PROCEEDINGS:

Leadership for Midwestern Watersheds #8
Social Science and Farm-Level Decision Making

November 1-2, 2017
Butterworth Center, Moline, Illinois

Compiled by American Farmland Trust

LEADERSHIP FOR MIDWESTERN WATERSHEDS

Since 2011, Leadership for Midwestern Watersheds (LMW) has brought together watershed project directors and other stakeholders to compare notes and share lessons learned about watershed projects. Sand County Foundation, American Farmland Trust, Iowa Soybean Association and the North Central Region Water Network sponsor the LMW meetings to encourage the exchange of information and improve the performance of watershed projects in the Midwest. Funding for LMW comes from a variety of sources but the organizers would particularly like to recognize The McKnight Foundation as a core funder for these important gatherings.

A longer-term objective of LMW is to develop a "community of practice" – a group of conservation practitioners who know how to improve water quality through projects applied at a watershed scale. LMW meetings focus on specific topics essential to successful watershed projects, using formal presentations to support the facilitated discussions that form the core of the meetings. Subjects addressed have included farmer engagement, targeting conservation practices for greatest impact, measuring results, project governance, scaling up lessons learned and economic drivers in agriculture and watershed management.

EXECUTIVE SUMMARY

Overview: The eighth Leadership for Midwestern Watersheds (LMW) meeting focused on how watershed projects can harness lessons learned from social science and farm-level decision making to improve their outcomes. First, there was a short course on social marketing which draws from persuasion, psychology and behavioral economics to motivate participation. Then, participants heard five strategies to engage the "middle or late adopters" – those farmers who are uncomfortable with new ideas (e.g. cover crops), use different thought-processes and may need to be approached differently than their innovator-early adopter neighbors. The panel discussion that followed talked about effective communications between farmers and service providers and featured insights from a certified crop advisor, a financial consultant and a land manager. The participants then broke into four groups to discuss ideas for communicating with or engaging landowners and land managers based on what they had just heard. Next up were the results of a qualitative study that delved into the reactions of the partners and participants in the Lyons Creek Watershed Project, part of the Boone River Watershed in Iowa. There was

some progress during the project but farmer participation was low. The partners and farmers who participated had both similar and divergent perspectives on the project, leading to recommendations on how the project could have been improved. The break-out session that followed asked the groups to define three stakeholder groups who managed land, decide what they wanted them to do, define where they were on the adoption curve, what their first lines of communications were and what messages they would use to persuade them. This was followed by 10 rapid-fire summaries of successes and challenges in watershed projects by LMW participants. On the second day, Ivan Dozier, USDA NRCS State Conservationist, Illinois and Katie Flahive, U.S. EPA updated participants on Agency activities and were then joined by Dee Carlson, NRCS for a question/discussion session. Then the participants heard about strategies for getting to scale (i.e. how to expand successful approaches from a few watersheds to many). The breakout session that followed asked groups to discuss the necessary elements of successful watershed management models at the local, state and multi-state scales and consider what elements and connections could work across these scales. After the report out, the participants brainstormed about proposed LMW topics for 2018 and other potential activities.

Key take-home messages

Harness social marketing concepts to improve your outcomes. We tend to assume that our audiences simply lack the specific knowledge to support and adopt new conservation practices and that more information will mean better outcomes. But social marketing improves the chances for success by offering desired benefits, reducing barriers and using strategies from persuasion, psychology and behavioral economics to motivate participation. Bottom line: information is necessary but not sufficient; you need to understand your audience; avoid reactance; reach your audience's emotions so they feel good about their actions; get the right people to deliver the message (a trusted messenger); remember that communication can lead to knowledge and awareness but interpersonal communication (one-on-one) can lead to a change in attitude and behavior. It will take follow up and it WILL TAKE TIME.

To engage the middle adopters, acknowledge their legitimate reasons for not adopting a practice earlier (protect the ego), solve existing problems (as opposed to promising benefits), frame the conversation (e.g. don't present cover crops as simply a practice to add or not to add but put them in the broader context of returns from all agronomic practices), speak their language, not yours (avoid innovative, new, trial and error, learning curve – use this is what we do, a key part of weed risk, nutrient management, easier, basic steps to successes, etc.) and provide clear action steps. Provide details on the 3-5 decision steps along with a calendar or timetable.

To better inform your communication/outreach strategy, establish a work group/leadership team that reflects the geographic area, diversity, expertise and competencies needed. Adding champion farmers will add value and increase the technical knowledge of conservation practices. Gather input from operators and landowners during the planning phase and be careful with project framing and communications. Segment the audiences, understand their

needs to improve messaging and use the different groups represented on your team to deliver the messaging so that it resonates better with the specific audience you are trying to reach. Harness social marketing concepts to reach out to landowners if land tenure is an issue in the watershed.

Successful watershed managers are: encouraging peers to solve problems with peers, prioritizing their resource concerns, maintaining high levels of outreach and education, using innovative ways to show the effectiveness of practices (like a rainfall simulator or a cropping system calculator), working hand in hand with retail partners, tracking reductions in runoff through modeling monitoring and practice implementation, making practice implementation as easy as possible and ramping up the "cool" factor (like using helicopters to apply cover crop seed), considering new approaches (like interseeding cover crops into corn), talking to farmers through trusted advisors, and exploring novel funding to install more practices (like State Revolving Funds in Iowa).

Strategies for getting a watershed project to scale can draw from successful franchising and include identifying the consistent elements of your theory of change, standardizing your operating model (designing a growth strategy and network) and determining the role that network founders can play (e.g. ensuring quality, facilitating learning and providing central services). Other potential models to draw from may include agricultural cooperatives and the systems change approach pioneered in the community health arena that resulted in a whole vocabulary and community practice playbook and accomplished their outcomes within 15 years.

PROCEEDINGS
Wednesday, November 1

Welcome – LMW purpose and meeting goals (Craig Ficenec, Program Director, Sand County Foundation: Forum for professionals who deliver projects to reduce agricultural pollution in watersheds in the Upper Mississippi River Basin. Supported by the McKnight Foundation and in-kind services from many partners. This is the eighth meeting of LMW. In the future, we want to build out this network and build new services from LMW.

Introductions – Done by category: watershed coordinators (11); farmers (2); university (7); federal, state and local agencies (15); NGOs (16); private sector ag consultants (5)

Social Dimensions of Behavior Change for On-Farm Decision-Making

Barriers and Solutions in Working with Land Managers to Promote Conservation (Bret Shaw, University of Wisconsin)
Bret's extension role includes environmental behavior change, promote science-based recommendations; use social science theory to solve problems, understand audiences, help natural resource professionals communicate.

Lots of false assumptions: that audiences simply lack specific knowledge to support and adopt new practices (knowledge deficit model); that more information means better outcomes. Social marketing promotes voluntary behavior by offering desired benefits, reducing barriers and using strategies from persuasion, psychology and behavioral economics to motivate participation.

There is a 5-step process to change behavior that includes select specific behavior; identify perceived barriers and benefits of current and preferred behavior; and develop creative strategies.

Communication outcomes – mediated communication leads to knowledge and awareness whereas interpersonal communications lead to attitude and behavior change.

Source attributes leads to process: power leads to compliance; attractiveness (makes people identify with the message source) leads to identification; credibility (which is probably the most important attribute to have) leads to internalization. You need the right people to deliver the message.

Farmers trust crop consultants, extension agents, other landowners, SWCD, fertilizer representatives, etc. *This is information you need to have to figure out who farmers trust in the watershed.*

There is a two-step flow of information. The information coming from the media are heard by the opinion leaders who then impart the information to individuals who are in contact with them. Opinion leaders pay close attention to the media outreach and inform the individuals in their personal networks.

Norms you need to be aware of include the human tendency to look towards others to guide behavior; effectiveness depends on people internalizing norms (how people should behave) e.g. cover crop champions trusted farmers farmer led councils. This can take more than five years to accomplish.

Social vs market norms: social is usually warm and fuzzy and instant paybacks are not required whereas market norms involve exchanges about cost/benefits, imply comparable benefits and prompt payments and you get what you pay for. These two approaches don't tend to work together – people may work more for a cause than cash.

Motivated reasoning and perceptual filters: we see what we want to see and seek info that confirms pre-existing attitudes; use short cuts when faced with choices. We tend to see the good in ourselves and the poor in others. For example, with shoreline impacts, most people think their property is good and will overlook the bad things they have done. Their normal behavior may be to excessively groom the shoreline whereas the new behavior you want to introduce is to allow the natural shoreline to come back. They did a field study in central Wisconsin to see how people view their property in relation to other properties in terms of shoreline impacts and showed them photos of shoreline to rate on 4 measures (water quality, habitat, usability, natural beauty). Landowners felt across the board that they were doing a better job than their neighbors. This suggests that individuals are motivated to underestimate environmental risk to protect their self-view. They are unlikely to improve their shoreline if they don't perceive a problem. The project tried sending out a map showing how they rank or ask them to rate their property. They got a lot of push-back and resistance from people who did not like to be told what to do.

Emotions and logic also factor in. The emotions are the visceral self and need to go in the same direction as the rational self, the emotions can support the logic.

Segmentation of the audience is also important. We need to divide the population into different segments e.g. diffusion of innovation adoption curve – you don't sell the message the same way to the different segments e.g. innovators, early adopters, early majority, late majority and laggards. This one of dozens of segmentation strategies. *"If you wish to persuade me you must speak my words, feel my feelings and think my thoughts."* See the world through their eyes: Why they should adopt behavior? How do they approach, understand and experience the situation? Ideally, they come to conclusions on their own. You can do interviews, focus groups and surveys to understand the segment characteristics.

Another key principle is the idea of commitment – expressed commitment increases compliance, alters how they see themselves. Written is more effective than verbal and making

it public increases effectiveness. Public recognition (business certificate, PR support, plaque acknowledging commitment, award ceremonies) and pledges encourage commitment. Incentives can include financial, social approval, public acknowledgement, feeling good about self, etc.

Summary: Information is necessary but not sufficient; understand audience; avoid reactance; reach audience's emotions (need to feel good, emotions need to support the actions); get to interpersonal communication; use follow-up – not "one and done;" and behavior change TAKES TIME

Q&A:
Q: Have you looked at Linda Prokopy's research on where they get information from?
A: Don't care as much where they get information from – what is important is who they trust.
Q: Most of us have communications support – do you think they are understanding these kinds of social marketing concepts?
A: My impression is that they are not being strategic, don't have a strategic plan. There is a shortage of people who have this social marketing orientation. We see topical expertise but not the social marketing side of the equation.
Q: Great presentation, it reaffirms my own thoughts. My fear is that my projects won't respond – where do we go from here?
A: Pull together a tool kit that opinion leaders can use to get the messages out. Have a meeting about building up the tool kits to empower the opinion leaders

Engaging Middle Adopter Decision Making Farmers (Ryan Stockwell, National Wildlife Federation): Will give us 5 strategies to take back to our offices
Putting this in context – lots of barriers to cover crop adoption (e.g. public policy; equipment availability, advanced information on over crop management and cover crop performance; need more trusted messengers with effective skills; messages not resonating with majority of farmers)

The mental barriers to cover crop adoption include decision making under risk/uncertainty does not fit rational economic approach (safety in groups; non-voluntary public occupation; with uncertain information, status quo is safest); and we are more willing to recognize problems in others than ourselves. There is no such thing as a rational economic decision. This is used by many farmers who simply don't want to change but don't want to admit this. Decision making under risk/uncertainty does not fit the rational economic approach. For farmers, their "rough drafts" are out there for everyone to see every year e.g. using no-till (two steps – do no-till and then lock yourself in the house so your neighbors can't pressure you).

There are also many factors in decision making: e.g. values/emotion; social support; change aversion; access to information and economic return on investment (ROI). There is a significant shift in mindset and decision making between the early adopters (visionaries) and early majority (pragmatic). Innovators are techies, late majority are conservatives.

Innovators and late adopters use different thought processes. Innovators are more open to new/challenging ideas and more comfortable with uncertainty; see failure as a part of progress, use longer timeframes to evaluation options and do not respond as readily to social pressure. The middle/late adopters are uncomfortable with new ideas that challenge their existing thinking, see failure as a stain on their reputation; use strict short time frames and are concerned with what others are doing to define what they will do. *Ask the farmer how they address a problem – this will help you segment them.*

Barriers to reaching middle adopters include: middle adopter decision-making places raised standards on new practices (i.e. new practices need to be a lot better, not just slightly better); be aware of sub-latent signals, such as: beautiful field = good farmer, rural Midwestern culture (we don't challenge each other e.g. bad erosion problems on a neighbor's farm); messages they are currently receiving do not fit their decision making. We tend to think we can either help these farmers to see the value of soil health from their current decision making or get them to adopt an innovator mindset. The second option doesn't work!!

Strategies for messaging to middle adopters

1. **Protect the ego**: Don't tell them they are wrong, they are failing (they want to think they are smarter than average, they are good people). Provide a means for your audience to protect their ego for their past refusal to change. Acknowledge legitimate reasons for not adopting earlier. Tie to new reasons for adopting now (note how things are different) – point to an external factor (e.g. cover crops are the way to go because now we have new information).
2. **Solve existing problems**: There is a significance difference between promising benefits and solving existing problems (middle adopters run from something, also solving existing problems). General benefits are the same as solving problems. Existing problems have more traction than existing benefits and solving problems means avoiding risk. For example, soil saturated conditions cause denitrification so the corn roots are suffocating and you lose 60% of your N within 3 days but where soil health is high, you can avoid the ponding and soil saturation conditions that occur with high intensity rains. Now Ryan talks about denitrification. But Ryan is an innovator, works with an NGO so is not a trusted advisor.
3. **Frame the conversation**: Establish the history of change. Don't talk about cover crop costs/risks – talk returns of all agronomic practices. There are relative risks for agronomic decisions on corn and impacts on yields (e.g. cover crops have only a 15% risk to yield potential, genetics have a 100% risk to yield potential). Don't present cover crops as simply a practice to add or not to add. That puts the emphasis on new tasks and risks, eliminates current risk from the frame, removes the consequences of a "no" decision. Instead, frame the different outcomes (e.g. weed control in corn/bean/cover system.
4. **Speak their language, not yours**. Avoid innovative, new, trial and error, learning curve, every farm is different, experiment, try it. Use: this is what we do, a key part of weed risk, nutrient management, easier, basic steps to success, common, start simple

5. **Provide clear action steps**. Don't assume they know the basics (e.g. choose your cover crop goals). Provide details on the 3-5 decisions/steps (use a calendar/timetable). Any complications lead to procrastination or avoidance.

Panel Discussion: Effective communications between farmers and service providers (Jason Gomes, CCA, North Iowa Agronomy Partners; Al Bennett, CFP, Compeer Financial; and Kyle Walker, Land Manager, Peoples Company): *Most farmers think they do a good job, most think they can do at least one thing better*

Jason Gomes (CCA): Works one on one with farmers, has a lot of experience with what is working, what isn't working – the devil is in the details and Jason will provide the context for this. He's an independent crop consultant, does about 10,000 acres just sampling soils, lots of scouting, lots of relationships with farmers helping them solve problems. CCAs rank pretty high on trust scale. He starts by talking about any concerns that the farmer has (not necessarily conservation resource concerns). Some of the lessons he's learned – the mid to late adopters respond to social norms, economics, and it helps them to see the early adopters being successful. There were some bad experiences with cover crops early on that they needed to overcome. Land tenure is a big challenge – the farmers do these practices on land that they own or that they know they will have for a long time. Reaching out to landowners, changing leases can be important. Jason rarely talks to landowners, has been mostly reaching out to farmers, building relationships and having discussions.

Al Bennett (financial consultant): Works with peer networks and peer groups. You need to understand the why behind the need e.g. financial benefit, performance efficiency, image, peace of mind/safety/security or other.

Initial design of a peer group should include a work group/leadership team and interested parties. For potential members – think about geographic areas (will they need to travel?), diversity (age to education to experience); expertise; competencies; and the need for transparency. His biggest problem is that crop farmers do not want to share with one another whereas livestock, swine operators like to share (no government programs, have to lean on each other, trade ideas). Design steps to pull the group together include a pre-work survey (potential topics of interest – what they want to talk about), figure out the purpose of each session; design initial meeting agenda, identify a facilitator and figure out the budget.
Peer Group Initial Meeting Agenda;

Purpose of each session – be explicit
Welcome and introductions – Trust building exercise (ask them to say something about themselves)
Goals and objectives for the group – let the group drive the agenda and how they want to use their time
Review topics of interest (pre-survey results with prioritization)
Presenters of interest – planning committee support/pre-call planning
Guiding principles (driven by the participants) include facilitate environment, balance lecture with open mike, professional process meeting frequency, time of day, length of

meeting(s). Also pay attention to culture/trust building/self-driven events and communication.
Communication protocol (again driven by the desires of the participants) includes contact information (email, text, twitter, etc.) along with meeting notes/report
Remain open to CHANGE and fix what doesn't work

Outcomes for Al included:
Grain peer groups: post-harvest and planning review sessions, benchmarking, field tours (cover crops, variety performance, best practices, lessons learned) and risk management (strategy/download) – they will challenge each other
Swine CFO group: critical mass attracts the best presenters, peer sharing, best practices, tax update, diversification, HR issues, captive insurance, media blitz
Swine Operations peer group
Swine Controller peer group: benchmarking, knowledge transfer between the generations

Kyle Walker (land management company): works in Iowa, Illinois, Minnesota. People's Company works in 17 states. They try to identify progressive farmers who align with the landowner's objectives. It is an asset-based approach and incorporates conservation. Of the 16,000 acres he manages, 2,000 acres have cover crops. They are utilizing everything that is out there to promote the use of cover crops. They take more of a long-term view. A lot of the farmers he deals with are younger (35-50) and they are willing to take a long-term approach. They will also add terms to the lease that include conservation, working with the landowner. Most of the landowners like to work with their operators. They weed out some of the tenants (maybe 15%/year).

Q&A
Q: Do you recruit acres or operators and how do you communicate?
A; I work with the landowners – for operators, they tend to reach out to me, talk about the practices they use and even create handouts for me. It is pretty easy to find good operators (e.g. call local co-op).
Q: Do you find a demand for your business with non-operating landowners?
A: Have some landowners who just want to see the check but a lot of his landowners see the land as a long-term asset and want it managed that way. He has 25-30% absentee landowners, about 30% very engaged, another 30% focused on long term asset.
Q: With cover crops, what is the typically arrangement?
A: Landowner owns the farm – 95% cover the cover crop costs. Sometimes there is an arrangement where the landowners buy the seed and the operator does the management so everyone has skin in the game. At first you have to convince the landowners why this is important.
Q: How do absentee landowners find land managers like you?
A: I like to think we do a good job advertising our business – but you can refer landowners to me and I'll try to steer them in the right direction.
Q: Is there enough of a competitive advantage for these landowners?

A: Operators want to be involved in this space and the landowners can be persuaded by documentation of increases in soil health – after year 4, organic residues increase, fertility increases – helps convince everyone. He is protecting the asset, looking towards the future.
Q: For Al: is there a peer group of absentee landowners we could formulate?
A: Yes – if you find someone who wants to do this, there are probably a lot of others who want it too.
Q: Is the peer group approach what I use for an advisory committee?
A: Yes – what these groups need is a process – this provides the process or steps they can follow
Q: For Kyle: land acquisitions have been based on corn suitability ratings (CSR) values. Are perspective buyers now looking at farms more holistically (e.g. soil health)
A: Yes. Local guys know about fertility on farms around them, who is mining the soils. When we identify farms to buy for our clients, we look at everything.
Q: On several farms, we see P build-up in soils – how do you address this (we're asking farmers to mine the soils for P)?
A: Kyle: Don't see this.
A: Jason: We do see this where they need to mine the P out of the soil.
Q: Some of the newer research shows transport of P out of drainage tiles. Some of the P can be held by the soils but when there is too much, it leaches out.
Q: How do you see the land transfer in coming years play out?
A: Al – I do a lot of land succession planning, we know how to do that. But it is harder when the younger generation doesn't want to farm and this is becoming more common. They don't know whether to sell, how to handle the land. If they really care about their farm, they may want to maintain the terraces, the practices they had implemented and look for an operator who can continue that legacy.
Q: As we embark on the next farm bill, does the current programming work well with these land ownership patterns?
A: Kyle: There are several good programs in place but we need to educate the landowners on what these programs are and what they can do and how they can sign up. There are plenty of programs out there and we hope they don't go away (e.g. CRP).
A: Al: What many landowners really want is peace of mind (CRP may align perfectly with these needs).
Q: Kyle: So do you do a life time trust or do you find a young operator who wants to take over the farm?
A: Al: I have a farm in my family but my step kids don't want it so my estate plan – farm stays in the trust to support my wife, when she passes the farm stays in the trust for 7 years so the step kids think about the value of owning farmland, get the rent check – and then they can sell it.

FROM BREAK-OUT DISCUSSIONS: (from notes taken on flip charts)
Ideas for communicating with or engaging landowners and land managers:

- Rebranding from "environmental" name to something that speaks to broader group; also get out of government label (i.e. list DeKalb County first versus Soil and Water Conservation District first when organizations are named)

- Challenge for wetlands organizations: who are the trusted advisors and how do we work with them?
- Take away: Change language when working with middle adopters
- Importance of hitting seasonal windows for decision-making
- Ego issues: folks agreed with value of addressing egos
- Costs/market signals also critical e.g. being in value-added pool (organic green market)
- Need market signals and other rewards/systems for farm advisors (CCAs, ag lenders, land managers)
- Different organizations can reach different "middle adopters"
- Need to influence bulk commodity system if we are going to make a difference; can start this process in local watersheds.
- Rely on early adoption farmers as opinion leaders to influence other farmers
- Make sure to communicate successes and challenges with funders (e.g. US EPA, NRCS, states, foundations, etc.)
- Growing audience: landowners – Can we get property tax benefit for landowners who are doing the right thing (e.g. reducing taxes for landowners who control soil erosion – quantify the public benefit)?
- Target public funding to edge of field practices
- Peer groups via ISU extension: farmer led watershed
- Peer groups with livestock seem to work better than grain only
- NWQ1 – do watershed assessment and divide outreach strategies (lesson here – didn't know how to do this, not a list of products). In particular, find "target" operators
- Tell strategists: how are they segmenting audiences – especially across differential innovation theory (early adopters, late adopters)?
- Idea: Put producers into groups (people who know the producers)
- Practice: field signs to showcase practices – but how to evaluate effect? It's an ag to non-ag communication
- Farmer recognition – signs from farm manager; another watershed example: they use signs
- Takeaway: language tweaks are good. Big yellow helicopter – get on the bandwagon!
- Lesson learned: field days with producer-led discussion. But only the believers are there. Event is too big. Idea to do smaller sessions (= 12) – maybe think about segmenting.
- Use incentive $$$ program to get them to meeting – no paperwork, no strict requirements
- Believers but not actors – plan to take meeting off their plate
- Monsanto-industry programs for new CCAs
- Farmer networks – tri-county farm bureau
- Don't discount twitter
- Agency-led watershed plans need to be farmer driven
- May have a 9-step plan with intense outreach plan – but only thing that works is face to face (door knob bags, flyers, etc., social media)
- Take away: information giving is not sufficient (AGREED!)

Lyons Creek Watershed Project: Lessons learned from partner and participant reactions

(Andrew Stephenson, and Mitch Avery, Center for Social and Behavioral Research, University of Northern Iowa)

This is an 11,000 acre watershed, sub-basin of Boone watershed. Predominately ag, privately owned. Has highest N concentrations in the Boone watershed. Project coincided with IA Nutrient Reduction Strategy. There was some progress but low farmer participation. They wanted to know why. They set out to understand the strengths and weaknesses of the project.

They did a qualitative study (interviews) with key informants (LCWP staff and partners via telephone) and then with farmers (landowners and operators) – face to face and telephone (60-90 minutes). All of the responses were coded to identify areas of correspondence and convergence

Shared perspectives between key informants and farmers: key role of partnerships (helped event planning, cost-share, importance of IA Soybean as lead was important to farmers); importance of champion farmer who shared experiences and equipment (good rapport with farmers, good credibility, well-accepted successful person in the community); complexity of landowner-farmer relationship may influence decision-making in unanticipated ways (operator thought his landowner might want a cut of the incentive payments; landowners have ability to influence tenant – farmers felt landowners needed to be educated which was difficult for the project to do; many landowners were reluctant to talk to their operators); difficulty changing long-standing practices (change is difficult and age of farmers may contribute to resistance to change) – and change may mean admitting you are doing something wrong; reframing blame approach – call to action on water quality and focus on farming practices perceived as placing blame on farmers (projects are always better when the locals see a problem and want to solve it rather than coming to them and telling them they have a problem and need to solve it); farmers also identified the urban contributions to the water quality problems, that they weren't the only source of water quality concerns) – crop farmers blamed the hog farmers and hog farmers blamed the crop farmers.

Unique perspectives of key informants: LCWP had mixed success as best (no common definition of what success was – they did feel the partnerships provided benefits and was most successful part of the project); need full-time coordinator with multiple skill sets; concurrent programs muddled the identify and opportunities available through LCWP (e.g. funding from EQIP as well as LCWP; MRBI people working at the same time); getting the landowner-farmer early (could have tailored approach better); increase focus on data, technical assistance and follow-up (farmers liked the data); longer term timeline for watershed projects (can actually build relationships, educate before you roll things out)

Unique perspectives of farmers: recognize importance of healthy soil and water quality (live with the water, value good soil and water – but use visual characteristics to evaluate water (no longer as much soil erosion so they can see improvements); associate current farming practices with improved water quality (tillage; grassed waterways; manure application methods); perceived high cost and incompatibility with current farming practices (e.g. only a bit of their

acreage located in watershed; delayed payments in programs; year to year lease problems so they wouldn't see benefit of long term practices; may be phasing out of farming before they see benefits); incomplete understanding about negative impacts of nitrates (questioned severity because of natural levels of N in soil); inoculation against blame (liked that the project indicated they were making a good faith effort)

Recommendations

- Existing components to continue: partner with knowledgeable and trusted groups; add champion farmers to add value and increase technical knowledge of conservation practices
- Existing components to strengthen: limit overlaps with other ongoing activities; active recruitment strategies, sufficient support for staffing, adequate communication skills
- Existing components to add: incorporate educational information emphasizing geography and location; address incomplete understanding of contamination; gather input from operators and landowners during planning phase; be careful with project framing and communications

Q&A:
Q: What was the time frame of project in relationship to the Des Moines Waterworks controversy? (2015)
A: Program interviews were done in 2016 so it was a hot topic. When there is controversy, try framing the issues differently (e.g. instead of focusing on water quality, focus on soil health (benefits on your farm, not down stream)
Q: What if the N problem is on the farm instead of downstream?
A: Farmers may get defensive. However, monitoring data can show them they are getting better. Certain practices are more acceptable (e.g. bioreactors, one time action that they don't have to deal with later on)
Q: With your "Limiting overlap" recommendation – overlap is how we can get a lot done because there are a lot of resources coming into the watershed. What did you recommend to the project?
A: They could have improved the knowledge of the landscape, that they were all in the same watershed. That can cut through all of the acronyms caused by project overlap.
Q: How can the watershed groups coordinate the funding efforts within the watershed?
A: We don't have a great answer. From the audience: One watershed coordinator just grabs what she can find, the landowners don't care where the funding comes from. She makes it clear it is all part of one project. EQIP funding is usually obvious because of the paperwork. Also, a lot of watershed coordinators are housed with SWCD which makes it easier.
A: Think about the different ways we receive information, voluntary versus "if you pay us" – that changes the conversation. Can frame as "buying your services" or "this is a transition payment." These are very different approaches.
Q: What about funders who want their names on everything?
A: There is a difference between project-based framing and place-based framing. If we have a project based orientation, we may forget that local participants are there for the long term – it really is placed based. Projects come and go.

C: Project coordinators are being asked to be doing more and more with less and less – it is hard to get a trained person in and keep them.
C: Long term observation – cultural practices (cover crops, no till, nutrient management) take a minimum of 3 years to reach success.

Facilitated Discussion (Mapping Exercise): define three land managers you want to reach, what do you want them to do, where are they on the adoption curve, what are their first lines of communication and what are the messages you would use

FROM BREAKOUTS (flip charts)
Group 1:
Audiences (voted on to prioritize): farm manager, local landowner, agronomist, absentee landowner, local owner operator, tenant-operator
Local owner operator:

- Goal is soil health (education/outreach) nutrient loss (N) leading to impaired water quality, participate in conversation: Use no-till and cover crop adoption. These need to be shared goals
- Middle adopters - first line of communication = opinion leader using practice
- Remove barriers e.g. make equipment accessible; supply contractor list
- Messages: we have new information! Soften blow of "doing it" or "wrong way" and neutralize negative messages (all reasons not to adopt cover crops)

Local owner-operator

- Middle adopter: develop relationship first – what are their concerns before you talk about conservation issues
- Takes 5-7 years for naysayers to get to the table; more one-on-one

Agronomist

- Be an advocate
- Deliver consistent message
- Messengers include farmer opinion leaders; peer that advocates for no till/cover crops; extension agronomists; coop general manager; watershed coordinator offers CEUs
- Messages: state wide meetings, use social pressure – it is the thing to do
- Identify business case/strategy and associated incentives
- Get them involved in watershed projects
- Ego support: give them the answers to give to their clients
- Heartland coop = low-hanging fruit

Women landowners

- 65% owner/co-owners in Iowa
- May be more early adopters; tend to get cover crops in quicker
- Use women messengers, take different approaches
- Attitudes towards stewardship more positive

Farm Managers: lease agreements; environmental and social; governance; long term view of the land

Drainage districts
Absentee workshops: cover lease agreements; empowerment; education
Farm Management: how to make them aware of competition; advantage of conservation leases
Operators: use trusted advisors; use of retired agronomist/NRCS employee = locally known person; establish long term relationship because behavioral change takes time
Method and messenger can vary; who connects with farmers, trusted
CCA education to have information provided to everyone. Prevent differing opinions on topics.
Need to understand goals!!! Objectives for clear messaging.

Group 3 (choose absentee landowners)
To develop communications material and messages, need to determine where they are on the adoption curve, these questions might help:

- Appearance of the farm – input?
- Why do you own it (how did you come about owning it), why do you still own it (e.g. middle adopter, 1 generation removed)
- Ask questions to understand their values - utilitarian versus preservation versus etc., - what is their connection to the land?
- Your intentions for your land (e.g. keep it in the family?)
- How informed are they re; agriculture, are they making farm-level decisions; what level of emotion towards their land;
-
- Resident NOLs are influenced by the farm community, level of emotional attachment likely high

Summary: We came to the conclusion that farmers are taking primarily an economic risk while landowners are likely taking a *social risk* when they decide to try something new with farming. Like farmers, landowners who are in the "middle adopter" category will be strongly influenced by their communities and peers, and will be concerned what others will think, while innovators might not be bothered by the neighbor's ideas (or social pressure to not tell the farmer expert "how to farm").
Common value among farmers and landowners: "leaving the land better". Good to appeal to this value – but is leaving it better returning to some former glory/nostalgia or moving forward into the future, new technologies, new ideas? This will impact messaging.
Who is the trusted messenger for the NOL? Who do they trust? Are we the right messengers?

- If the landowner responds to science/data, the conservationist with a lot of research might be more trusted than family members
- If they have good relationships with their families regarding the farm, the messenger might be a family member
- A trusted community leader
- The farmer (often viewed as the "expert" in farming, defer to his/her judgement)
- Might not be the retailer or crop advisor, as it might be for the farmer.

Is there an opportunity to be a third party mediator between owner-operator?

LMW network briefings: quick profiles of successful strategies and tactics in water projects across the Midwest (successes, challenges)

Nancy North – Leads a Watershed leader network (part of Fishers/Farmers network). Peer to peer network. This is a national fish habitat network and includes representatives from agriculture and conservation. They make technical expertise available – basin perspectives and tools are brought to the local level to help landowners and farmers make sound decisions. Started with the question about what farmer-led groups need to succeed. They all wanted connection, wanted support to make cultural shifts. They designed two 3-day workshops for local watershed groups with strong farmer participation. They brought in leaders from successful watersheds, using story telling. Sort of like a learning circle where each person was talking about their experiences, their goals and all were listening to one another. Peers are solving problems with peers. They want to start training more workshop leaders.

Tariq Baloch (Middle Cedar watershed) – urban perspective and Shane Wolf – project coordinator. Now at halfway point of the Middle Cedar Creek project, completed a watershed plan; nearly all funds are obligated – now reflecting back on how well they are doing, how effective the practices are – they have multiple projects in the same area which need a lot of coordination. They are trying to reduce the amount of effort, synergize the projects, communicate better between projects. They are starting to talk about what they'll do after the RCPP is over. The first year they were very slow in getting practices in place but now they have made great strides. They still have a lot of outreach/education and evaluation. They know reduction is happening but don't know the overall result – are facing a challenge with collecting data. Providing outreach and technical assistance to 435 landowners/producers and using land retirement, N application rate, no till, cover crops, etc. They have an overwhelming demand for cost share funds. They are trying to raise additional funds and engaging media, general public and business. Challenges include edge of field practice design; cover crops (army worms and tile plugging); funding. Now have 6,500 acres cost-shared, about 20% of the watershed using cover crops.

Melissa Keenan: Southwest Wisconsin (Baraboo River watershed – P problem). They use a rainfall simulator that they take everywhere and it works really well. It cost about $15,000 (custom made out of Kansas). It shows how effective cover crops are, no till, rotationally grazed pasture versus regular pasture. They also have other soil health tools (showing infiltration rates, etc.). Also showing grazing folks how easy it is to rotate so they purchased the equipment to take out to the farm and show they that there isn't a lot of work involved. They also use a budget spreadsheet that helps lay out what they are making with row crops, what they could make with grass-fed beef. They also put up rotational grazing at work and cover crops at work signs. The "at work" phrase is important for social norming. They include the address for their facebook page and a telephone number.

Rebecca Wasserman-Olin: Land Stewardship Project: Cropping systems calculator update: released new publication in October 2017 (Soil health, water and climate change pocket guide – available on line to download). The calculator now has increased crop options additional

location defaults; easier to use interface and easier to input with personalized regional defaults. Can upload 6 different locations – looking now to expand beyond MN into other Midwestern states. Compares grazing options, row crops, cropping systems. Also incorporating a basic soil erosion estimator (using RUSLE: rainfall factor (county average), soil erodibility factor. Slope length factor, cover management factor and support practice factor.

Rich Stewart (retired NRCS): Copperas Creek Watershed – 46,000 acre watershed, initial meeting in 2001, primarily ag with corn/soybeans/livestock/pasture/some wooded areas. Received 319 grant in 2016. Has 100 miles of watersheds. Have lots of projects lined up to address soil erosion (stream bank renovation, grass waterways, catch basins, riparian waterways, etc.). Have a consistent staff and they sell the conservation work. They prioritized their resource concerns. Have done a lot of media outreach.

Kris Reynolds, AFT: Upper Macoupin Creek watershed in Illinois (high yielding P): 137,694 acres, 850 landowners and operators (52% are NOLS). Have 14 partners in the project. Want to improve awareness and understanding, increase conservation activity by 40% and achieve a 25% reduction in P and 15% reduction in N. Also want to reduce gully erosion by 50%, no fertilizer applications on snow or frozen ground and livestock manure effectively stored. Includes both MRBI and RCPP watersheds. Have done a good job addressing gully erosion but only 1% of the corn is no-till (state is 12%). Retail partners are key – Environmental tillage systems. They are starting a field certification process (adapted from Champaign County). Also doing water quality monitoring. Between modeling, monitoring and knowing practices that are going in, they can track reductions.

Darrell Smith, Oconomowoc Water Protection Project – 80,000 acres, RCPP – P reduction is primary goal. They are using helicopter application of cover crop seed. Had a goal of 200 acres of aerial application but ended up applying 1164 acres. They had problems with crop dusters – small fields, houses close by. Used a small yellow helicopter with a hopper and 400 lbs of seeds. They have great footage of this. Even with poor weather after cover crop seeding (3 weeks of drought), they were successful. Approximately cost was $50/acre (half for seed, half for application) – get about 6 acres per hopper (covered by grant funding). Will be reducing amount of seed/acre that will reduce costs. Challenges include a good take-off point (100 yards of clearance into the wind to take off and clear obstacles); had some equipment challenges with hopper. Some farmers who had been resistant are coming around – the cool factor (yellow helicopter) helped. Primarily cereal rye, some wheat and barley.

Dan Towery: Ag Conservation Solutions. Interseeding cover crops into corn (V4-6 – about 8" tall). Has been working with cover crops for 12 years. Not widely adopted yet but is steadily increasing. Started in Quebec, land grants studying it, ready for prime time. Short residual herbicide program required, seed between V4-6 (6-8" tall). Covers grow 6-8" in height and then go dormant. Covers start growing again when corn dries down. There is no yield drag – sometimes a small yield bump. Improved weed control. Allows cover crop diversity, not just cereal rye. Lots of options for types of cover crops that can be used. Can start with hand seeding, use rotary hoe with linear seeder, can seed while applying side dressing, interseeding

drills, some with high clearance. Corn < 35,000 otherwise too much shade. Some farmers have tried this in soybean but there may be too much shade competition.

Jean McGuire – The Wetlands Initiative (Illinois). Can put constructed wetlands on very marginal land – had to figure out creative ways to talk to farmers. Going through other NGOs like Corn Growers, AFT – help introduce them to farmers. Now trying to work with CCAs and other crop advisors to help farmers develop their nutrient loss reduction strategies. A one acre wetland can treat about 80 acres. Most of the wetlands are about 1 acre, largest one is 1 ½ acre.

Adam Keil: Iowa Soybean. Trying to bring in more money but complexity increases as you bring in more money. Working with 3 cities in Iowa to utilize State Revolving Loan Funds to work with farmers up stream to install practices e.g. Des Moines takes out a $ 1 million loan, pay back $220,000 in interest plus the million. But Iowa allows them to pay back on a lower interest rate but city has to use the savings for more watershed projects (=$100K). Using the watershed plans as a prospectus they can use to show the opportunities upstream (costs/benefits). Communities have a long-term view, want to see all of the benefits to see if it makes sense.

Thursday, November 2

Agency updates

NRCS Program Updates (Ivan Dozier, State Conservationist, Illinois)

Has been with NRCS for 37 years working in watersheds. Worked for a while in Macoupin County which has more public lakes than any other Illinois county in the middle of the atrazine problems. Partnerships and watershed planning are critical. You need to involve all of the stakeholders. They all need to be educated about biology and the needs of agriculture and the environment, create a plan for implementation and secure buy-in from landowners and farm operators. Collaboration helps. NRCS has more people working on private lands than any other agency and a great delivery system with more infrastructure on the ground. USDA is re-organizing, NRCS will be under a new under-secretary (farm production and conservation) that will include Farm Service Agency and NRCS. There will be opportunities to better align the programs and the paperwork but there will also be cut-backs. For example, they are losing 1,000 vehicles nationwide (44 in Illinois). There will be a cap on expenditures. There is also a new farm bill that will look at the conservation programs. The numbers will not go up.

Regarding RCPP: We see a lot of applications that are just ideas, sometimes not ready to go. If you want to talk about RCPP, you need to go to your NRCS office and talk about the program. The funding comes from the cost-share programs and the bulk of the funds go to the farmers for the implementation of conservation practices. You need to understand that the funding goes through contracts (financial assistance) to farmers with only a small piece for technical assistance. NRCS needs some of this because they take the applications and rank them. It is also important to make sure your project ideas are scalable. You will probably not get all of the funds you request and will have to negotiate with NRCS. You can help NRCS better target their

funds to certain areas. There are a lot of things that NRCS can't do. They sometimes can't get the right staff in the right place and partners can help with this. They also can't buy food for meetings. They can rent the bus.

EPA Updates on Gulf Hypoxia Task Force, NWQI watershed readiness pilot and 319 grant program (Katie Flahive, Gulf Hypoxia Task Force)
Consider EPA as a reference on the 319 Program. Give the regional folks a call and use your state nonpoint source coordinators.
NPS pollution is diverse and dominates the nation's impaired waters – includes agriculture, onsite septic systems, acid mine drainage, unregulated suburban/urban runoff, forestry, etc. In 2016 had $163 million allocated to states requiring a 40% match. Averages about a million or a million and a half per state. They updated their guidelines in 2013 focusing on project oversight and showing results. Every 5 years, states update their nonpoint source management plans. All states plans are current as of Sept. 2015 and are on the state websites. They will be updated around 2019, 2020 so now is the time to talk to the state agency partners.

The national program coordinates with the regions, influences the state programs and the new 319 projects now require watershed-based plans (WBP). They provide the technical basis for implementation and lay out the approach for engagement of affected stakeholders and landowners in adopting conservation plans. A key piece of WBP is identifying critical areas (most in need of treatment) versus priority areas (which may need a protection strategy). Agriculture has the highest number of projects in 319 (2,000 from 2008-2013). There is now a big community doing the same work that you can leverage. The 319 program is a catalyst for funds leveraging and coordination since many states level well beyond the required 40% match. Think about what is the right stuff to spend the 319 funds on since other funds may be more applicable to other parts of the project. There is no specific model required for reporting reductions – most use STEPL, Region 5 or RUSL. They track results with Grants Reporting and Tracking System – this is the primary tool for management and oversight of EPA's NPS pollution control program. This is publicly available – when you enter data into GRTS, everyone can see it. EPA also likes the success stories (2 pager) that come out of their projects that they can share. They have a highlight report that comes out of 319 available on-line along with key ideas, key challenges, key successes.

Ohio, Oregon, Idaho, Iowa and Delaware all have CWSRF Sponsorship programs – you can subscribe to EPA's *NewsNotes* – 2 issues have talked about the Sponsorship program, there is also a webinar (April 2017) and a guidance on financing options for nontraditional eligibilities in the CWSRF.

Hypoxia Task Force: By 2035 want to reduce the Gulf Hypoxia zone to 5,000 km2. They are releasing a report today that tracks progress towards the 20% reduction target (see https://www.epa.gov/ms-htf/hypoxia-task-force-reports-congress.) They use a five-year average for monitoring since the measurements are very flashy. There is a downward trend in nitrogen which moves with the water. Phosphorus is more challenging. P moves with the water but also builds up in the soil, reaching a saturation point. In areas where there is P build-

up, the P is now becoming mobile and leaching out into the water. N and P are very very different. Their current focus is figuring out how to better track their progress and show they are making progress. They collaborate with SERA-46 priorities, nutrient reduction strategies, collaboration and partnerships and collectively reporting on successes. All 12 states have developed draft nutrient reduction strategies or completed strategies. EPA is trying to figure out how to use all of the monitoring data, modeling data, implementation of conservation practices, etc. to track progress towards their goals. They are developing basin-scale NPS measures (this year, develop and report on common NPS metrics by state), point source measures (first report out in March 2016, second report early next year, continue to develop PS metrics) and modeling considerations (how can state information and stat be used by federal and regional modelers in MARB scale nutrient reduction tracking models?).

The priorities for SERA-46 (12 land grant universities from each of the 12 states – represented by research scientist and extension specialist) looking at key priorities and strategies. This information is on-line and will be updated before the end of the year with the key questions they are looking at including social and civic engagement indicators.

NWQI readiness phase and pilot project approach: helps assist with watershed planning. They focus on watershed level assessments through watershed planning and conservation planning including watershed assessments to identify and target critical source acres for treatment and develop outreach strategies by prioritizing the critical areas and engage producers. They are testing pilot approaches and started last year. There were 21 pilot projects in 17 states and about 6 of the states are continuing to do watershed planning. It is funded through EQIP.

Q&A/panel discussion (Ivan Dozier, Katie Flahive and Dee Carlson, Conservation Innovations Coordinator, NRCS, Washington, D.C.)

Q: There is a lack of access to water quality data in my state (Iowa) – most of the states don't post data and the state programs databases are not user-friendly (STORET database). We need a simple application that could help us upload our data – baseline data, monitoring data. We need a broader level integration, maybe at a HUC12 level to protect privacy.
A: You share a key desire that EPA has – to make STORET useable. Our requirement is that if there is CWA funds going into project, the data has to be uploaded into STORET.
Q: Part of the challenge is 1619 in the farm bill that makes it difficult to share data from farm fields.
A: There are two key data sets – water quality monitoring and conservation practice implementation.
Q: The P problem is challenging. It brings up some needs. How do we integrate the new information on P (e.g. P index)?
A: The key thing is that you have to look at what is happening on each farm – soil tests. This will give you the needs on the individual farm. We are learning new things about how P behaves in the environment. It can be coming from manure applications, fertilizer applications or from the soil reserve. P steadily moves down the stream, attaching to soils, detaching, moving.

Q: Can you comment on future of RCPP?
A: The immediate future is good, doesn't see many changes between this fiscal year and next year. If you think RCPP is valuable, you need to let people know. If the other programs are gutted, this will impact RCPP. The farm bill is coming up and these things are being discussed right now. There will be more stress on working lands and we need to be looking ahead. Consumers are more concerned about how their food and fiber is produced rather than if they have enough.
Q: 30,000- foot view – we spend a lot of money on conservation practices. One year is not enough time to improve soil health – it takes at least 3 years. Has there ever been an assessment after 3 years to learn if farmers are still using the practice?
A: Not a thorough one – problem between policy and science. Everyone wants an implementation program but not planning, not evaluation. This is a challenge for us. We need focused people that demand we look at this. We used to stay in a watershed for multiple years but then we needed to start jumping from area to area.

Strategies for getting to scale: expanding successful approaches from a few watersheds to many (Rebecca Power, University of Wisconsin)
Starting with premise that there is not less money, it is just in different places. The Idea of getting to scale is also not new but we can determine the necessary elements of our theory of change – what do we need to have in place to be successful?

We have the hypoxia task force goals of 20% reduction in N and P by 2025 and 45% reduction in P and N long-term. We need it all – the different kinds of practices perform differently with different effectiveness. We have to balance the needs of the ecosystems and working lands. For Iowa, need about $756 million per year to reach their goal and for Illinois, $728 million per year. The level of implementation needed is huge – like 12 million acres of land under cover crops in Il and in IN. So how do we get the level of implementation needed and how do we eliminate water impairments while maintaining other ecosystem services?

What do we know about getting to scale, water as a common pool resource, necessary elements of successful watershed management model? Getting to scale – what can franchising teach us? Franchises leverage the knowledge of successful systems and successful adaptation strategies; increase attractiveness to investors and customers; and shape administrative resources e.g. grant writing, technical expertise. See Bradach 2003 (https://ssir.org/articles/entry/going_to_scale)

The first step is to identify consistent elements of our theory of change and determine how to replicate the operating model (e.g. design growth strategy; design the network; determine the role of network founders (ensuring quality, facilitating learning, providing central services).

C: (Mike Baise) Maybe a cooperative business model may be more applicable since farmers understand these? Co-ops do have some similar elements that we may be able to build on.
C: (Carol Hayes) In the community health arena, they did this by going through a systems change process starting at the local level using strategies that were working well. They

developed a whole vocabulary, community practice – they accomplished their outcomes after about 15 years. We have this example to look at. This was a community based, collaborative approach. There are a lot of resources out there that describe this – Carol evaluated the Illinois program.

Water as a common pool resource (private good (bottled water), club good (swimming pool), public good (lakes with sunsets), common pool (the water we manage where access can be limited because the common pool resource can be depleted). Social change (Ostrom 1990) principles for governing the commons: define clear group boundaries; match rules governing use of common goods to local needs and considerations; rules cost matches benefits; ensure that those affected by the rules can participate in modifying the rules and make sure the rule-making rights of community members are respected by outside authorities; develop a system vetted by community members for monitoring members' behaviors; use graduated sanctions for rule violators; provide accessible, low cost means for dispute resolution; build responsibility for governing the common resource in nested tiers from the lowest level up to the entire interconnected system. We (watersheds) use rules like limits on systems (nutrient criteria), limits on behavior, incentives, barrier removal (shared equipment), etc.

Necessary elements of successful watershed models include human capital, social capital, watershed finance systems and policy and governance. Human capital includes watershed leadership (from everyone), professionalizing watershed management (certification support from professional organizations, advantages of networking, professional level compensation; skills and training. Social capital includes community involvement, social networks, etc. Watershed financing: federal, state, SWCDs, landowners/managers, NGOS, water quality trading, etc. Governance includes local, state, multistate, cross scale considerations. Examples of some possible elements include: 1) watershed numeric goals for N and P set at state level with federal oversight; 2) adapted to local conditions; 3) timeframe for getting to goals; 4) statewide HUC 10 monitoring, 5) HUC10-12 scale watershed projects with watershed plans; 6) local networks set local rules; 7) consistently apply sanctions; 8) statewide networks of coordinators; 9) training systems; 10) foundation public funding; and 11) professional organizations.

Facilitated Discussions (what are the necessary elements of successful watershed management models at the local, state and multi-state scales? What elements and connections can work across these scales?

Report Out:

Group 1

Coordination: You might have a lot of partners but there is a critical coordination that has to happen at the local office level (watershed project may not be integrated into the office so watershed coordinator may not have access to the NRCS projects – they have to hand off the farmers to a completely different process). As you go up to the project and then multiple watershed projects, you have to coordinate as well.

Communications: The 4-Rs (improving nutrient management by using the right source of fertilizer along the right rate at the right time and in the right place) is not enough. It needs to be a systems approach, no silver bullet. But every partner needs to frame 4Rs as a first step, not the end goal. They need to adopt a system of practices that include good nutrient management.

Reporting and Evaluation: Collecting local data and aggregating the data up – you have lots of partners collecting data under a variety of parameters. Are there common parameters all partners can be monitoring, in addition to their specific goal (i.e. one partner might want to collect data on mussels, another might not have goals associated with aquatic biodiversity)? Also a problem with baseline – the monitoring funds usually come after the project is underway.

Finance issues: We need to monetize water quality – we need to reward based on the outcomes. The use it or lose it funding from the federal government isn't helping – you are throwing money away at the end of the year and not targeting it.

Group 2: Water quality trading in priority watersheds versus non-priority watersheds. Sometimes the non-priority watersheds lend themselves more to WQT. Look at the drainage district model (what are the needs (e.g. equipment) – function like a drainage district board). Farmers with a mature system (typically 4 years of cover crops and no till) can start reducing their fertilizer applications

Group 3: Identifying pre-planning and pre-monitoring; having enough watershed coordinators funded sufficiently across states and in place with seed funding to leverage from; doing even more to have consistent watershed monitoring in place; setting expectations about project timeframe, seeing water quality improvements – difference between a project mindset and a place-based mindset. Need to maintain practices over time regardless of funding.

Also need legislative leadership to make this happen – and understanding on the part of legislators about what a watershed is.

Group 4: Need to minimize political divisions across county lines, putting that in a watershed plan. Prioritizing ways to get retailers into the game, helping with funding. Quantifying the outcomes – need narrative and story in the meantime because not everything is numbers. Recognizing how important communication and outreach is. Minnesota has a very logical process in the works right now. And professionalizing watershed coordinators and farmer leaders.

Next Steps for LMW (The tables brainstormed ideas for topics and additional functions and then prioritized by voting.

Proposed LMW Topics for the 2018 Meeting

Communicating

- Theory of behavior change (8)
- How to engage absentee landowners (7)
- Continued and more in-depth "behavior change" discussions by Shaw & Stockwell (5)
- Using "Behavior change" strategies to assess barriers to opportunities and needs (2)
- Industry, marketing (telling story), and outreach. Added to social science (2)
- Effective communication to non-traditional stakeholders (1)
- Telling a story (1)
- Training advice on setting communications goals (0)

Financing

- Engage with supply chain (6)
- Financing in general (5)
- Public and private financing (4)
- Getting grants from private sector: what they want (not just "good PR") Cargill, Mosaic, Pioneer (1)
- Non-traditional funding strategies – e.g., crowd funding (1)
- Payment? with 319 grants (like NRCS) (0)

Planning

- Measures &evaluation plan: ahead of time (pre-planning) (3)
- Computer design information from Agren (1)

Evaluating:

- Evaluating projects, tools to monitor, time scale success; "telling the story" (7)
- Evaluate outreach strategies (0)
- Additional outcomes from watershed projects (0)
- Frameworks and templates (shared across programs) (0)
- Consistent evaluation/standards (0)

Partnering:

- Private sector engagement: Midwest Row Crop Collaborative, local co-ops. What are they doing? How do we partner with them? (10)
- Setting up the right peer group: strategic, to accomplish specific goals (4)
- Engagement of multiple rural communities around one project (not just retailer and farmer) (4)
- Development, maintenance & effective use of partnerships (2)
- Examples of effective engagement of ag retailers and agronomists (2)

Other:

- Farmer panel – cross section of "diffusion of innovation" curve (6)
- How do watershed managers get local community support for watershed projects? i.e. local $$, local news coverage, local recognition of innovative farmers (4)
- Defining the role of watershed coordinators and tips for success (4)
- Add a day to the format to do systems mapping around: how do we make identified actions real? (3)
- Policy – state, federal, local overview: requirements, innovative state policies, important topics to address through policy (funding, capacity building, planning) (1)
- Follow up on farmer certification with large companies (i.e. Walmart, USDA NRCS Resource Stewardship Evaluation tool program, etc.) (0)
- Theory of change – small watersheds to larger areas (0)
- Phosphorus cycling, dissolved reactive phosphorus (DRP) measuring and treating (0)
- Farmer discussions (0)

Other activities for LMW

On-line info

- Social media (FB page or group) or list-serv to share events, info and/or share resources and ideas – (1)
- Quarterly email blast – (0)
- Webinars of success stories (short) – (2)

Training on specific topics

- Webinars on: "selling" conservation; social science; sharing successes of other projects – (4)
- Understanding the P-cycle and current science – (2)
- invite a communications person to the meeting/call – (0)
- communication goal setting – (3)
- develop a certification for watershed coordinators – (11)
- develop resource list of expertise among watershed coordinators – (2)
- LMW certification CEUS – (1)
- Meetings for watershed coordinators (in each state) – communication strategies - (3)

Forum to share experiences

- Develop method to share successes/recipes for successful watershed efforts – (9)
- Regional meetings like this in each state for local coordinators – (3)
- Blog? – (0)
- Coordinate sessions/workshops at regional conferences (e.g., SWCS) – (5)
- Urban and ag interaction – (4)

Access Funding

- Exploring creative/other types of conversation financing "mechanisms (13)