

NC1190: Catalysts for Water Resources Protection and Restoration: Applied Social Science Research

Minutes compiled by J. Arbuckle from Sarah Church and Kristin Floress notes

Report Information:

Annual Meeting Dates: 06/02/2015- 06/03/2015

Meeting Participants:

Babin, Nick; Burbach, Mark; Church, Sarah; Davenport, Mae; Denny, Riva; Floress, Kristin; Gasteyer, Stephen; Kaufman, Eric; Lai, Jennifer; McGuire, Jean; Morton, Lois Wright; Prokopy, Linda; Rissman, Adena; Ribaud, Marc; Ulrich-Schad, Jessica

Sharing, June 2, 8:30 – 10:30am

Each person in the group shared 1) accomplishments outside of NC1190, 2) accomplishments related to NC1190, 3) three big ideas to work on as a group in the coming year(s). Each person has written a one-page summary, which can be accessed for details. “Big ideas” were noted on a flip chart to be discussed in more detail.

Some networking occurred during the sharing session in order to coordinate/link similar interests and opportunities.

Synthesis discussion – 11:00am – 3:00pm (lunch 12:00 – 12:45pm)

- We began with a discussion about how to store the group’s papers, abstracts, survey tools, Extension materials, educational tools, messaging, etc.
- Linda asked that everyone send all abstracts published since last meeting to be emailed to the NC1190 listserv.
- Jessica agreed to set up new Dropbox so everyone can upload their abstracts, papers, surveys.
- Kristin developed a separate list of “big ideas” to discuss in the afternoon – includes names of people who are “assigned” to think about/contribute to the ideas. The group discussed the “big ideas” generated during the morning session. Kristin has generated a document that details each idea.

Surveys

Upload surveys to Dropbox. When uploading these surveys, include citation information at the top of the survey instrument. If questions are used in other surveys, please cite the source of the question.

There was a discussion about how to account for ownership of the survey instruments: use citation for the instrument; include contact information on the survey instrument if you want to use a question(s) from the instrument.

Categorize by social constructs or particular theories we are developing/analyzing. This includes the idea of refining questions and communicating the effectiveness of each question.

Need better measures for adoption. Need to be careful of using “willingness” as a proxy for adoption. See Silva et al. It is harder to measure behavior. It was suggested that this is a prime opportunity to partner with biophysical scientists (LIDAR, drones, etc.). Relates to knowing what conservation

practices are being implemented. This relates to leadership – knowledge transfer versus transformation. Maintenance of conservation practices also relates to adoption. It is difficult for Universities to get this data. NRCS may be able to survey participant farmers (there is still privacy concerns regarding getting this data). A new survey could be developed that is more general in nature asking farmers about when they implemented conservation practices and if they have continued with the practice.

June 2 afternoon session: Discussion of Big Ideas to inform renewal proposal

1. Synthesis and modeling– Linda, Adena, etc. (see Kristin’s notes)

- a. Data – applying/populating/building models/testing and validating
 - i. Filling models up with data
 - ii. Mae, kristin, linda, sarah church, adena, Kathy, mark b.
- b. Operationalizing the models
- c. WRITE THE MODEL PAPER – Linda, Kristin, Nick, Lois, Stephen, Adena, Jenny
 - i. Write it for the renewal, then build it back out for a paper
 - ii. Shifting baselines, the new normal
- d. Data collection instruments
 - i. Database of surveys – include surveys with notes on how to cite and where questions came from (cite other people’s work)
 - ii. Upload PDFs with the citation information
- e. Who is measuring/exploring which constructs
 - i. Include theory and social constructs, team members can contact each other directly to inquire about instruments
- f. Standardization–standardize human dimension data so that it can be used across regions etc.
- g. Improve measure to understand adoption – systematic testing of adoption questions
 - i. Best way to ask fewest number of questions to get desired information

2. Models and their use in water projects – how are the models implemented in terms of policy.

- a. Putting together the biogeophysical with social: How do you insert human dimensions into the models?
- b. Understanding process of how models are legitimized/delegitimized. There was also a discussion about trust in information and models. These tie into information – where does information come from, who uses, who trusts what, etc.
- c. Cross-scale paper about the use of models. Categories were developed at a previous meeting regarding the nexus between social dimensions and biophysical dimensions across change in time and space (includes scale – see Cash et al. 2006). It was suggested that we use this to standardize data for modeling – shows catalysts and baseline conditions.
- d. Or a few local case studies
- e. How models are used and presented to communities – how they are used as tools (ACPF); can include other models, tools
- f. Decision support tools
- g. Scenarios
- h. Information flow
- i. It was suggested that rather than developing a new model, test/populate existing models with data to see if they models hold. It was then suggested that by using the framework/model, we will be aligned as a group for all of our research. Each research agenda needs to be harmonized – through

“The Catalyst Paper” (the orange box of the NC1190 framework). It was suggested that we work on a paper that lays out this model, which will also feed into NC1190’s next proposal (model came out of the first proposal). It was also suggested that the model be more developed/beautified (**assigned to Jennifer Lai and collaborate with Lois and Nick**). A question was brought up about shifting baselines and how to account for this in the model. It was suggested that the paper come out of the NC1190 renewal. **Assigned/interested (model paper): Nick (lead, convene paper group), Linda (lead on NC1190 renewal), Lois, Stephen, Kristin, Adena**

- j. Populating existing models-Metadata of our case studies. Assigned: Kristin, Linda, Sarah, Nick, Adena, Kathy, Mae
3. Groundwater – Stephen and Mae
 - a. Comparative groundwater research, across regions
 - b. Groundwater/surface water interactions
 - i. Modeling to intervention around conjunctive use.
 - c. This piece applies to renewal - expanding to quantity and groundwater from quality and surface
4. Adaptation – Adena, Mae, Stephen, Sarah
 - a. climate related
 - b. storm water – community resilience to storm water problems – nutrients that make it to the Gulf, it is 10-15%
 - c. septics
 - d. Driving increases in water rates
 - e. Effects of climate change on policy design
 - f. maladaptation
5. Food/Energy/Water nexus
 - a. Big issue because policy world has acknowledged that there is a relationship
 - b. #1 funding opportunity for 2016 – NSF, EPA, USDA
 - c. Work on catalysts can be reframed in terms of these
 - d. We have something to contribute – how are decisions made, who makes decisions (decision trees)
 - e. Policies are in contradiction (voluntary measures + ethanol mandate) How do local watersheds work within that contradiction? ethanol mandate, etc.
 - f. Multiple catalysts
 - g. Advisor research could be applicable
 - h. Footprints, nutrient cycling, irrigation, water supply
 - i. Corn – energy, water, irrigation, drainage
 - j. (corporate concerns about sustainability of supply chain) – can corporations do something to guarantee sustained supply over time?
 - k. What drives seed corn production, how does this lead to water use, surface water impacts
 - l. What is it that needs to be done to manage that resource?
 - m. Impacts of wood bioenergy on water resources
 - n. Next steps

- i. Overview paper that highlights the need for social science for this issue
 - ii. Literature does not seem to address the impact of the social – life is messier than taking policy as a given. Interactions between people/institutions/urban/rural/ag.
 - iii. NSF undergraduate experience grant (multi-institution)
 - iv. Stephen (lead)
- 6. Human right to and use of water in the rural-urban interface
 - a. Economic water scarcity
 - b. Access to complete plumbing facilities
 - c. People are unable to drink water coming through their pipes or unable to afford the water coming through their pipes
 - d. Storm water compliance orders being rolled into rates
 - e. How does what we do on the land impact access to this most basic resource
 - f. Legal cases – Des Moines, Toledo, Flint
 - g. Are the legal cases catalysts that lead to change?
 - h. WOTUS
- 7. High profile cases as catalysts (f and g above) – issue attention, how long is the window of opportunity/time scale for being able to initiate/measure change due to a high profile catalyst weather event (e.g. Katrina)? There is also a time lag for initiating policy and seeing results (harming actions and cleaning/mitigating actions). This has to do with political and public support.
 - a. There was a discussion about messaging and education surrounding soil health and water quality.
 - b. Threat of regulation as a catalyst for change. There was a discussion about regulation being too prescribed to address local context and farming as a system
 - c. Includes combining education with payment incentives.
 - d. Also includes thinking about farming as a system. Misconceptions of public regarding who producers are (e.g. faceless corporations), and efforts being made by farmers, etc. (also feeds into food supply chain – what drives planting decisions, decision path analysis).
 - e. Urban/rural/ag divide – we don't understand each other. How to focus on problem. Building understanding of the processes that impact inputs to water on their own property. What is appropriate for their land?
 - f. A catalyst like drought has been dampened by crop insurance and hybrid seeds, etc. This relates to mal-adaption measures
 - g. Look at different types of windows/catalysts (e.g., nutrient reduction, drought, flood, etc.)
 - h. Next steps
 - i. Team database – look for time/window within the data
 - ii. Introduce the topic – question is then about the window of opportunity (how to turn an event into a catalyst).
 - iii. Examples (think about scale and time): Toledo, Des Moines, etc.
 - iv. Slow vs. fast change
 - v. Extended parallel process model – test the model on these events
 - vi. NSF rapid response funding
 - vii. Paper: How can accidental events be leveraged and in what time frame?

- viii. People interested: Jessica, Adena, Stephen (will convene meeting in July), Sarah, Nick
- 8. Rural/urban/ag divide (Note: post-meeting discussion focused on strong potential overlap between this and previous point, idea of comparative case study paper on catalysts and rural-urban divide under consideration for a paper)
 - a. The group engaged in a long discussion about how to tackle this topic. What's new about this? This has been an issue for a long time.
 - b. Next steps
 - i. Paper: Comparative case study that bridge the urban/rural divide (process paper, water specific, stories of bridging and not bridging the divide)
 - ii. Yahara (trading)
 - iii. MAEAP (certification)
 - iv. Organize a case study on the Wabash River watershed (farmer tour in Lafayette)
 - v. Wisconsin watershed (shoreline, Kristin)
 - vi. People interested: Adena (meeting convener), Kathy, Jessica, Sarah, Riva, Kristin, Stephen, Linda
- 9. International cross comparisons
 - a. looking at catalysts internationally, similarities, differences, nations as units of analysis
 - b. cross-boundary management issues regarding watersheds
 - c. how are lessons/best practices being transferred among nations
- 10. Policy mapping: Where policies apply
 - a. Multi-level analysis using nested scales
 - b. Mapping component of NIFA synthesis
 - c. There was a discussion about how to go about analyzing this type of data. Policy first? Land categorization first? Spatial analysis generally? Importance of visibility and storytelling of maps?
- 11. Book–edited volume centered on what we know about catalysts (Mark, Stephen, Eric, Linda, Jean, Kristin, Lois, Adena, Mae – circulate to everyone)
 - a. Rural studies is looking for manuscripts
 - b. Need outline to tie into proposal
- 12. Civic capacity/civic action/transformational leadership. There was a discussion about “leadership”, the outcomes of leadership, and whether the leadership is transformation.
 - a. Relates to adaption and maladaptation. “Leadership” is value-laden. Who are the leaders? What is a “traditional” leader? Who can be the innovators in the existing political system? There was a discussion about a civic capacity gap – willing to change, but do not talk to other about it. We should consider also teaching “leaders” how to communicate their practices, etc.
 - b. Network of people that can be activated on an issue and engage in collaboration.
 - c. Civic capacity and transformational leadership as antecedents to successfully addressing problems. Theoretically leadership should lift up community and take it where it should go.
 - d. What do we mean about leadership and where it should get us? Value laden
 - e. Difference in leadership around BMPs vs. civic engagement.
 - i. Likelihood of adopting practices
 - ii. Likelihood of talking to others about your practices
 - iii. Gap between those who are doing the right things and who the people are who envision themselves as leaders
- 13. Disconnect between actual behavior and willingness/interest – Linda, Kristin

14. Nutrient management – hold for discussion tomorrow on Ken’s and other work
 - a. Strategies for tile drainage
15. Risk management strategies for farmers generally –
 - a. Theoretically a mediating factor in behavior
 - b. Attempts at mitigating risks for farmers
16. Build upon leadership development programs- hold for NCRWN
17. Best practices in extension/outreach – doing action research – test/use others’ work (put on Dropbox)
18. Adaption Innovation theory, problem solving
19. Schneider and Ingram Policy Tools – water paper, Mae, Adena, Stephen, Kristin, Mark B., Riva
20. Maintenance of practices over time

Voting on big ideas: Results

Idea	Votes
Applying models (data)	6
Food/energy/water	6
Temporal aspects of catalysts	5
Urban/rural/ag divide	5
Civic capacity, leadership	4
Improving behavior measurement tools	3
Adaptation	3
High profile cases as catalysts	3
Schneider and Ingram policy tools	3
Models and use in water projects	2
Groundwater	2
International cross comparisons	1
Maintenance of practices over time	1
Building model for renewal/paper	***
Book	***
Actual behavior vs. willingness/interest	***
policy mapping	***

Topics for more discussion on June 3

- Applying models
- Food/energy/water
- Temporal aspects of catalysts
- Urban/ag/rural divide
- Book
- Building model for renewal/paper

June 3 8:30am – 12:00pm

Renewal discussion

September 15 deadline

Everyone will have to redo Appendix E

Email reminders will be sent

Points from June 2 discussion

Expand from nutrient management, to effects on groundwater. It was discussed that water needs to be thought of more holistically. It was suggested that energy/water/agriculture/sustainable food supply chain be included in the NC1190 renewal. Water equity (human rights to water) could be considered as a catalyst for change (in terms of NC1190).

5-Year Project Goals discussion

Think about the reality of what we're actually doing. Which objectives are we actually working on? We learned that the team collectively was working on all 5 objectives.

Objective 1 and 2: Move this objective to *testing* the typologies. Fold together Objective 1 and 2.

Objective 3

Objective 4

Objective 5

Other ideas to capture for Objectives:

- Food/water/energy nexus
- Time and space
- Catalysts
- Urban/rural/ag divide
- Modeling
- Disproportionality – decide on the research effort to make on this. There was a discussion about whether the spatial topic would fit in the disproportionality concept. We want to be sure to cite some of the strategic papers in the renewal.

We need to capture what is new. We have achieved some things, and we are moving forward incrementally. We are consolidating and developing data sharing and creating meta-data.

It was decided that each person should contribute two sentences to each objective, as to how they will contribute (e.g., research questions). Capture what everyone is working on for each objective (use the one-page updates).

There was a discussion about whether to bring in new members. The Law and Society group was mentioned; one or two lawyers/social scientists could be candidates (Ann Marie at University of Illinois). There was a discussion about diversifying the group in order to include more diversity (e.g., people of color). Dr. Jennifer Blesh was mentioned as a person who might fit with the group (she may not be a "pure" social scientist). We need to keep the group small enough to continue productive conversations. There was a discussion that the group is National in scope. It was suggested that the renewal highlight that we are National, and to change the language to focus on "natural resources" not

just “agriculture” – thus this will encompass a larger audience and land use types. There was a discussion about including tribal members.

Linda will organize next steps. Modeling folks will develop the “new” model to include in the renewal.

Book

- Catalyzing Change: Social science research approaches for natural resource management
 - Theory, methods – could possibly repackage existing material + the perspective of the practitioners and how social science helped their process.
 - There was a discussion about what “social sciences” to include. It was suggested that we keep it within the existing team (e.g., natural resource social science).
 - Repackage existing work and tell stories that are not rigorous enough for peer review.
 - Could break up the book by method (rather than discipline).
 - Include practitioners as authors (case studies).
 - By including theory, methods, and case studies, the audience expands: academics, practitioners, agencies, NGOs.
 - Consider organizing the chapters by catalysts – could use the group’s framework as an organizational tool.
 - **Assigned: Mark, Stephen, Linda, Jean, Marc, Kristin**

Logistics:

Workshop model (ASU)

Next topic

Kristin read Ken’s email regarding State-Level Nutrient Reduction Strategies. The purpose was to see if we could integrate SERA-46 goals into NC1190. SERA-46 would like NC1190’s help on social indicators, human dimensions, etc.

NC1190 could help inform implementation of State-level nutrient management plan.

Contact Ken if you would like to be in a SERA-46 social science subcommittee.

Elections

2015 – 2016:

Linda, *Chair*

J., *Vice Chair*

Adena, *Secretary*

Next year

Meeting will be in Des Moines, IA. There will be a tour of the Des Moines Water Works. The dates will be decided over email.

Next steps

Outcome of first subgroup meetings

- Synopsis/abstract that goes out to entire team.
- If it will be a paper, lay out authorship and leadership.
- Send out to larger group.

The rest of the meeting was spent going through the other “big idea” categories to assign meeting call instigators.

Ended with everyone saying what they gained from the meeting.

Meeting closed at noon.