from 40 yrs of data using dam height, flushing rate, historic prairie

land cover (historic reference of landuse)

Zone A below regional norm (10th percentile); Zone B within regional norm (10-75th percentile); Zone C elevated TP levels (prone to HABs)

EPA rejected Zones B and C b/c approach did not show how proposed criteria would be protective of aquatic life

\*What is the standard for aquatic life? No large range of natural lakes to compare reservoirs to in terms of aquatic life.

Retention time of water/flushing volume in reservoir dictates processes (> retention time = lake; < retention time = stream-like)

2015 New approach: screening value

MO Coalition for the Environment Foundation filed lawsuit against EPA for not enforcing numeric nutrient criteria

Jason: How we have managed headwater streams and lax in policy in stream management as streams increase in order – if we can rethink how we manage 1st, 2nd, 3rd order streams and restore hydrologic function on those lower order streams then we can more effectively manage nutrients

IN: formally proposed a number P for lakes and rivers 30 ug/l; determined that aquatic life is impaired because of habitat limitations not nutrients

Wisconsin: stratified numeric criteria for P for rivers, lakes, streams, Great Lakes; watershed adaptive mgmt. approach; no numeric criteria for N

Mississippi: What is achievable and when? What are the costs? What are the benefits?

Minnesota: not aware of any hard number

SERA-46/HTF Shared Priorities discussion:

Strengthening Networks:

#1:

1. North Central committee (John Sawyer, others) created a shared document of N/P recommendations – share this with HTF
2. Rebecca Power, Jason Hubbart, Mike Daniels, Andrew Sharply, others created a “light” white paper on this topic and how related to 4Rs; develop communication/edge of field monitoring network related to 4Rs and application recommendations
3. Meta-analysis on the 4Rs (Laura Christianson et al), what information is out there and what are the gaps; N meta-analysis is completed (JEQ article led by Laura Christianson), P meta-analysis under way;

#2

#3: no activity

#4: something to address at future meeting

#5: Wes working on comparison of state nutrient reduction strategies, no current update

Conservation Systems Research and Outreach

#2: Laura Christianson – “10 ways” publication sitting with copy editor right now (from in-field to edge-of-field practices); Jane – currently has EPA funding to have conversations with drainage water mgmt installers

#6: Richard Ingram – submitted two separate phased proposals to EPA to meet $ requirements, EPA has requested the proposals be merged; how to engage the civic community in addition to practitioner audience; interviews/surveys of fishermen, other water users for their reaction and input; leveraging with NC1190 group

#8: network of watershed practitioners and farmer leaders

Rebecca, Joe, Mike, Jamie Benning, Amanda – bring together watershed managers, farmers, leaders to strengthen connections; conduct needs assessment for training needed; host summit(s) to bring farmers together with watershed mgrs.; engage them for training needs; develop needed materials for watershed mgrs/farmers/etc;

Website to check out: Fishers and Farmers [www.onnewground.com](http://www.onnewground.com)

#9: Ag 101:

HTF: how do you change practices to reduce nutrients?

Jane: could we develop case studies? There are lots of “star farmer” write-ups, but what about other case studies of walking side-by-side/day in the life farmer stories? More discussion on Ag 101 later

#10 Mike Schmitt: Partnership with CCA program, definite influencers of producers

Discussion with Luther Smith - New certification in 4R program; each state holds certifications; new certification starting 2017 in Sustainability specialty (environmental, social, economic parameters)

Monitoring, Calibration, and Validation

(hold for later afternoon discussion)

HTF: has set interim goals for loading, sends reports to Congress every 2 years

Update from HTF on modeling? How do you scale modeling?

Ag 101 discussion:

Matt compiled 40 pages of what is out there already based on states;

Is there still a need? What is the need? Who is our audience?

The issue is bigger than just farmers need to do a better job at managing nutrients.

Joe: Rewriting watershed master plan for city of Columbus – he was brought in and asked how should city work with agriculture to protect water quality? City didn’t understand that a systems approach was needed; lack of appreciation for variability within and between farms by non-farm professionals, citizens.

Jane: saying “it depends” is a frustrating response to what conservation practices are needed; can’t we give some scenarios and provide some BMPs as solutions?

Fabian: biggest disconnect is what “works” means and how BMPs “work” in certain applications and where is it going to take us

Joe Englen: what are suites of approaches that work well together?

Amanda: what about soil and water conservation district staff who are not technically trained on ag/conservation practices but who may be the only face at the local offices?

Rebecca: state regulatory staff or EPA staff that don’t have an ag background

Matt: FSA staff as audience

Bob: need to remember economics

Beth: Extension faculty to deliver REACH material to agents, who then deliver to farmers (discovery farms-esq approach), focus on soil health with bonus of water quality

Forbes: where are highest soil test P (STP) values in TN? Focused in middle TN, but highest levels by two homeowners (one STP value of 21,000 Mehlich 1); what about homeowners? How do we address that? Are civil/environmental engineers a target audience?

Rebecca: to pick two threads from this discussion:

1. Agency, government employees/watershed practitioners/NGOs/etc including economics
2. get farmers closer to understanding their impacts to the Miss River basin

Series of videos of farmers/landowners all along the basin

How to extend the appreciation of downstream impacts of farming practices?

Sarah Rutger - Dept of Interior noted Southcentral regional service centers – bring in youth audiences to reach next generation

Can we engage Farm Bureau in video production? Is that a route we want to go?

Joe Englen: engage soybean and corn associations?

Align farmers of the year in each state, Leopold Award winners, etc and make video of each/compile videos

Map of conservation practices installed; Conservation Story Map in Illinois; informally document implementation; trying to link to field days

Monitoring discussion

Mike Woodside – pulling together monitoring collaborative report

1. Part 1: where do we have long-term monitoring on the ground? Nutrient data and stream flow.

Are there gaps? Are there long-term trends? Need consistent information across the time scale.

USGS, STORET, individual states not populating STORET and requested nutrient information; data quality issues in STORET (units, etc); screening mechanism – where do we have our best long-term information? Land grant university-collected data is not in this data set; pilot with MS and TN to increase amount of data to include land grant data

1. Part 2: other on-going monitoring projects – Minnesota has long-term data

Trying to find consistency in units – example: calling nitrate nitrate – and other data collection criteria; Maybe a 3rd chapter (SERA-46) that discusses monitoring, featuring pilots with MS and TN

Matt – update on Laurie Abendroth report from Sustainable Corn project; Laurie is also head of data from Transforming Drainage project; how can we bring data from these two projects into STEWARDS? Laurie thinks it shouldn’t be too hard.

Mike: long-term and process focused monitoring studies are priorities when getting data from land grants; format: WQF schema

How to get this data from universities? Do you ask directors of water centers? Do you ask upper administrators for contacts?

Discussion of where data exists, how to efficiently get data into STEWARDS database

Someone in each state looking for existing data sets, determine how to get data into the system

Monitoring: Who from SERA-46 will work on? Jane will join in, Matt will put out a call to other members. Considering working through water institutes to engage those at each LGU that may have pertinent data. Richard will work with Mike through WRRI.

TN, MS case studies for working with state regulatory agencies to capture land grant data into Integrated Reports to Congress, loading into STEWARDS

Day 2: Tuesday April 26, 2016

Attendees:

Matt Helmers

Richard Ingram

Rebecca Power

Amanda Gumbert

Mike Schmitt

Fabian Fernandez

Joe Engell

Jason Hubbart

Jane Frankenberger

Joe Bonnell

Bob Broz

Laura Christianson

Paul Davidson

Beth Baker

Forbes Walker

Madhu Khanna, Univ of Illinois (economics), joined via Zoom

Vinicius Moreira via Zoom

Erika Larsen – USEPA calling in

Jon Westra via Zoom

Allison Thomson (Farm to Table) – add to conference call list

Katie Flahive

Matt Lechtenberg

Barry Tonning

Glen Salmon – US Fish and Wildlife Service presentation on Landscape Conservation Cooperatives (LCC)

Identifying which partners are the boots on the ground in the Midwest; formed Eastern Tallgrass Prairie and Big River (ETPBR) LCC. First steering committee mtg in 2011.

US Fish and Wildlife is the backbone organization for the LCCs; organize and facilitate mtgs; lots of partners including NGOs, state/federal agencies

Priorities:

1. Prairie restoration techniques
2. River restoration techniques
3. Agroecology practices
4. Urban conservation

How do you get state fish and wildlife agencies involved when they are historically funded by sale of licenses and they are focused on wildlife mgt and not water quality?

LCCs trying to figure out how to engage in HTF/Gulf Hypoxia priorities

Private lands conservation historically opportunistic and not strategic; could we be specific by adding a wildlife component to water quality projects?

How and where to best design and implement conservation delivery (habitat and species mgmt.) throughout the MS River?

Venn diagram of wildlife/water quality/ag benefits: where is the sweet spot?

Who: 7 LCC partnerships in the MS River basin

What: Objectives and Performance Measures – logic models for increasing wildlife benefits; increasing ag productivity; decreasing gulf hypoxia; decreasing implementation costs; What surrogate species indicate progress? Systems: Modified headwater systems; prairie systems; forested riparian; bottomland hardwood systems

Where: need a mapping tool to help identify locations for focused conservation;

Michael Schwartz sharing location information (via Zoom)

Overlaying data from publicly collected info (soils, watersheds, species ranges, etc) to help identify conservation focus areas

USGS – Multi-LCC MS Basin/Gulf Hypoxia Initiative

Data Basin (databasin.org) – set of maps plus data layers

Showed us hot spots formulated with the data

Identify a pilot area: Lower Wabash River Landscape Conservation Design (LCD) effort IN/IL; TNC involved here, bring usual cast of characters writing a LCD document, forms basis document/strategy for requesting $ for conservation; communications strategy will encourage action based on the spatial analysis

Next steps:

1. Continue working on spatial tool
2. Develop project approach for conservation blueprint

Laura: would controlled drainage/raising water level to ground surface for wildlife make sense in Illinois? Does the targeted bird species’ needs timeline line up with cropping demands? More $ may be available for farmer to delay water release.

USACE involved in LCC steering committee to be involved in flooding/ecosystem services conversations

Glen would like to get a small research team together to discuss how LGUs could help LCCs and vice versa; LCCs efforts have to be ground-up – LGUs might be able to help with local Extension contacts

Ecosystem services may become a marketable product for farmers; economics will drive some conservation as commodity prices go down and marginal lands become less profitable to farm and better for conservation; how can we move $ for Gulf restoration upriver to help with hypoxia?

Jason: keystone in this situation could be physical habitat

Laura, Paul, Matt, Beth, Bob, and Rebecca would be interested in working with Glen on more LCC efforts with LGUs

Luther Smith – ASA, SSSA, CSA – certifications

ASA: Certified crop advisors (CCAs)

SSSA: Certified Professional Soil Scientists (CPSS)

Certification is NOT a license (licenses are usually mandatory, certification is voluntary)

Agronomy – ICCA Program, North America (Canada, US, Mexico)

India – program never took off, program closed

Argentina – discussions began, in-country group advised to stop due to political reasons

Academia/government/industry

Exams: 2 (international – everyone takes same exam; local – state/provincial)

Education/experience

Code of Ethics

Why do you trust CCAs? – Code of Ethics

What do they need to know: Nut Mgmt, Soil and Water Mgmt, Integrated Pest Management (IPM), Crop Management

Specialties require more education/more experience: CPAg, 4R Nutrient Mgmt (4R NMS), Sustainability Specialist (SSp), Resistance Mgmt Specialist (RMS)

Sustainability definition adopted from Field to Market; SSp certified individuals working directly with farmers to help them verify claims of sustainability

ASA still looking for professional development opportunities (CEUs) for the SSp specialty area

Local boards determine CEUs

Soil Science Society of America (CPSS) – national board; OH and FL have state boards; some states have licensing; just under 1,000 CPSSs

ASA/SSSA on-line education – predominantly webinar-based; 2016 CEU webinars focused on cover crops and had greatest participation; society controls content even when sponsored by companies, etc.; $9500: cost for 1 hour webinar sponsorship, participant pays nothing; webinars are recorded and cataloged/available online for at least 3 years; system tracks attentiveness and adjusts credit accordingly

\*Crops and Soils magazine – opportunity for SERA-46 members to submit articles which are available for CEUs

Vast majority of continuing education still received at professional meetings: state/provincial or regional/national

Opportunities to partner with SERA-46/CCAs: great overlap of areas of interest

CCAs are a ready-made audience for SERA-46 specialties – especially soil and water mgmt CEUs needed; 4R NMS even more focused for CEUs; new Sustainability Specialty; especially cutting edge topics; opportunity to post events for CEU offerings;

Contact: Luther Smith, [lsmith@sciencesocieties.org](mailto:lsmith@sciencesocieties.org), 608-268-4977

<https://www.certifiedcropadviser.org/>

Cathy Kling – Iowa State Univ; presentation via Zoom

Economic valuation of improved water quality and ecosystem services from conservation practices in Iowa

Iowa goals: reduce N by 41%, P by 29%

What are benefits to Iowans of BMPs?

Scenarios: NCS1 – would achieve 42% reduction of N, 30% reduction of P; cost: $756m

NCS3 – 42% reduction N, 50% reduction P; cost: $1241m

Steps to monetize ecosystem benefits; Focused ecosystem services (clean water, soil erosion, carbon sequestration/GHG emissions, wildlife habitat)

Economic value: how much people are willing to give up of other goods in order to obtain good in question

Example: Value of water quality – what are people willing to give up for improved water quality?

Not talking about economic impact here…

1. Lake Recreation: from Iowa Lakes project were able to link usage data with water quality data (people were willing to drive farther and pay more for recreating in/near lakes with cleaner water)
2. Housing prices impacted by water quality
3. Drinking water treatment cost: what would cost savings be to Des Moines Waterworks if nutrient reductions were hit?
4. Wetland construction

Bob: is cost of production loss factored into economics?

Matt: wetland installation includes cost of buying the farmer out of that land; buying out as if crop ground although location of these wetlands not really suitable for cropland now;

Ray Massey - Univ of Missouri, economics

Useful to Usable project – funded to look at how farmers use climate/weather information; tremendous amount of uncertainty

Decision dashboard has multiple decision support tools: focus on Corn Split N Tool

N application sometimes based on an “insurance” application

Risks/benefits of using post-planting N application in corn

Create scenario based on specific location/weather information/growth stage and estimated date to achieve this growth stage

Economic Analysis portion of the tool based on scenarios from input data, best/worst case

Other output: acres completed summary, crop calendar summary

Jane: Does tool include insurance considerations? No

Discussion of tools predicting profitability; AgSolver, others

Useful to Usable in evaluation phase; universities not great at user interface but best at research/information

Action items: more research; is there interest in focusing on economics from SERA-46? Leadership will follow-up

Katie Flahive (EPA; HTF Coordinating Committee co-chair) – HTF Update

Overview of goals of this week’s meeting: 1) come to agreement and move forward on NPS metrics; 2) outgrowth of January SERA-46 mtg – share strategies; we both have strategies but struggle with moving forward

HTF: interested in stakeholder-led efforts; looking for collaborative opportunities

Where is sera-46 now? HTF will hear from us Wednesday morning; glad to hear update today at public mtg

Federal side: move toward transition of new administration; prep for communication to the transition team to maintain momentum; next report to Congress

Science update: Matt, Rebecca, and Katie spoke with Rob Magnien (NOAA counterpart) on showing scientific progress toward our long-term goal? Some state strategies have science updates/scientific advisory pieces; states need refined knowledge from other states as well as their own to work toward meeting individual state strategy goals

Nutrient stewardship document/4R stewardship in some states

USGS-led 3DEM (3D elevation program) effort on LiDar access point

HTF streamlining its commitments; Who are the partners that they have commitments with?

Funding: federal drought team with funding; Gulf restoration $; HTF to work as a group to gather/synthesize funding resources

Watershed Action Hub: trying to find a path forward after projects loaded have not received interest for funding; Watershed Action Hub redoing website; HTF holding off for now

Matt Lechtenberg – Iowa Dept of Ag and Land Stewardship (co-chair to HTF Coordinating committee)

Report: Measuring Progress on Reducing Nutrient Loads

Measures subgroup; reporting practices implemented (state, federal, private/NGO levels)

Survey to determine how states collect implementation data; all states have an agreement in place or none needed, or there are no state-funded practices; 10 states report annually; all states report on nutrient reduction strategy or at least plan to; some historically data available (all states at least back to 2012)

Federal: public database available for FSA-CRP on county/state scale; different models for 319 – opportunities for SERA-46 to work on this; what is the best model for tracking 319 practice implementation?

States would collect data; report their practices – to track implementation of the nutrient reduction strategies

Big picture: how do we use this data to report on the big picture of working toward nutrient reduction goals?

Next steps: follow up with states to identify critical data category needs; USDA-NRCS/FSA data; private implementation/NGO, agribusiness, individual landowners implementation data – survey to gather some of this information; costs? What is public investment? Private investment? Survey of structural components as well as practices

Bob: is this an opportunity to incorporate human dimension data, such as why farmer changed practice, etc?

Richard’s EPA project will hopefully get us toward these answers on social indicators

Action items for HTF: collaborating on modeling considerations – who is at the state level to work on this?

Breakout Sessions:

Ag 101

Building Capacity for Watershed Leaders

Increasing engagement with HTF

How do SERA-46 members interact with private-sector groups (Field to Market); include

Other SERA-46 Action Items:

Monitoring

Economics

CCAs – working with Luther Smith (information into Crop and Soils magazine; where appropriate get webinars accredited as CEUs

LCCs – working with Glen Salmon

Reports:

Ag 101 (Matt, Fabian, Forbes)

Discussion of punting because of previous challenge to identify audience – no punting

Audience: service providers/NGOs/agency staff with limited training

What media? Calendars, follow SERA-17 fact sheet approach?

Database of conservation practices (1-pager: definition, benefits, costs, where to go for more info/infographics/utilize graphic designer); database for each state; next step might be short videos, include link to state nutrient reduction strategies; Beth also has 1-page info sheets

Matt will distribute this information to the SERA-46 group

No state labels – attribute to SERA-46 group

Building Watershed Leadership Capacity (Rebecca, Joe, Jamie, Amanda, Barry Tonning)

Discussed establishing a project advisory committee (areas represented: CCAs (Luther Smith?), NGOs, farmers, extension/research specialist (Ken Genskow?), agency rep from coordinating committee (Katie Flahive?), state agency rep (Paulette Akers?), watershed project leaders)

Criteria for pilot watersheds (primarily ag, potential for funding, priority watershed in the state, scale HUC 12)

Needs assessment of existing training programs

Established schedule for monthly calls

SERA-46/HTF engagement and communications

(Katie Flahive, Matt Lechtenberg, Mike, Beth, Jane, Jason, Richard)

How can we encourage relationships at the state level so that SERA-46 reps and state reps to HTF talk prior to joint mtgs? *Make effort to meet with state reps before or after.*

How can we be better at getting the ideas to the right people?

How can we work toward having more overlap of our meetings (having SERA-46 and HTF meeting together)

Whoever from SERA-46 sits in on quarterly HTF coordinating committee conference calls needs to distribute notes

Next steps for SERA-46:

Report to the Hypoxia Task Force on Wednesday, April 27; Rebecca, Jane, Richard are providing update on existing projects

Encourage state-level SERA-46/HTF member conversations/communications

Monitoring conversations with Mike Woodside and how that is progressing

Quantitative work and more formal scientific reporting (last two items from Rebecca’s presentation)

Shared priorities circa May 2015…are these still valid? Do they need to be tweaked?

Propose HTF/SERA-46 joint calls?

Tentative plan to move forward with Ag 101; engaging with CCAs; economics priorities

Schedule for Wednesday, April 27th report out to HTF:

15 min + discussion Richard – social indicators

15 min + discussion Rebecca – building leadership capacity

15 min Jane + discussion – translating science, focus on 10 key practices for drainage (and how this document can be utilized), along with Transforming Drainage next steps

5 min+ Matt – cleanup, how SERA-46 logistically structured (mtgs, calls) and discussion, what does HTF want from SERA-46?