



Missouri Department of Natural Resources

Water Quality Coordinating Committee Water Protection Program

Minutes

June 17, 2008



Missouri
Department of
Natural Resources

WATER QUALITY COORDINATING COMMITTEE

USGS Columbia Environmental Research Center
4200 New Haven Road
Columbia, Missouri

June 17, 2008
10 a.m.

MEETING AGENDA

A GIS -Based Approach for Modeling Wetland Restoration Potential
Michael Weller, Water Resources Center, Department of Natural Resources

Visual Tools for Stream Educational Workshops
John Fantz, Missouri Department of Conservation

Hidden biological value: isolated wetlands, headwater streams and terrestrial connections
Ray Semlitsch, University of Missouri - Columbia

Other

Agency Activities

Meetings and Conferences

MISSOURI WATER QUALITY COORDINATING COMMITTEE

June 17, 2008

U.S. Geological Survey
Columbia Environmental Research Center
4200 New Haven Road
Columbia, Missouri

MINUTES

Attendees:

Sarah Fast	MoDNR, Water Protection Program	Sherry Fischer	MO Department of Conservation
Mike Kruse	MoDNR, Water Protection Program	Paul Calvert	MO Department of Conservation
Stacia Bax	MoDNR, Water Protection Program	John Fantz	MO Department of Conservation
Scott Sowa	UMC MoRAP	Chris Riggert	MO Department of Conservation
Gust Annis	UMC MoRAP	Cindy DiStefano	MO Department of Conservation
Ken Tomlin	MoDNR, Water Protection Program	Phil Schroeder	DNR, Water Protection Program
Greg Anderson	MoDNR, Water Protection Program	Bob Ball	USDA – NRCS
Verel Benson	Private Consultant	Ray Semlitsch	UMC
Dan Sherburne	MO Coalition for the Environment	Darlene Schaben	MoDNR, Water Protection Program
Any Junglaus	MO Department of Conservation	Michael Weller	MoDNR, Water Resources Center
Kat Allen	MO Department of Conservation		

Introductions were made.

A GIS-Based Model for Screening Potential Wetlands, Michael Weller, Water Resources Center, Department of Natural Resources
PowerPoint Presentation

The Water Resources Center received a grant from EPA for a GIS-based tool to assess land for wetland potential. The tool is used to target areas of high potential; avoid disturbing areas of high potential; and improve the quality of mitigation banks. This tool is not intended to identify existing wetlands or assess value or quality of existing wetlands. It is a screening tool. The model has three variations: water quality, habitat, and land for the Wetlands Reserve Program, or WRP. Michael suggested that people could adapt the tool to meet their own goals. ESRI ArcGIS software and component data layers are needed to use the tool. This is a 2-step model. Step One is the Initial Evaluation. This takes data from 10 data layers (flow accumulation, slope, hydric soils, flood duration, flood frequency, 1st and 2nd order stream buffer, wetland buffer, land use/land cover, special flood hazard area and National Wetlands Inventory). This information is used in a weighted overlay to obtain an initial result. The weighted Overlay Table allows the calculation of a multiple criteria analysis between several rasters. The higher the scale value, the better it is for a wetland. Step 2 is the Neighborhood Analysis. This considers average slope and majority land use/land cover within a given distance, step 1 results, and size, which gives Final Results.

The first case study was Little Chariton River. Michael showed maps with the three variations—water quality, habitat, and WRP. Seven percent of cells score 8-10. Paddy Creek in Texas County had 80 percent forested land (high slopes), resulting in fewer cells with high wetland potential.

Advantage of the model is that it is highly adaptable and flexible and it used common data. The model calculates potential; the user defines rating table and goals; and the potential is difficult to observe directly. The user draws

on local knowledge and expertise to adapt the model. They are waiting for approval by EPA before making the model available on the Web.

Contact Michael at michael.weller@dnr.mo.gov or at the Department of Natural Resources, Water Resources Center.

Visual Tools for Stream Educational Workshops, John Fantz, Missouri Department of Conservation
PowerPoint Presentation

Stacia Bax introduced John as the Project Manager of a 319 grant, Stream Educational Workshops and Product Development. They are trying to make stream educational material portable enough for field use.

John said they do several workshops in a year. They produced many stream education demonstration video clips, primarily on channelization and gravel removal. All clips are contained on one DVD entitled 'River Geomorphology Videos,' which MDC and their contractor, Little River Research and Design, produced in September 2007. It contains 61 clips and is used as a teaching DVD. The different segments run varying lengths, with the average being 60 seconds. The video clips also include demonstrations on a stream table that shows eroding areas. He showed a few of the clips. They made 75 copies of the DVD through the grant. John plans to present it in August to the Fisheries staff. Steve Geoff helped produce the DVD. They have a mobile stream trailer that was built using grant funds.

Stream Teams can sign up on the Stream Team Web site and receive a packet of materials. The materials are now available on CD. During the time period of July 1, 2004 to June 16, 2008, John said they have conducted 25 classes for 502 students.

Hidden biological value: isolated wetlands, headwater streams, and terrestrial connections, Ray Semlitsch, UMC

PowerPoint Presentation

Ray is an Amphibian Ecologist. His main interest is salamanders. The study area was in the Appalachian Mountains. Several aquatic habitats have been undervalued. He talked about three basic points--small wetlands and headwater streams are numerically dominant on the landscape; small wetlands and headwater streams contain hidden biodiversity and huge amounts of biomass in the form of amphibians; and isolated wetlands and headwater streams are not functionally or biologically isolated. Most problems are the fault of biologists by not providing information. Amphibians like small wetlands on an annual basis but prefer larger ones in drought years. From north Georgia to Maine, amphibians prefer spots like wet rocks and water coming from underground. Through a study of biomass distribution, salamanders had equal biomass of birds and mice. A paper was published last year on black-bellied salamanders. On isolated wetlands in the South Carolina bay area, the terrestrial habitat is an integral component of wetlands and together they must be managed as an ecological unit. Most amphibians have a complex life cycle. They breed on land and hibernate. He talked about the distance that some will travel from a stream. In 25 meters of terrestrial habitat, some will use areas of up to 100 meters. A pond breeding study was done to look at the probability of finding the species. They found that 95% move out to 250-300 meters. Females use areas farther away from a wetland. Several amphibians will move among several wetlands that are located in close proximity.

Science must inform management and regulating agencies as new information refines the view of wetland functions and wetland values. Small, isolated wetlands are not expendable if the goal is to maintain present levels of species biodiversity.

Ray can be contacted through email at semlitschr@missouri.edu for any questions.

Agency Activities

Sarah Fast mentioned the July meeting will include presentations from Scott Robinett and Donna Swall on Lake of the Ozarks and Chris Barnett will update the group on the Rapid Watershed Assessment. The August 19 meeting will be cancelled due to the Water Protection Forum being held on August 20. Sarah encouraged everyone to attend. If anyone has topics for discussion or presentations, please let Sarah know.

Bob Ball mentioned a Missouri woodland landowners meeting to be held June 20.

Phil Schroeder said there has been movement on the Water Quality Standards. Comments on the Regulatory Impact Report is open until July 21. Meetings will be held at the Lewis & Clark State Office Building in Jefferson City on June 23 and July 15. He also mentioned that information on the proposed 2008 303(d) list should be on the web this week. There will be a stakeholders discussion then they will be asking the Clean Water Commission to approve any revisions. There will be more public participation on June 26, 10 a.m. – 3 p.m., at the Lewis and Clark State Office Building.

Paul Calvert said John Tuttle will be working on best management practices for woody biomass. They would like to invite a department water quality specialist to part of the group. A meeting will be held on June 25, 10 a.m., at Missouri Department of Conservation Credit Union in Jefferson City. Paul will send the information to Darlene to send out.

Sherry Fischer said there will be an “Understanding Streams” workshop. The 2007 Stream Team Annual Report is now available.

Verel Benson (now retired) will be working with the University of Tennessee on a national level project. It will be funded by an EPA grant for approx. 2 years. They will identify 104 watersheds in the Region 7 states.

Greg Anderson said the 2008 319 RFP may be out in September 2008.

Meeting adjourned.