



**Missouri
Department of
Natural Resources**

WATER QUALITY COORDINATING COMMITTEE

DNR Conference Center
Roaring River Conference Room
1730 E. Elm Street
Jefferson City, Missouri

September 20, 2011

10:00 a.m.

MEETING AGENDA

Watershed Planning Efforts, Greg Anderson, DNR, Water Protection Program

Watershed Management on the Mark Twain National Forest
Kelly Whitsett, Mark Twain National Forest

MDC Fisheries Division's Strategies for Watershed Management
Paul Blanchard, MDC

Other

Agency Activities

Meetings & Conferences



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MINUTES

Attendees:

Greg Anderson	DNR, Water Protection Program	Trish Rielly	DNR, Water Protection Program
Larry Furniss	USDA, Forest Service	Tim Rielly	DNR, Environmental Services Pgm
Colleen Meredith	DNR, Soil & Water Conservation Pgm	Kelly Whitsett	U.S. Forest Service
Dan Downing	Univ. of MO Extension	Kevin Perry	REGFORM
John Madras	DNR, Water Protection Program	Charlie DuCharme	DNR, Water Resources Center
John Johnson	DNR, Water Protection Program	Bob Bacon	Environmental Resources Coalition
Lynn Milberg	DNR, Environmental Services Pgm	Terri Brink	EPA Region 7
Cindy DiStefano	MO Dept. of Conservation	Darlene Schaben	DNR, Water Protection Program

Introductions were made.

Watershed Planning Efforts, Greg Anderson, DNR, Water Protection Program
PowerPoint Presentation

The Environmental Protection Agency (EPA) and the Section 319 Clean Water Act took a watershed approach in 1987 then accountability measures in 2003. To receive 319 grant funding, it is a requirement for states to have a Nonpoint Source Management Plan (NPSMP) approved by EPA. The NPSMP explains how the funding will be spent, prioritizes sources, shows objectives for the next five years, involves partners, and must be revised every five years. Watersheds are a logical way of approach. Boundaries can be defined; allows opportunities for partnerships; more local support and stakeholder involvement; makes it easier to plan; and, easier to monitor progress and successes. With the integrated watershed approach there is greater success through partnerships. Greg defined the Watershed Approach as a coordinating process for focusing on priority water resource issues that uses an iterative planning or adaptive management process to address priority water resource goals, and uses an integrated set of programs and tools. The program integration in the watershed approach is to assess, plan, monitor, then implement. This integrated watershed approach allows for regulatory and non-regulatory issues, multiple funding sources, a collaborative watershed-based planning, and shared priorities, data and resources. The Department of Natural Resources offers Watershed Management Planning Development grants for a maximum amount of \$30,000 to eligible applicants to address 303(d) listed water bodies. The Nonpoint Source Program has a limited amount of funding to assist watersheds in improving water quality. Examples of projects include information and education, innovative pollution prevention practices, demonstration, project-specific monitoring, planning for nine-element watershed management plans, and implementation and remediation. Greg showed some slides of projects where 319 funding had been used. He informed the group that the watershed plans are now online. Since 1998 the 319 program has awarded \$71.5 million which funded over 1150 projects.



**Watershed Management on the Mark Twain National Forest, Kelly Whitsett, Mark Twain National Forest
PowerPoint Presentation**

The Forest Service definition of watershed condition is the state of physical and biological characteristics and process within a watershed that affect soil and hydrological functions supporting aquatic ecosystems. Kelly talked about the different types of watershed improvement projects. They include maintenance, reconstruction, and decommission of roads and trails; aquatic organism passage and stream morphology issues on undersized culverts or concrete slab road stream crossings; grazing – soil stability and fencing of riparian corridors; removal of invasive non-native plants; prescribed burning program; vegetation treatment for restoring native vegetation; infrastructure changes – i.e., recreations sites, groundwater wells, dams, etc.; and trash in rivers and streams, sinkholes, and forested areas. She mentioned they recently released an environmental impact statement on invasive non-native plants. The 2005 Forest Plan includes restoring native vegetation. They have no internal funding for trash clean-up. To determine the watershed condition improvement projects, they consider threatened, endangered, and sensitive species; human and health safety; water quality; aquatic habitat condition; partnership priority work areas; and Forest Service priority watersheds.

To prioritize work, the Forest Service uses a GIS tool for prioritizing aquatic organism passage (AOP) barriers on road stream crossings – CADSS; and watershed condition classification – priority watersheds. Using the CADSS Tool for AOP barriers, approximately 70% of the road stream crossings within the proclamation boundary were surveyed by the U.S. Forest Service Southern Research Station during Summer 2010. Sampling methods and calculations were based on the 2005 thesis by Joseph Coffman. They were given three ratings – passable, indeterminate, or impassible for Class A (strongest swimmers), Class B (moderate swimmers), and Class C (weakest swimmers).

Mark Twain National Forest is a pilot Forest for developing a prioritization tool. The creators of the tool are the Center for Aquatic Technology Transfer in the U.S. Forest Service Southern Research Station. The demo is available now for prioritizing watersheds; later a demo will be available for prioritizing individual crossings. They will be upgrading to ArcGIS 10. Kelly demonstrated how the tool worked.

Kelly talked about the Watershed Condition Classification process. So far, they have classified watershed conditions; prioritized watersheds for restoration; and developed watershed action plans. For the next 3-5 years, starting in 2012, they will implement integrated projects; track restoration accomplishments; and monitor and verify information. This information is available to the public and can be found on the Internet at: <http://www.fs.fed.us/publications/watershed/>. The documents to look for are: Watershed Condition Framework and Watershed Condition Classification Technical Guide. There is an Interactive Map that shows results. One goal for management is that this will improve the national-scale reporting.

The “new” approach to watershed improvements is to treat the “best” watersheds first; focus on a few priority watersheds; do a watershed analysis to identify key processes and priorities; do a wide range of treatments integrated at a watershed scale; complete the highest priority first before shifting work to the next watershed; and partnerships are essential. The “old” approach was to treat the “worst” watersheds first; focus on stream segments or site scattered over several watersheds; analysis is limited to project area; do a narrow range of treatments on individual sites; complete highest priority first on individual sites located in different watersheds; and partnerships are limited in number and scope. Using the Watershed Condition Classes (class 1 = functioning properly; class 2 = functioning at risk; class 3 = impaired function) the Watershed Condition Map shows that most of Missouri is functioning at risk.

Mill Creek Watershed in one of Mark Twain National Forest’s priority watersheds. It is also on Missouri Department of Conservation’s priority list. They are applying for a Watershed Management Plan grant. A Watershed Action Plan summary is due by Sept. 30, 2011, with a more detailed report due in 2012. The report will include issues, concerns and opportunities on both Forest Service lands and non-Forest Service lands with



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partnership involvement. Kelly mentioned their funding is uncertain and will be seeking alternative funding sources with partners.

MDC Fisheries Division's Strategies for Watershed Management, Paul Blanchard, Missouri Department of Conservation (MDC)
PowerPoint Presentation

Paul presented some of their past watershed efforts up to present ones. MDC's Watershed Inventory and Assessments is on their website. They had Stream Management Workshops to train MDC staff and other staff from other agencies. They have worked with landowners to provide riparian reforestation, riparian fencing, alternative livestock watering, and streambank stabilization. They also worked with partners to get instream flow recommendations and aquatic organism passage barrier inventories and removals. They have gotten mixed results on initiating efforts in the aquatic conservation opportunity areas (COAs). In order to have success, Paul said they need to manage at a watershed level.

MDC developed a "Strategies for Watershed Management" document, which can be found on Internet at <http://mdc.mo.gov/node/10193>. This is MDC Fisheries Division's plan for targeting and working in priority watersheds. Paul felt the first nine pages of the document are the most important. They saw the need to be more effective at positively impacting stream resources. The recommendation is to concentrate limited resources (time, money, attention, partners) on priority watersheds; rather than having a statewide shotgun approach. They have developed an 8-step approach: evaluate and prioritize watersheds; comprehensive watershed characterization; initial stakeholder involvement; goal and objective development; strategies for meeting goals and objectives; acquire resources to implement program; implement; and evaluate/monitor. Two guiding objectives will be used in the first step to evaluate and prioritize watersheds regionally: conserving biodiversity, and providing quality areas and opportunities for recreation. Regional prioritization is based on resource concerns, landowner interest, and potential partners. Local buy-in and feasibility are also to be considered. Regions were given a list of possible priority watershed selection criteria to use as a tool. Paul said they would still provide technical assistance to partners in other agencies in non-priority watersheds. A flow chart for guidance is available on how to handle non-priority contacts. The second step uses GIS datasets and "on the ground" knowledge to characterize potential priority watersheds. This helps identify target areas for protection, enhancement, and restoration. They will look at physical, biological, and human issues. Each region was asked to identify ten watersheds. Paul said it's important to know how to identify and involve stakeholders who share an interest in the watershed. He suggested reading "Marketing for Conservation Success Guidebook" by USDA's Natural Resources Conservation Service as a good training for stakeholder involvement. The next step is goal and objective development. Watershed goals address ecosystem health and resiliency. Watershed objectives are the steps needed to achieve goals. Take into consideration that stakeholder involvement and input are crucial in this step. Protection, enhancement, and restoration are strategies for meeting goals and objectives. In step 5, protection is the most effective and cost efficient. Enhancement is used in areas easily rehabilitated to achieve full watershed function. Restoration treats symptoms rather than causes and is the least effective. The next step is to acquire resources in order to implement. Those can be research grants, donors, partners, and other sources of support. In order to do the implementation step, a plan must be developed to pinpoint specific watershed targets for practices developed with a marketing and public participation process and administer to a target audience. The last step is to evaluate and monitor. Focus on management efforts, stakeholder participation/satisfaction, and watershed condition. Monitoring protocols will vary with the different practices implemented and outcomes attempting to be measured. Some issues are hard to measure or connect with objectives and monitoring. Small changes in stream ecosystem health are hard to measure. Paul said you cannot measure stream ecosystem resiliency. There will be significant time lags before in-channel improvements will show up. Monitoring for short-term objectives should be different from that for long-term objectives.



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Paul talked about a toolbox of current methods for assessment and monitoring of watersheds. More standardized protocols will continue to be added as they are developed. Feedback loops are important. They can show if the goals are being met.

This is a “living” document, which means as projects progress it can be adapted or appended. These could include new monitoring and assessment methods, data storage and accessibility updates, and changes from successes and failures.

Currently, partners are aware that MDC is prioritizing and is sharing those priorities with them. Training and assistance for implementation of the various steps are ongoing. Regions have completed their initial round of prioritizing and are currently working on Watershed Characterizations. Paul mentioned the Forest Service and MDC are trying to overlap priority watersheds but with different priority purposes. One watershed overlap is Mill Creek.

Paul can be contacted at the Missouri Dept. of Conservation if you have any questions or need more information.

Agency Activities

Nothing reported.

Meeting adjourned.