

MOAFS RIVERS AND STREAMS TECHNICAL COMMITTEE MEETING
Summer/Fall meeting – 8/23/2011 at the Runge Nature Center, Jefferson City, MO

The meeting was called to order by Chairperson Mary Culler at 10:00 AM.

Attendees included: Mary Culler, Nick Girondo, Jen Girondo, Adam Boman, Allen Brandes, Jake Colehour, Bruce Drecktrah, Tim Grace, Scott Williams, Darren Thornhill, Scott Voney, Phil Pitts, Jeff Finley, Danny Brown, Sarah Peper, Josh Ward, Amy Meier, Tyler Bax, Chris Riggert, Brandye Freeland, Greg Anderson, Karen Rouse, Jim Manstiller, Kelly Whitsett, Larry Furniss, Mike Smith, Joe McMullen, Kenda Flores, Kyle Winders, Darby Niswonger, Paul Calvert, Laura Ruman, Nick Sievert, Landon Pierce, Jake Faulkner, Emily Pherigo, Allison Pease, Jacob Westhoff, Jonathon Spurgeon, Emily Tracy-Smith, Bob Temper, Nate Gosch, Del Lobb, Steve McMurray, Doug Novinger, Michael Moore, Paul Blanchard, Greg Pitchford, Carl Wakefield, Matt Combes, Steven Hefner, Mark Van Patten, Naomi Gebo, Tom Priesendorf, Ange Corson, Sherry Fischer, John Fantz, Jodi Whittier, Craig Paukert, and Greg Anderson.

Minutes from the winter meeting were offered up for review by the committee. Mary provided a brief overview of the American Fisheries Society and invited the first speaker, Craig Paukert, to present.

Guest speakers

Rivers and streams research at the Missouri Cooperative Fish and Wildlife Research Unit. Dr. Craig Paukert, Unit Leader.

Craig provided a brief overview of cooperative fish and wildlife research units and then he started to discuss current and future research efforts of the Missouri Fish and Wildlife Research Unit including projects related to conservation planning, climate change, endangered/native species, and habitat alteration. Craig picked a project to describe in detail:

Managing the Nation's Fish Habitat at Multiple Scales in a Rapidly Changing Climate.

This is a large project with the involvement of numerous universities and it will evaluate how fish habitat is going to change with changing climate through 2040. This project will help prioritize where protection and restoration should occur while also identifying areas that are beyond feasible restoration. This project will start at the reach scale and work up to larger and larger scales for the entire United States. This project will record numerous climatic variables, such as air temperature, precipitation, soil moisture, etc., at 15 km quadrants throughout the country to evaluate how the climate will change through 2040.

A land use model will also be developed at the 30-m resolution to forecast how land use will change by 2040 (e.g., how much urbanization will increase by 2040). The project will also determine how current fish abundance is associated with stream temperature and flow so that the climate and land use models can determine how fish communities will be affected through 2040. The goal is to develop stream temperature and flow models for every stream arc; however, some regions of the country have better data sets than others. For example, USGS gauge stations are

numerous throughout the country; however, gauge stations with nearby fish sampling records and temperature collections drastically reduce the number of usable gauge stations. Another challenge to this project is addressing subjective issues; for example, is it bad for a cool water stream to change to a warm water stream?

One of the goals of the project is also to be able to determine fishery population effects. Craig gave an example using smallmouth bass. Assessing population effects requires data on current and projected stream temperatures, diet, growth and other parameters for a bioenergetics model. In his example, a 2 degree Celsius increase in temperature increases growth of smallmouth bass in MN, IA, MO, and OK; however, food consumption would also have to increase for this projected growth increase to be realized and prey availability may be a limiting factor.

The final project goal that was discussed involved the role of protected/public lands in protecting aquatic biodiversity. Ultimately, the goal is to determine if biodiversity at protected lands, such as Forest Service land, is actually representative of that region. Additionally, determining the appropriate scale when acquiring land in order to protect biodiversity (e.g., is it better to buy a single 10,000 acre plot or 10 1,000-acre plots).

Questions/Comments:

There were no questions for Craig.

Priority watershed planning in the Colorado River basin: new tools and approaches. Dr. Jodi Whitter, Department of Fisheries and Wildlife, University of Missouri-Columbia.

Jodi discussed the use of a new conservation prioritization software called Zonation. This software is quantitative and complementary to other completed work (e.g., MO GAP). Jodi stated that the primary use for this software is to identify areas important for retaining habitat quality and connectivity for multiple species. This software needs spatially-referenced distributions for species (e.g., presence/absence data, probabilities of occurrence, abundance/density data). Jodi provided an example of using the software to develop a conservation plan using point location data for a native species. The software created data maps showing areas of highest conservation priority and she demonstrated that the landscape prioritization worked well in regards to taxonomy but not for phylogeny or functionality. Jodi concluded that this software is useful for better informed conservation planning by using multiple aspects of diversity and integrating current and future threats.

Questions/Comments:

Phil Pitts asked for clarification on how taxonomy, phylogeny, and functionality were used in the software. Jodi stated that the model varies depending on taxonomy, phylogeny, or functionality (e.g., piscivore versus herbivore).

Strategies for Watershed Management: MDC Fisheries Plan for Targeting and Working in Priority Watersheds. Ange Corson, Stream Program Coordinator, MDC.

Ange started by giving an overview of past watershed efforts that included Stream Team programs, workshops for state and federal agencies, and the Stream Stewardship Trust Fund and

past stream management activities that included fencing, alternative livestock watering, riparian restoration, and streambank stabilization. Ange stated that MDC needs to use a watershed approach and she used ACOA's as an example because ACOA's can be affected by factors outside of ACOA boundaries (i.e., upstream and downstream). The watershed approach will be more effective at positively impacting stream resources by using a focus approach in priority watersheds instead of a shotgun approach across the entire state.

Ange then went through the steps of MDC's watershed approach:

1. Evaluate and prioritize watersheds
 - A. The main considerations for selecting priority watersheds were local buy-in and feasibility; other criteria included biodiversity and recreation.
 - B. Ange also discussed MDC's plan for dealing with non-priority watersheds. This plan included continuing to provide technical assistance to other agencies but most private landowner issues in non-priority watersheds would be handled via telephone instead of on-site.
2. Comprehensive watershed characterization
 - A. Involves using GIS and on the ground knowledge to characterize watersheds. Streams Unit developed instruction sheets to aid biologists that were unfamiliar with GIS and offered GIS classroom training using these guide sheets as the template for the class.
3. Initial stakeholder involvement
 - A. Need to identify and understand stakeholders
 - B. Transparency with stakeholders is critical for building trust
4. Goal and objective development
5. Strategies for meeting goals and objectives
 - A. Protection is preferred because it is the most effective and cost efficient; Enhancement involves areas that are easily rehabilitated; Restoration is least desirable because it usually treats symptoms rather than causes and it is usually very expensive.
6. Acquiring resources to implement program
7. Implement
8. Evaluate and monitor
 - A. MDC developed a toolbox to provide biologists with a variety of options for monitoring.

Ange stressed that there are many feedback loops in this process because the process was developed to adapt depending on what is learned during the process. The Strategies for Watershed Management is a living document so that new data and new techniques can be added.

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Ange provided an update on where MDC is currently at in this process. Leadership has received the top 10 watersheds from each region and the regions are starting to work on the top 3. Ange also stated that the top watersheds may change depending on what is learned during this process.

Questions/Comments:

Phil Pitts commented that a light bulb came on and he now realized that streambank stabilization is not preferred in most instances. Ange confirmed his statement by saying that it usually just treats symptoms, not the real cause of the problem.

Craig Paukert: What are the Focus Tributary Watersheds on the map? Ange stated that these are the areas within larger watersheds that may be a feasible starting point within that particular watershed.

Our Missouri Waters – Watershed Based Management. Kim Hoke, Business Process Analyst, Missouri DNR, Jefferson City, MO.

Kim provided a brief overview of the Division of Environmental Quality and the old way that DNR conducted business. She discussed how little coordination occurred between all of the different sections of DNR dealing with water. DNR wants to increase coordination in order to become more efficient while meeting all needs. DNR started by evaluating and prioritizing watersheds and then establishing a schedule that rotates these watersheds.

DNR used a watershed evaluation tool to determine priority watersheds. Published data and an ability to weight different factors ultimately resulted in a score that allowed them to prioritize watersheds. DNR is now focusing on starting with a pilot watershed to work on and setting a deadline for DNR to transition to this watershed approach.

Questions/Comments:

Phil Pitts made a comment that communication needs to be improved at the regional level. Ange Corson responded by saying that this meeting is a start towards improved communication and Paul Calvert also commented that leadership within the respective agencies needs to get things in order because each agency is still very early in this process. He also stated that field staff should continue to maintain local contacts with other agencies and, as this process continues, communication at the regional scale will improve.

Paul Calvert: how difficult has it been for DNR because DNR has so many different commissions? Kim said that it has been difficult because field staff needs to continue to operate as they did in the past to meet all needs and coordination has been difficult, especially with reduced staff; however, progress is being made.

Break for Lunch: 12:00-1:15 pm

Mississippi River Basin Healthy Watersheds Initiative - MRBI. Steven Hefner, Water Quality Conservationist, Natural Resource Conservation Service, Ozark, MO.

Steven started by giving an overview of water use in the United States in 2005. He also mentioned that 75% of stream miles are composed of first and second order streams and that the NRCS believes that a watershed approach and working with private landowners is critical to success.

Steven provided an overview of the Mississippi River watershed and showed a map of NRCS priority watersheds. He mentioned that areas of focus have been near the main stem of rivers, including the Missouri River. For 2010-2011, the NRCS has 18 priority watersheds.

Steven described the Cooperative Conservation Partnership Initiative, which offers a statutory funding mechanism. He also gave an overview of various conservation practices implemented by NRCS to protect streams, soil health, and water quality. Soils are more than just sand, silt, and clay; the biological components of soils include live plant material, detritus, worms, and other living organisms.

Steven discussed the USDA's interest in monitoring nutrients because they want to identify areas that are causing the most pollution. The USDA has a program that allows landowners to voluntarily sign a contract to monitor their site.

Additionally, Steven stated that the NRCS used Sparrow modeling to develop a list of 100 priority watersheds in the Mississippi River Basin. The NRCS is stressing monitoring upstream and downstream of conservation practices; the NRCS also used a paired watershed approach to compare project watersheds to control watersheds. Additionally, the NRCS is using rain gauges to better monitor precipitation across the state and he gave examples of many of the tools that NRCS uses to test water quality.

Steven discussed the effects of erosion and lack of infiltration. He also mentioned the need to increase infiltration as means of stabilizing stream banks.

Steven concluded by stating that farming is an honorable profession and that farmers are preferred stewards of natural resources and that they care about water.

Questions/Comments:

Greg Pitchford: who is overseeing the data collected by NRCS? Steven responded by saying that he was processing the data. Steven believes that the data will become public but the individual landowners will need to consent to make the data public.

Matt Combes: will data be stored in an online database? Steven believes that it will eventually be available online but it depends on a number of factors including landowner consent to make the data public.

Watershed Condition Improvement Planning on Mark Twain National Forest Lands. Kelly Whitsett, Forest Hydrologist and Cave and Karst Program Manager, Mark Twain National Forest, Rolla, MO.

Kelly stated that this new watershed approach is in addition to their current targets. Forest Service watershed conditions were completed in February 2011 and prioritization was completed by August 15, 2011. Kelly went on to state that Watershed Action Plan Development was supposed to be completed by September 30th and implementation and monitoring will occur over the next 3 to 5 years.

Kelly gave an overview of the goals for this watershed management approach. One of the main goals is to show measurable results of watershed improvements. Kelly also discussed differences between the “old” management approach (e.g., treating the worst watersheds first and focusing on scattered streams and sites) and the “new” management approach (e.g., protecting the best watersheds and focusing effort in a few priority watersheds).

Kelly discussed the model that was developed to assess watershed condition but she stated that only a limited number of factors were included in the model because of a short deadline. She also discussed prioritization criteria such as resource values, concerns and threats, and opportunities. A maximum of 5 watersheds could be selected.

Kelly gave an example using the Mill Creek watershed in Mark Twain National Forest. The other selected watersheds were located in the Current River watershed. All 5 watersheds will have a vegetation management plan and they will focus on roads, stream reconstruction, and pond removal. These selected watersheds were quite different because they were unsure exactly what leadership was looking for.

Kelly also discussed funding uncertainty in federal agencies but she also stated that work will be completed in priority watersheds regardless of funding. Kelly also mentioned that they have some new internal funding sources that may be used on watershed work; however, this funding is competitive.

Questions/Comments:

John Fantz: What is non-commercial vegetation removal? Kelly responded that it is anything that does not go to the timber mill.

Craig: Will Mark Twain be guaranteed money? Kelly stated that it is competitive but she is not sure if competition is at the regional scale or the national scale.

Greg: What partnerships are currently available? Kelly answered that they are currently working with MDC and the Nature Conservancy but part of her job is to continue to develop additional partnerships.

The meeting continued with Mary Culler asking for any comments after all of the presentations were completed. Sherry Fischer stated there is a great deal of communication among leadership of the various agencies but communication is still limited at the regional level. Kelly Whitsett stated that many federal agencies are moving toward a watershed approach and that transparency of budget issues is necessary. She stated that federal agencies will fund projects that have many partners because this maximizes their investment. Kelly also mentioned that federal agencies can spend money on land adjacent to federal land. Mary Culler stated that DNR is considering assigning a contact for each region and that it would probably be a good idea if other agencies considered doing the same.

Business meeting

Minutes from the February meeting were passed around and John Fantz made the motion to approve. Nick Girondo seconded the motion.

New Business

New business included a discussion of topics for MNRC. One topic idea was 75 years of stream conservation in Missouri and Mary asked for a discussion on possible speakers. Possible speakers included Bill Turner and Lewis McCann. Other possible presentation topics included case studies (Kenda and Rob's watershed work, Craig Fuller's AOP/Bridge Replacement work), public participation, and funding/grant writing. Ange stated that MNRC would probably be too soon for her public participation workshop. It was also suggested that we might be able to do an update on how each agency's watershed projects are progressing; however, Ange suggested that next summer might be a better option for doing watershed updates.

John proposed that we do 40 minute segments for each of the 3 proposed topic ideas (75 years of stream conservation in MO, case studies, and funding). Mike Smith suggested that we ask for 2 sessions because this would provide more time for these topics. Mark VanPatten made a motion for 2 sessions and Tom Priesendorf seconded. The motion was voted on and accepted.

Bill Pflieger and Dr. Rabeni were also suggested as possible speakers for 75 years of Streams Conservation in Missouri. Mary asked for volunteers to serve on the MNRC workshop committee. Chris Riggert and Kyle Winders volunteered to help on the committee. Mary asked for any other items for new business and no other items were brought up. Sherry Fischer made motion to adjourn and Paul Blanchard seconded.

3:45 pm: Meeting Adjourned