

NC 1190 ANNUAL REPORT FOR 2011-2012

Project Activity Number: NC 1190

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

Period Covered: June 2011 – May 2012

Date of this Report: September 2012

Annual Meeting Dates: June 4-6, 2012

Participants:

Kathy Brasier (PA), Angie Carter (IA), Ben Shin (IA), Jean McGuire (IA), Kristen Floress (WI), Stephen Gasteyer (MI), Mark Burbach (NE), Ken Genskow (WI), Carmen Agouridis (KY), Lois Wright Morton (IA), Linda Prokopy (IN), Nathan Mullendore (IN), Bill Kruidenier (IL), Eric Kaufman (VA), Marc Ribaldo (USDA-ERS), Mike O'Neill (USDA-NIFA), Ricchard Moore (OH),

BRIEF SUMMARY OF MINUTES OF ANNUAL MEETING:

The 2012 Annual meeting was held at the National Great Rivers Research & Education Center, Alton, IL.

Member updates: Mike O'Neill shared a USDA-NIFA perspective on the value and contribution of multi-state projects, emphasizing the importance of this project's focus on social science in water resource issues. Members shared updates on relevant activities (see compilation listed under Accomplishments, Impacts, and Publications). Updates reinforced multiple points of connection and opportunities for expanded collaboration, including those listed here:

- Underserved audiences
- Nutrient trading
- Farmer use of practices (adoption, maintenance – surveys)
- Collaborative farmer groups
- Leadership re: WQ
- Long-term research
- NR education and delivery
- Disproportionality (bad actors)
- Institutional capacity and barriers
- Policy and social networks
- Defining and measuring success

Review of Progress on 2011-12 Action Items (from 2011 annual meeting)

1. Case study templates and comparisons. A template structure was circulated following the 2011 annual meeting. Few case studies were documented using the template. Kristin Floress will lead a group in 2012-13 to review and compare cases.

2. Communication among project members. Linda Prokopy will continue to maintain the email listserv hosted at Purdue University. The project will discontinue the shared web platform for the project that had been hosted at Penn State. Following the meeting, Ben Shin created a file-sharing folder using dropbox.
3. Communicating about the project through special sessions at conferences. Two special sessions were conducted in 2011, one at the Annual conference of the American Water Resources Association, and one at the International Symposium for Society and Resource Management (ISSRM). Suggestions for potential special sessions for next year include: ISSRM, AWRA, SWCS, Midwest Political Science Association, Law and Society, as well as exploring potential connections with any relevant eXtension communities of practice.

Developed Goals for 2012-13:

1. Finalize Catalyst typologies and submit paper for peer reviewed publication
2. Case study aggregation and explore potential for developing and publishing papers
3. Focus on Disproportionality – scoping paper and training plan
4. Focus on CLIPN group – leadership framework paper submission
5. Book prospectus for Rural Studies Series – human dimensions of water in rural settings

Goal 1: Typology paper. Prokopy will lead the effort to finalize an article on typologies and submit for peer review in 2012.

Goal 2: Case study project. Floress will lead an effort to expand collection and analysis of case studies from NC1190 members. Members will be requested to submit 2 case studies each, representing variability in our approaches and research emphases. Kristin will develop an online form to support case study collection. Team will explore potential to apply and test the catalyst typology. Team: Kristin (lead), Carmen, Linda, Kathy, Mark

Goal 3: Disproportionality scoping paper and training plan. The group discussed common interests and applied research opportunities/challenges related to “targeting” watershed management activities. A March 2011 policy memo from USEPA Assistant Director Nancy Stoner outlined expectations for states to develop statewide nutrient reduction strategies based on targeted and prioritized watershed areas. That catalyst memo reinforces related activities by conservation and agricultural interests (such as an emphasis on the 4Rs – right source, right rate, right place, at the right time). The project group will develop a scoping paper and outline a training plan that could engage Cooperative Extension programs with numerous partners in supporting research, training, and outreach related to understanding and practicing “targeting” and related concepts. Group: Ken (lead), Lois, Linda, Carmen, Richard, Marc, Stephen, Nate, Jean, Kathy, Ben. Ken will develop a concept summary and outline of a scoping paper and distribute to the project group. The group will follow up and expand concept via email and additional communication venues as needed.

Goal 4: Collaboration/leadership/institutional/policy networks group (CLIPN). NC 1190 recognizes the importance of leadership, civic engagement, and watershed governance. This group will develop a working paper focused on developing a framework to explain how leadership related to water fits within leadership ideal types – matching type of situation to leadership structure and helping to clarify choices. The paper would review leadership literature, examples of water leadership programs, and develop conceptual picture of these models of leadership (what was goal, how did they try to achieve goal, what kinds of measures of success). Multiple components may be considered: a theoretical piece over the next 6 months; an inventory piece over the long term,

depending on funding; development of Extension reports and outreach materials. Group: Eric (lead), Stephen, Kristin, Mark, Angie.

Goal 5: Book prospectus (Stephen, lead). Water in Rural America: Catalysts for Societal, Decisions, Conflicts, and Solutions. Stephen will expand a draft/develop a framework abstract, then ask for contributions from NC1190 team related to chapter suggestions. This is a potential focus for the 2013 annual meeting.

Election of officers for 2012-13

The following officers were elected for 2012-13:

- Mark Burbach becomes Chair
- Richard Moore as Vice-chair
- Kristin Floress as Secretary
- Carmen Agouridis as Secretary-elect

The group suggested that In subsequent years, the Secretary will become Vice-chair, the Vice-chair will become chair, and a new Secretary-elect will be confirmed.

Next Meeting Date and Location

The 2013 Annual Meeting will be held in Ohio at Stone Lab in Lake Erie (fly into Toledo, drive to Port Clinton, ferry to Gibraltar Island). Tentative dates are the week of June 3, 2013. Richard Moore will host and follow up regarding dates and location.

The agenda for the 2013 annual meeting will include a review of progress on annual goals, a focus on developing funding proposals, and potentially outlining book chapters. Beyond NC 1190 memberships, officers will consider extending invitations to Doug Jackson-Smith, Jim Pease

ACCOMPLISHMENTS AND IMPACTS

NC1190 is in the early stages of the project and focusing on refining the project scope and identifying opportunities for collaboration around common objectives. The group has established common frameworks for communicating and documenting case studies, and has launched two new catalyst study areas (CLIPN and Disproportionality), along with a book prospectus. The compilations of outreach, funding, publications, and related research plans included below provide an overview of relevant work among members and includes additional contributions from members who did not attend the annual meeting. The items are included here for documenting activity as well as for accessible cross-referencing among NC 1190 project members.

Outreach Presentations and Workshops:

Agouridis, C.T. and R.C. Warner. Using Weep Berms in Mining, Construction and Agricultural Operations to Improve Water Quality. 2012. Developers: Presented at the University of Kentucky, Lexington, KY, May 3.

Agouridis, C.T., A.A. Gumbert, and C.D. Barton. Riparian Buffer Restoration Workshop. 2011. Developers: Developed for the LFUCG Stormwater Quality Incentive Grant Program. Presented at

the Kentucky Horse Park, Lexington, KY, October 5.

Agouridis, C.T., S. L. Plueger and J.R. Turpin Rain Gardens for Stormwater Management. 2011. Developers: Developed for LFUCG Stormwater Quality Incentive Grant Program. Presented at Coca Cola Refreshments USA, Inc., Lexington, KY, August 18.

Agouridis, C.T., S.F. Higgins, and A.A. Gumbert. Implementing Livestock Best Management Practices. 2012. Developers: Developed for the LFUCG Stormwater Quality Incentive Grant Program. Presented at the University of Kentucky Spindletop Farm, Lexington, KY, April 24.

Agouridis, C.T., S.F. Higgins, and A.A. Gumbert. Implementing Livestock Best Management Practices. 2011. Developers: Developed for the LFUCG Stormwater Quality Incentive Grant Program. Presented at the University of Kentucky Spindletop Farm, Lexington, KY, October 25.

Brasier, K., and K. Hess-Reichard. "Conewago Creek Conservation Initiative: Preliminary Survey Results." Presented at the Soil and Water Conservation Society annual conference, Washington, DC (July, 2011)

Bundy, D. Davenport, M.A., Trushenski, J. & Whitley, G. (2011). Time to fish or cut bait?: Boaters beliefs and practices associated with aquatic invasive species and pathogens. (poster). The International Symposium on Society and Resource Management, June 4-8, 2011, Madison, WI.

Carter, A. and Rebecca Christoffel. Presentation. "Success Indicators in Community Program Development and Partnerships: a Case Study of an Urban Fishing Program," American Fisheries Society Annual Meeting, Seattle, WA. September 2011.

Carter, A. and Rebecca Christoffel. Presentation. "Success Indicators and Partnerships: a Case Study of an Urban Fishing Program," International Symposium of Society and Resource Management, Madison, WI. June 2011.

Carter, A., Rebecca Christoffel, Lois Wright Morton. Presentation. "What's the Catch? Success Indicators in Urban Fishing Programs," Midwest Fish and Wildlife Conference, Urban Fishing Symposium, Des Moines, IA. December 2011.

Carter, A., Rebecca Christoffel, Lois Wright Morton. Presentation. "Can We Eat It? Urban Fishing Programs and Water Quality," Midwest Fish and Wildlife Conference, Human Linkages Symposium, Des Moines, IA. December 2011.

Carter, A., Lois Wright Morton, Rebecca Christoffel. Presentation. "Is There a Hook? Urban Fishing Programs and Water Quality." National Sea Grant and Land Grant Water Quality Conference. Portland, Oregon. May 30, 2012.

Davenport, M. featured in "Minnesotans care about their creeks, in a roundabout way." (2012). Minneapolis Star Tribune, April 5, 2012.

Davenport, M. featured in "Sustaining watersheds at the local level." (2011). Minnesota Forest Scene, Department of Forest Resources, University of Minnesota, Fall 2011, Issue 7.

Davenport, M.A. (2011). Assessing community capacity for sustainable watershed management: Models and tools from the social sciences. Minnesota River Interagency Study Team Modeling Focus Group, St. Paul, MN, December 12, 2011.

Davenport, M.A. (2011). Civic engagement and water stewardship: Promoting sustainable behaviors for water resources. Minnesota Association of Watershed Districts Annual Conference Communications Workshop, Alexandria, MN December 1, 2011.

Davenport, M.A. (2011). Human community assessment in watershed projects: From theory to practice. St. Croix Basin Implementation Team Meeting, St. Croix Falls, WI, October 20, 2011.

Davenport, M.A. (2011). Increasing stakeholder engagement in water resources management: From theory to action. WaterShed Partners Meeting, Capitol Region Watershed District, St. Paul, MN, September 14, 2011.

Davenport, M.A. (2012). A social science-based approach to civic engagement and stewardship in watershed management. Clean Water Council Meeting, St. Paul, MN, April 16, 2012.

Davenport, M.A. (2012). Community capacity for sustainable watershed management: Assessment tools from the social sciences. Ecological and Water Resources Division, Minnesota Department of Natural Resources Seminar Series, St. Paul, MN, March 20, 2012.

Davenport, M.A. & Nelson, P. (2012). Putting targeting into practice: Understanding and winning the confidence of landowners. Freshwater Society's Precision Conservation: Technology Redefining Local Water Quality Practices Conference, St. Anthony, MN, March 29, 2012.

Davenport, M.A. & Pradhananga, A. (2011). Examining drivers of landowner engagement in water resources conservation: From theory to action. Scott County Watershed Management Organization Meeting, Shakopee, MN, October 13, 2011.

Davenport, M.A. & Pradhananga, A. (2012). Landowner perspectives on water resource management in the Vermillion River Watershed. Vermillion River Watershed Joint Powers Organization Meeting, Apple Valley, MN, February 23, 2012.

Davenport, M.A. & Pradhananga, A. (2012). Landowner perspectives on water resource management in the Vermillion River Watershed. Vermillion River Watershed Technical Advisory Group Meeting, Apple Valley, MN, February 8, 2012.

Davenport, M.A., & Pradhananga, A. (2011). Exploring a moral obligation model of riparian buffer management among landowners. American Water Resources Association Annual Water Resources Conference, Albuquerque, MN, November 6-10, 2011.

Davenport, M.A., Pradhananga, A. & Sames, A. (2011). The influence of local governance on watershed management in Minnesota: Capacities, constraints, and catalysts of change. The International Symposium on Society and Resource Management, June 4-8, 2011, Madison, WI.

Flint, C.G. & L. BouFajreldin. Navigating diverse perceptions of the environment among watershed stakeholders. 13th Biennial Governor's Conference on the Management of the Illinois River System.

October 6, 2011.

Flint, C.G. Bridging the gap between farmers and agricultural water conservation policy: Challenges and opportunities. Rural Sociological Society, Chicago, Illinois, July 28, 2012.

Flint, C.G., M.B. David. The socio-bio-geo-chemical science and engineering of tile drained agricultural watersheds in Illinois: Interdisciplinary opportunities and limits. Rural Sociological Society, Chicago, Illinois, July 27, 2012.

Genskow, K. "Agency as Catalyst: Wisconsin's Basin Partnerships." Presentation at the International Symposium for Society and Resource Management (ISSRM). Madison, WI. June 8, 2011.

Genskow, K. "Human Dimensions of Watershed Management." Presented at Wisconsin Agricultural Watershed Roundtable (sponsored by the Sand County Foundation, The Nature Conservancy, and Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP)). Madison, WI. June 22, 2011.

Genskow, K. "Social Indicators for Nonpoint Source Management." Presented at the 13th Biennial Governor's Conference on Management of the Illinois River System. Peoria, IL. October 4-6, 2011.

Genskow, K. "Social information and indicators: a project perspective." Presented at Leadership in Midwestern Watersheds: Measuring Results (sponsored by the Sand County Foundation and Iowa Soybean Association). Ankeny, IA. November 8-9, 2011.

Genskow, K., L. Prokopy, J. Asher, J. Bonnell, C. Curtis, K. Eckman, K. Floress, G. O'Neill, R. Power, and D. Wood. "Social Indicators for Nonpoint Source Programs." Poster presented at the International Symposium for Society and Resource Management (ISSRM). Madison, WI. June 6, 2011.

Guetter, P., Sames, A., & Davenport, M.A. (2011). How do you define sustainable watershed management? Insight from stakeholders in two Minnesota watersheds. (poster). The International Symposium on Society and Resource Management, June 4-8, 2011, Madison, WI.

J. Stinner and R. Moore. "Ecological Evaluation of Headwater Streams in an Impaired Watershed of Northeast Ohio: Implications for Restoration", poster presented at the Annual OARDC Research Conference, April 26, 2012.

Khachatryan, M., Czap, N.V., Czap, H.J., Lynne, G.D., & Burbach, M.E. (2011, June). What you give is what you get: An experiment on water pollution. Proceedings of the 2011 Western Economics Association International Conference, San Diego, CA.

Khachatryan, M., Lynne, G.D., Czap, H.J., Czap, N.V., Burbach, M.E. (2011, July). Smiley or frowney: The effect of emotional feedback in the downstream water pollution game. Proceedings of the 2011 Agricultural and Applied Economics Association & Northeastern Agricultural and Resource Economics Association Joint Annual Meeting, Pittsburgh, PA.

Margerum, R. "Beyond Consensus: Adaptive Management and Organizational Networks in Watershed Management" Audience: researchers, faculty students. Location: University of Idaho

Margerum, R. "Beyond Consensus: Adaptive Management and Organizational Networks in Watershed Management". Audience: Practitioners, extension agencies, county staff, public. Location: Post Falls, Idaho Research Center

Moore, R. On-going monthly meetings with 15 farmers farming in the Upper Sugar Creek Watershed of Ohio.

Moore, R. "Reaching the Potential of Water Quality Trading" lecture at the 24th National Agricultural Biotechnology Council meeting, June 11-13, 2012 in Fayetteville, Arkansas.

Pradhananga, A. & Davenport, M.A. (2011). What drives conservation behavior? A study of riparian landowners and behavior change. University of Minnesota Duluth Outdoor Education Seminar Series, Duluth, MN, November 28, 2011.

Pradhananga, A. & Davenport, M.A. (2012). Landowner perspectives on water resource management in the Sand Creek watershed. Scott Watershed Management Organization Watershed Planning Commission Meeting, St. Paul, MN, April 23, 2012.

Prokopy, Linda and Ken Genskow. October 2011. "Social Indicators: A Tool for Increasing Conservation Adoption." East NTSC Technology Webinar (USDA Natural Resources Conservation Service).

Ribaudo, M. 2011. "Factors Affecting the Decision to Adopt Nutrient Management." Symposium presentation at Soil and Water Conservation Society of America annual meeting, Washington, DC, July 19.

Ribaudo, M. 2011. "Factors Affecting the Potential Role of Point-Nonpoint Trading in the Chesapeake Bay Watershed." Invited presentation at the NCEE Chesapeake Bay Economic Researchers' conference, Washington, DC, October 31.

Ribaudo, M. 2011. "Incentivizing producers to take cost-effective conservation actions." Invited presentation at Performance-based Environmental Policies for Agriculture Workshop, Washington, DC, July 21.

Ribaudo, M. 2012. "Policies on Nutrient Management and Water Quality: Where Have We Been and Where are We Going?" Invited presentation to the 2012 Legislative Agriculture Chairs Summit, Crystal City, VA, January 7.

Ribaudo, M. Briefing to an American Society of Agronomy task force, "Issues Faced by Agro-environmental Water Policies", in Baltimore, MD. January 9, 2012.

Ribaudo, M. Briefing to EPA on the research findings reported in the Amber Waves article "Reducing Agriculture's Nitrogen Footprint: Are New Policy Approaches Needed?" in Washington, DC. September 20, 2011.

Ribaudo, M. Briefing to senior management in the EPA Office of Water on the findings in the Economic Research Report "Nitrogen in Agricultural Systems: Implications for Conservation Policy", in Washington, DC. October 19, 2011.

Ribaudo, M. Briefing to the Council on Environment and Natural Resources Subcommittee on Water Availability and Quality (SWAQ) on the findings reported in the Economic Research Report "Nitrogen in Agricultural Systems: Implications for Conservation Policy", in Washington, DC. November 16, 2011.

Ribaudo, M. Seminar "Nitrogen in Agricultural Systems: Implications for Conservation Policy" to NRCS Resource Economics, Analysis and Policy Division, in Beltsville, MD. January 19, 2012.

Ribaudo, M., M. Aillery, and G. Schaible. 2012. "Issues Faced by Agro-Environmental Water Policies." Invited presentation to American Society of Agronomists task force, Baltimore, MD, January 9.

Sames, A. Pradhananga, A.K., & Davenport M.A. (2011). The influence of local governance on watershed management in Minnesota: Capacities, constraints and catalysts of change. (poster). Minnesota Water Resources Conference, St. Paul, MN, October 19-20, 2011.

Yaeger, C., Davenport, M.A., & Seekamp, E. (2011). Watershed science outreach: An integrative model for program evaluation. (poster). The International Symposium on Society and Resource Management, June 4-8, 2011, Madison, WI.

Yaeger, C., Davenport, M.A., Eckman, K. & Seekamp, E. (2011). Evaluating watershed outreach interventions: Informing future outreach and evaluations through an integrative model. (poster). Minnesota Water Resources Conference, St. Paul, MN, October 19-20, 2011.

Zerger, C., Vogel, M. & Davenport, M.A. (2011). Overview of Minnesota's network of parks and trails: The 2011 Parks and Trails Inventory and Framework. Minnesota Department of Transportation Research Committee Meeting, Roseville, MN, October 5, 2011.

Related Funded research

Brasier, K., and K. Saacke-Blunk. "Conewago Creek Conservation Initiative Survey Project." Mid-Atlantic Water Project, University of Maryland. March, 2011 - February, 2012. (\$15,000) (This came about because of our use of the SIPES survey questions)

Burbach. M. Nebraska Water Leaders Academy. Nebraska State Irrigation Association and the University of Nebraska-Lincoln. PI Funded by the Nebraska Environmental Trust, April 2012 – March 2014, \$64,313.

Christoffel, Rebecca, Lois Wright Morton, Timothy Stewart and Angela Carter*. Navigating the Waters: A Wetland Development Guide for Agencies and Organizations Working with Women Landowners. EPA Region 7 \$234,421 1/1/2012 to 5/31/2015

Coulter, J. M. Russelle, P. Bolstad, & M. Davenport. Minnesota Department of Agriculture. Minnesota Agricultural Fertilizer Research and Education Council, Improving predictability and adoption of Alfalfa N credits for corn., \$52,935, 4/3/2012-6/30/2013.

David, M.B., C.G. Flint, R. Cooke, G. Czapar, L. Gentry, R. Hudson. 2011-2014 Reducing Agricultural Nitrate Losses in the Embarras River Watershed through Bioreactors, Constructed Wetlands, and Outreach. USDA NIFA, \$595,000.

Genskow, K. Wisconsin DNR: Water Quality Educational and Technical Assistance. \$355,000, including support for local watershed planning and supporting targeting and collaboration for Wisconsin Nutrient Reduction Strategy. July 2011-September 2012

Hanely, C.D. and C.T. Agouridis. FY 2011 Class B Education Incentive Grant Project: Improving Water Quality through Public Outreach and K-12 Schools in Fayette County, Lexington Fayette Urban County Government Class B Education Incentive Grants Program, \$113,375, December 2010 to May 2012, Co-Investigator

Hession, W. C., Krometis, L. A., et al. (2012-2015). E. K. Kaufman among senior personnel. "REU Site: Dynamics of Water and Societal Systems – An Interdisciplinary Research Program at the Virginia Tech StREAM Lab." National Science Foundation - Engineering Education and Centers. Funded for \$314,289.

Konstantinos, G. Center for Agricultural and Food Industrial Organization - Policy Research Group. University of Nebraska-Lincoln, PI. Funded by USDA-NIFA-PRC, April 2012 – May, 2014, \$767,000.

Lal, R.; Witter, J.; Moore, R. Quantifying the spatial location of small-scale land management changes in large watersheds using hydrological modeling. 01/01/2012-12/31/2014. \$499,895. USDA NIFA.

Morton, L.W. Hewitt Creek Watershed Project. (Hewitt Creek Watershed Improvement Association) Iowa Watershed Improvement Review Board (WIRB). 1/1/2010 to 12/31/2014 \$148,585

Morton, L.W., Matt Helmers, Jacqueline Comito. Iowa Learning Farms: Building a Culture of Conservation-Farmer to Farmer, Iowan to Iowan. Iowa Department of Agriculture & Land Stewardship. 1-1-2011 to 12-31-2011 \$459,846; 1-1-2012 to 12-30-2012. \$411,283

Morton, L.W. (project director) et al (42 PI) 2011-2016. Climate Change, Mitigation, and Adaptation in Corn-based Cropping systems. USDA-NIFA A3101 Regional Approaches to Climate Change Cropping Systems. \$20 million.

Prokopy, L. S. et al include L.W. Morton as co-PI (21 PI). 2011-2016. Useful to Useable (U2U): Transforming Climate Change Information for Cereal Crop Producers. \$5 Million 3/3/2011 to 2/28/2015 USDA NIFA Climate Change A3141

Prokopy, L. Environmental Defense Fund. Collaborative Landscape Level Conservation Efforts: Identifying Watersheds with Social Capacity. Dates 6/1/11-3/31/12. Amount awarded: \$30,000.

Robinson, P., K. Genskow, K. Curtis, and D. Veroff “National Estuarine Research Reserve Climate Sensitivity Analysis Project.” \$133,328.. National Oceanic and Atmospheric Administration (NOAA)-National Estuarine Research Reserves System (NERRs). 10/2011-9/2012.

Publications

Agouridis, C.T., J.A. Villines, and J.D. Luck. 2011. AEN-108 Permeable Pavement for Stormwater Management, University of Kentucky Cooperative Extension Service, Lexington, KY.

Agouridis, C.T., S.J. Wightman, J.A. Villines, and J.D. Luck. 2011. AEN-106 Reducing Stormwater Pollution, University of Kentucky Cooperative Extension Service, Lexington, KY.

Baumgart-Getz, Adam, Linda Stalker Prokopy, and Kristin Floress. 2012. Why Farmers Adopt Best Management Practices: A Meta-Analysis of the Adoption Literature. *Journal of Environmental Management*, 96: 17-25.

Brasier, K., B. Lee, R. Stedman, and J. Weigle. 2011. “Local Champions Speak Out: Pennsylvania's Community Watershed Organizations.” Pp. 190-206 in L.W. Morton & S. Brown (Eds.), *The Citizen Effect: Multiple Pathways to Solving Watershed Problems*. Springer Press.

Brinkman, E., Seekamp, E., Davenport, M.A., & Brehm, J.M. (2012). Community capacity for watershed conservation: A quantitative assessment of indicators and core dimensions. *Environmental Management*, 50(4), 736-749.

Burbach, M.E., & Reimers-Hild, C. (2012). 2011 Nebraska Water Leaders Academy – Final Report. School of Natural Resources, University of Nebraska-Lincoln. Open-File Report 111.

Comito J, J. Wolseth, LW Morton. (2011) Water Quality Matters to Us All. Iowa Learning Farms www.extension.iastate.edu/ilf

Czap, N.V., Czap, H.J., Khachatryan, M., Lynne, G.D., & Burbach, M.E. (2012). Walking in the shoes of others: Experimental testing of dual-interest and empathy in environmental choice. *Journal of Socio Economics*, 41, 642-653

Davenport, M.A., & Pradhananga, A. (2012). Perspectives on Minnesota water resources: A survey of Sand Creek and Vermillion River watershed landowners. St. Paul, MN: Department of Forest Resources, University of Minnesota. 84 pp.

Genskow, K. 2012. Taking Stock of Voluntary Nutrient Management: Measuring and Tracking Change. *Journal of Soil and Water Conservation*. 67(1):51-58.

Genskow, K. and D. Wood. 2011. Improving Voluntary Environmental Management Programs: Facilitating Learning and Adaptation. *Environmental Management*. 47:907-916.

Genskow, K. and L. Prokopy (eds.). 2011. *The Social Indicator Planning and Evaluation System (SIPES) for Nonpoint Source Management: A Handbook for Watershed Projects*. 3rd Edition. Great Lakes Regional Water Program. (104 pages).

Grace, P. E., & Kaufman, E. K. (2011). Fostering change through storytelling. [Abstract]. *NACTA Journal*, 55(Supplement 1), 24.

Higgins, S.F., C.T. Agouridis, and S.J. Wightman. 2011. AEN 99 Shade Options for Grazing Cattle, University of Kentucky Cooperative Extension Service, Lexington, KY.

Higgins, S.F., S.J. Wightman, and C.T. Agouridis. 2011. AEN 101 Stream Crossings for Cattle, University of Kentucky Cooperative Extension Service, Lexington, KY.

Higgins, S.F., S.J. Wightman, and C.T. Agouridis. 2011. AEN 105 Pasture Feeding, Streamside Grazing, and the Kentucky Agriculture Water Quality Plan, University of Kentucky Cooperative Extension Service, Lexington, KY.

Hu, Zhihua* and L.W. Morton. (2011) "US Midwestern Residents Perceptions of Water Quality" *Water* 3:217-234.

Hu, Zhihua*, L.W. Morton, and R. Mahler. (2011) "Bottled Water: Consumers in the U.S. and their Perceptions of Water Quality." *International Journal of Environmental Research and Public Health*. 8:565-578

Kaufman, E. K., Rateau, R. J., Carter, H. S., & Strickland, L. R. (2012). What's context got to do with it? An exploration of leadership development programs for the agricultural community. *Journal of Leadership Education*, 11(1), 121-139.

Khachatryan, M., Lynne, G.D., Czap, N.V., Czap, Burbach, H.J., M.E. Burbach, M.E. (2011, January). Empathy tempering economic choice: The empirical evidence. *Cornhusker Economics*.

Khachatryan, M., Lynne, G.D., Czap, N.V., Czap, Burbach, H.J., M.E. Burbach, M.E. (2011, May). Do emotions matter in environmental choice? An effect of ☺ and ☹. *Cornhusker Economics*.

Miller, J. R., L. W. Morton, D. M. Engle, D. M. Debinski, and R. N. Harr. (2012) Nature Reserves as Catalysts for Landscape Change *Frontiers*. (April) www.frontiersinecology.org

Moore, Richard; Hudgins, Deana; Wood, Duane; Wood, Michelle; Haney, Tracy;. 2012. Muskingum Watershed Nutrient Trading Plan (Phase 1: Tuscarawas Watershed). Submitted to Ohio EPA. Columbus, Ohio: Ohio Environmental Protection Agency.

Morton, L. W. and S. Brown (2011) *Pathways for Getting to Better Water Quality: The Citizen Effect*. Springer Science+Business NY, NY

Mountjoy, N.J., Seekamp, E. Davenport, M.A., & Whiles, M.R. (2011). Making conservation work: Ideas from on-the-ground practitioners. Research Publication, Carbondale, IL: Southern Illinois University, Department of Zoology and Center for Ecology.

Olson, K.R. and L.W. Morton (2012). The effects of 2011 Ohio and Mississippi River Valley flooding on Cairo, Illinois area. *Journal of Soil and Water Conservation* 67(2): 42A-46A.

Olson, K.R. and L.W. Morton. (2012) The impacts of induced levee breaches on agricultural lands of the Ohio and Mississippi River Valleys *Journal of Soil and Water Conservation* 67(1):5A-10A.

Olson, K.R., M. Reed, L.W. Morton (2011) Multifunctional Mississippi River leveed bottomlands and settling basins: Sny Island Levee Drainage District. *Journal of Soil & Water Conservation*. July/August vol. 66:4:90A-96A.

Quinn, C.E., Burbach, M.E., & Morton, L.W. (2011). Analysis of the Community Based Planning Process in Holmes Lake Watershed, Lincoln Nebraska. School of Natural Resources, University of Nebraska-Lincoln. Open-File Report 110.

Reimer, Adam P., Denise Klotthor Weinkauf, Linda Stalker Prokopy. 2012. The Influence of Perceptions of Practice Characteristics: An Examination of Agricultural Best Management Practice Adoption in Two Indiana Watersheds. *Journal of Rural Studies*, 28: 118-128.

Reimer, Adam, Aaron Thompson, and Linda Stalker Prokopy. 2012. The Multi-Dimensional Nature of Environmental Attitudes among Farmers in Indiana: Implications for Conservation Adoption. *Agriculture and Human Values*, 29(1): 29-40.

Ribaudo, M. 2011. "Reducing Agriculture's Nitrogen Footprint: Are New Policy Approaches Needed?" *Amber Waves* (feature), Vol. 9, Issue 3, Economic Research Service, U.S. Department of Agriculture, pp. 34-39.

Ribaudo, M., J. Delgado, L. Hansen, M. Livingston, R. Mosheim, and J. Williamson, 2011, Nitrogen in Agricultural Systems: Implications for Conservation Policy, Economic Research Report ERR-127, Economic Research Service, U.S. Department of Agriculture, September.

Ribaudo, M.O., J.S. Shortle, D. Blandford, and R.D. Horan. 2011, "Improving the efficiency and effectiveness of agro-environmental policies for the Chesapeake Bay," *Choices* 26(3): http://www.choicesmagazine.org/magazine/pdf/cmsarticle_175.pdf.

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Current/Future Research:

Agouridis, C: Analysis of pre- and post-workshop data on stormwater BMP knowledge and attitudes. Results will be presented at the National Outreach Scholarship Conference in Tuscaloosa, Alabama, October 1-3, 2012. Also, general manuscript preparation and submittal, EPA Urban Waters Grant, Extension publication development, 2-3 community socials dealing with stormwater topics, and involvement with NC 1190 Disproportionality project.

Brasier, K: Planned research will relate to (1) collaborations with other team members related to understanding collective action related to water quality through analysis of the case studies (Obj. 1 and 2) and (2) examining these drivers in the particular case of perceived water quality threats from unconventional energy development in the northeast US. Brantley, S., J. Abad, K. Brasier, R. Hooper, C. Wilderman. "RCN-SEES: The Marcellus Shale Research Network." National Science Foundation. November, 2011 - October, 2015. (\$750,000)

Burbach, M: Collaborate with NC1190 partners on article exploring models of environmental/water leadership development programs. Continue operation of the Nebraska Water Leaders Academy. Analyze result of a watershed planning program study with other NC1190 partners.

Davenport, M: I have four project-relevant peer-reviewed articles that have been published this year or are in press. I am completing a technical report of recently completed research project entitled "Nitrogen use and determinants of best management practices: A study of Rush River and Elm Creek, Minnesota agricultural producers." I have two ongoing projects consistent with the goals and objectives of the project: "Minnehaha Creek Watershed District community assessment study" and "A social science assessment of conservation practices in the Red River Valley." I have two proposals pending: one to conduct an evaluation of a farmer conservation program and one to conduct community capacity assessments in the Cannon River watershed in Minnesota. Also, I have provided ongoing technical assistance and consultation to the Minnesota Pollution Control Agency on Civic Engagement for Watershed Projects associated with TMDLs and NPDES and the Minnesota Department of Agriculture on Social Indicators for Clean Water Tracking Framework. I am serving on the Minnesota River Interagency Study Team and the Minnesota Interagency Civic Engagement Steering Team.

Genskow, K: Examining options for watershed targeting and tracking/monitoring nutrient management practices both as part of the NC 1190 Disproportionality project, and also in support of developing Wisconsin's state nutrient reduction strategy. Investigating state nutrient reduction initiatives as catalysts. Testing application of performance-based, farmer-led watershed councils in Wisconsin. Continuing research and analysis related to social indicators for nonpoint source.

Kaufman, E: Recently awarded \$10,000 to investigate catalysts and features of community involvement in efforts to restore Stroubles Creek (Blacksburg VA). Also, working with NC1190 colleagues to draft a paper that highlights and categorizes leadership programs that serve as catalysts to water resources protection and restoration.

Margerum, R: Current research, conducting a meta analysis of CALFD. A comprehensive review of a collaborative effort referred to as CALFED (California-Federal effort to restore the Sacramento San Joaquin river systems). Utilizing journal articles, dissertations, books, commission reports and agency documents, I'm working with a graduate student to identify the hypotheses for the demise of CALFED and the evidence that support or contradict these hypotheses. New research: Working

with a graduate student to investigate a new regional agency that has emerged in the wake of CALFED. The study will evaluate its planning oversight role to determine its effectiveness in influencing local planning in the bay-delta region. Also developing an edited book on “Limits of Collaboration” drawing on interdisciplinary perspectives are the types of problems and settings that create difficulty for effective collaboration and the strategies that may help overcome them. In Fall 2012, I will wrap up the fourth of four organized paper sessions at conferences in Australia, Canada and the US bringing together potential collaborators. A call for chapters will be distributed later this year.

Moore, R: Research on Water Quality Trading: The Alpine Water Quality Trading Plan that R. Moore drafted was renewed in 2012 for another five year NPDES permit. The plan was the first legally functioning plan in Ohio is based on local trading with a community-based broker. As a result of the popularity of the plan, 21 counties in SE Ohio asked R. Moore to draft the Muskingum Water Quality Trading Plan. It was also approved in 2012 and is the second largest functioning trading plan in the U.S. Research on Comparison of Amish and Non Amish Dairy Farming on Water Quality: Monitoring of the nitrates and phosphorus of these two watersheds is accompanied by a social survey carried out by R. Moore and Alex Joannon from the French National Institute for Agriculture (INRA). Research on Climate Change and Farmer Attitudes: A social survey is distributed among corn farmers in the Sugar Creek Watershed. This survey is in collaboration with Lois Morton of ISU as part of the USDA AFRI grant CSCAP. Research on Comparing Primary Headwaters Water Quality of Organic and Conventional Dairy Farm.

Prokopy, Linda: With Nathan Mullendore, Kathy Brasier, and Kristin Floress are working on an article of catalyst typologies (objective 1). This article will be submitted to Society and Natural Resources by the end of October 2012. Also continuing work with the Environmental Defense Fund to identify watersheds with high social capacity to adopt conservation practices.

Ribaudo, M: Leading project ERS Priority Project “Economics of the Chesapeake Bay Total Maximum Daily Load (TMDL) Limits for Nutrients”. This project is examining different policy approaches for achieving pollutant abatement goals at least cost, including performance-based limits, financial assistance, water quality trading, and regulation. Different targeting approaches will also be examined. An economic research report, journal articles, and briefings are expected.