



# **Missouri Department of Natural Resources**

## **Water Quality Coordinating Committee Water Protection Program**

### **Minutes**

**Sept. 16, 2008**



Missouri  
Department of  
Natural Resources

## **WATER QUALITY COORDINATING COMMITTEE**

Department of Natural Resources Conference Center  
1730 E. Elm Street  
Roaring River Conference Room  
Jefferson City, Missouri

Sept. 16, 2008

10 a.m.

### **MEETING AGENDA**

Resource Science Division Current Water Quality Programs and Projects,  
Ron Dent, Resource Science Division Chief, Missouri Department of Conservation

2008 Farm Bill Highlights, Dwaine Gelnar, Natural Resources Conservation Service

Permeable Parking and Other Water Quality Strategies at Jefferson Farm & Gardens,  
Dr. Robert L. Myers, Thomas Jefferson Agricultural Institute

Other

Agency Activities

Meetings and Conferences

## MISSOURI WATER QUALITY COORDINATING COMMITTEE

Sept. 16, 2008

Department of Natural Resources Conference Center  
1730 E. Elm Street  
Jefferson City, Missouri

### MINUTES

#### Attendees:

Sarah Fast	MoDNR, Water Protection Program	Bill Whipps	MoDNR, Water Protection Program
Paul Andre	Missouri Department of Agriculture	R. Darlene Johnson	USDA - NRCS
Walter Roachell	EPA Region 7	Bob Ball	USDA - NRCS
Phil Schroeder	MoDNR, Water Protection Program	Anne Peery	MoDNR, Water Protection Program
Bryan Hopkins	MoDNR, Office of Director	Cindy DiStefano	MO Department of Conservation
Rob Myers	Jefferson Institute	Stacia Bax	MoDNR, Water Protection Program
John Johnson	MoDNR, Water Protection Program	Mandy Sappington	MoDNR, Water Protection Program
John Bryan	Poultry Federation	Ron Dent	MO Department of Conservation
Bob Broz	University of Missouri Extension	Angel Kruzen	Water Sentinel
Phil Walsack	Missouri Public Utility Alliance	Darlene Schaben	MoDNR, Water Protection Program
Mike Kruse	MoDNR, Water Protection Program		

Introductions were made.

(The agenda was rearranged in order to accommodate the speaker's available time schedule.)

**Permeable Parking and Other Water Quality Strategies at Jefferson Farm & Gardens**, Dr. Robert L. Myers, Thomas Jefferson Agricultural Institute  
PowerPoint Presentation

Jefferson Farms received 319 funding that will be used to reduce agricultural runoff, demonstrate Best Management Practices, develop and conduct tours, workshops and 5th-grade curriculum, and implement producer education programs showing methods to reduce surface runoff. Rob said the Jefferson Institute is a nonprofit agriculture education center in Columbia and has been in existence for 11 years. The newest program they are working on is developing a new public education facility on farming, gardening, and conservation, called Jefferson Farm and Gardens. Although the facility is not open yet they have had some public programs with 1500 visitors this summer. Several school groups are planning to visit this fall. It is a 67-acre facility on leased land of the University of Missouri-Columbia's South Farm. The facility will have a visitor's center, children's garden and barnyard, fields and gardens, and conservation and native plant demonstrations. They expect over 30,000 visitors per year. The visitor's education complex will be a LEED Certified building with an exhibit hall at the entrance. Groups will be able to meet in a classroom to hear about water quality and other conservation education programs.

Rob talked about several areas that are already up and running. Those include some demonstration fields, information stations, children's barnyard, fruit orchard, vegetable garden area, native plants (shoreline and aquatic) around the lake, and a boardwalk. The idea of native plants around the lake came from the Morton Arboretum in Chicago. They found that the native plants help to discourage the geese.

The permeable brick pavers in the parking lot were placed by LPS Paving from Chicago. Concrete was put around the edge to hold the pavers in place. They requested the company to not over-compact the sub-grade so there would be some infiltration as the water moved down through the gravel base. The base for the pavers consisted of a total of 16-18 inches of gravel material with a geo-tech fabric underneath. Three-eighths inch gravel was poured over the

pavers to fill in any voids. The lower end of the parking lot has a perforated drain tile, which drains into a rain garden area. Any engine oil or antifreeze left on the surface will adhere to the gravel before it leaves the drain field.

A cost analysis done by the Morton Arboretum showed for over a period of 50 years that the only maintenance needed was to use a street sweeper every eight to 10 years to remove any dirt, leaves, etc., then replace the fine gravel into those areas.

Rob said the cost was \$8/sq. ft. for the bricks, labor, chat, gravel, and excavation. The second parking lot is permeable asphalt with a cost of about \$5/square foot. This asphalt does not have the sand and smaller particles that regular asphalt has.

They had good media coverage when the pavers were being installed, including KOMU-TV. Signage for the permeable paving will be added later. Also added later will be a discovery stream. It will be used for a teachable moment to talk with kids about how to protect a stream that goes through the neighborhood. Funding for this part will be from a different source.

The goal of the farm is to be one of the premiere educational farm facilities in the country. They are trying to do things in a first-class fashion. They have started some public education programs even though they are not fully open until the visitor's center is completed. They do have several water quality demonstrations -- permeable parking, riparian buffers, native plants around the lake and other areas, methods for minimizing runoff, and will add a demonstration wetland at the entrance and an indoor display in the exhibit hall.

They plan for the facility to be open year round, six days a week, with an entrance admission fee. Memberships are also being offered.

Sarah said that Chicago is putting in permeable pavers in all their alleys and St. Louis is putting in a test alley. Permeable parking is also at a couple of the state parks. Sarah plans to have someone from State Parks at a future meeting.

**Resource Science Division Current Water Quality Programs and Projects**, Ron Dent, Resource Science Division Chief, Missouri Department of Conservation  
PowerPoint Presentation

The Resource Science Division is now six years old, formed in 2002. Ron talked about some of the programs and projects they are working on. Components were taken from the Wildlife Research Program, Fisheries Research, Forestry Research, segments of the Natural History section, and the Geographic Information Section and made one division dealing with science and research in Missouri Department of Conservation. There are 114 staff in the division. The five field stations are located throughout the state: Forest Systems in West Plains; Grassland Systems in Clinton; Missouri River in Chillicothe and St. Joseph; Agricultural Landscapes in Kirksville; and Big River/Wetlands in Cape Girardeau and Jackson. The central office is located in Columbia. They selected a system approach because they wanted to work more closely with the managers by having the research staff out in the state to work with them and to develop more habitat projects than in the past.

The division's mission is "to provide the science-based information needed to conserve, appreciate, and effectively manage the living resources of Missouri."

The project review process takes about one year. Budgets are reviewed and incorporated into their work objectives for staff, cooperative agreements are developed with the universities or other agencies, and collaboration during the process is imperative to make the projects work. The Aquatic Health Unit is responsible for contaminant monitoring, pollution and fish kill investigation, environmental review, and mussel conservation. They generally have 12-24 projects that deal with water quality and water quantity.

Contaminant monitoring is ongoing that started in mid-1970s to early 1980s. They are in the process of reviewing this program with assistance from the Department of Health and Senior Services, Missouri Department of Natural Resources, and the Environmental Protection Agency, also known as EPA. The division was heavily involved in the Taum Sauk Dam failure in December 2005. They worked with AmerenUE and the contractors to get more meanders back into the stream channel. They knew there would need to be adjustments made because of additional flooding that would occur but tried to provide some stability and some habitat diversity within that stream channel. They also tried to reduce some of the sediment load, protect some of the natural features along the stream channel, and do biological and stream monitoring on the restored section.

The division works with the Department of Natural Resources on investigations of fish kills and uses automatic water quality monitors for water quality studies around the state. Monitoring is continuing on the Ozark Cavefish, a project that began in 2001. These fish are very sensitive to water quality issues.

Reforestation of riparian corridors is a project that provides shades along stream banks, as well as bank stabilization. This project began in 2004 and continues to 2013. They are looking at a variety of different tree species and planting methods to improve riparian corridor planting successes. This project will be important to landowners.

Another project in process is Blood Chemistry of Juvenile Hellbenders. There are two species in Missouri. The Ozark Hellbender is close to being listed as a federally endangered species. The Eastern Hellbender is on a state species list now. The St. Louis Zoo raised some hellbenders that have been tagged and released into the stream systems. These will be recaptured and their blood chemistry and hormone levels checked for any changes since they've been out in the wild. This project continues until 2010.

The Headwater Monitoring is a cooperative project with NRCS, Department of Natural Resources, Environmental Protection Agency and landowners, to look at what changes in instream flow and biology occur below the dams after construction. The goal is to maintain the integrity of the stream both from biological and ecological functions of the stream. Instream Flow Methods Assessment project began in 1998. Ron said they are a major player in the National Instream Flow Council. Del Lobb will be Chair of the Council next year. The Fish Kills Investigations project is in cooperation with Department of Natural Resources, Attorney General's Office, and EPA. An average of about 75 pollution events (industrial, municipal, transportation) are investigated annually and about 85 annually for natural fish kills due normally to low dissolved oxygen. These investigations are done with regional fisheries staff, who gather the information and try to determine the responsible party of the pollution event. The information is provided to Department of Natural Resources. The settlements are returned to Missouri Department of Conservation to use on impacted natural resources.

Ron said there are two projects as a result of the Bagnell Dam relicensing. One is dissolved oxygen monitoring in the Lower Osage River to look at changes in oxygen below Bagnell Dam. The other is looking at changes in flow and how it effects fish population and river flow itself (habitat, macroinvertebrate, mussels).

Groundwater monitoring is being done at Eagle Bluffs. Working with the City of Columbia, using sewage effluent as a water source for wetlands, this project is looking at the impact of groundwater infiltration of the sewage effluent. In cooperation with USGS they have a Long-Term Resource Monitoring Program, which was initiated in 1991. The funding comes through the St. Louis Corps of Engineers. The data set looks at fish, mussels, invertebrates, and water quality in terms of dissolved oxygen, temperature, and nutrient levels in the Missouri River below St. Louis. Their area is a 100-mile stretch centered around Cape Girardeau. The data set is available on the U.S. Geological Survey Web site. Other data sets are also available at this Web site.

The streambank stabilization project has been in effect since 2005. This project is looking at six different techniques that are cost effective for landowners. They are finding that some techniques are not working with the heavy flooding.

The EPA Water Quality Project is working to get the Stream Team data on the Web. This project is planned for completion by the end of the year.

The Patch-Burn Grazing Effect on Intermittent Streams project is located in west-central and northern Missouri. This is a technique conducive to producing prairie plants and habitat for prairie chickens and other prairie songbirds. They burn one-third of an area then use cattle to graze the rest to create a more desirable effect. Areas are alternated each year creating a wide variety of grass heights which provides a nice habitat for prairie chickens and other ground-nesting birds. One issue they have encountered is not being able to fence cattle from all the small streams since this is in the headwaters. They will be looking at water quality impacts on grazing as well as the burning aspect. This project was started with the University of Kansas and Southern Illinois University will be doing some of the work in west-central Missouri, which is just getting started.

In 1996, an ecological study began on Brush Creek, looking at water quality and stream habitat. They are looking for changes in sediment load and algae composition in the stream habitat. A SALT project is ongoing to develop streambank stabilization structures, establish riparian corridors, and cattle exclusion. This data set should be available later this year.

A Timber Harvest project began in 2003. The Forestry Division recommended best management practices to use. This study was conducted with University of Missouri-Columbia. They found very little water quality or sediment erosion issues except where there were skid trails or logging roads. They will follow up with a study on these in 2010.

Another project is the Reproductive Effects of Contaminants on Shovelnose Sturgeon. The contaminants may not kill sturgeon but may have an impact upon their lives. This project is also with UMC.

They just completed a project that hired an Industrial Economics consultant to look at how they assess fish kill damages in terms of the monetary value. This looks at the biological injury, estimating a restocking cost, the dollar value (from AFS special publication #30), and using a model determining fish species values.

Future projects may include logging road effects, continued work on a fish damage assessment model, environmental assessment of the conversion of a retention pond in a developing basin to a wetland, exploratory analysis of watershed, lake morphology, water quality influences, and species interaction on fish communities in small impoundments.

Each year the Resource Science Division normally conducts 120-140 projects relating to water quality and water quantity issues.

### **2008 Farm Bill Highlights, Darlene Johnson, NRCS** PowerPoint Presentation

Darlene is a Resource Conservationist. She works with Dwaine Gelnar and presented for Dwaine since he had a scheduling conflict. She said there is currently not a final rule or even an interim rule for the Farm Bill. There is only the actual law that was passed. She said the process is that the law gets passed and given to USDA to develop a rule that addresses that law. Because there were significant changes from the 2002 Farm Bill to the 2008 Farm Bill, everything the agency came up with as a proposed rule to address the needs or requirements of the Food, Conservation and Energy Act of 2008 has to go to Office of Management and Budget, or OMB. There are currently seven proposed rules that went to OMB. OMB has a 90-day time period to review those rules. The Interim Final Rule will go out for public comment. Darlene warned the group that this could all change. A new Farm Bill is required every five years. The original Farm Bill expired but received several extensions. The Farm Bill was finally passed on May 22, 2008. She felt there will be a time extension given on the final rule until a new administration is elected. They expect to have an interim final rule though.

Missouri is currently conducting a 2009 Environmental Quality Incentives Program, or EQIP, sign-up but everything is marked as 'Draft' pending outcome of the Farm Bill rule. She doesn't expect any major changes with EQIP. Some of the highlights of the Farm Bill include an increase of funding for conservation programs, focus on agriculture and forestry working lands, expand EQIP, continue Wildlife Habitat Incentives Program, or WHIP, just to name a few. The Farm Bill is split into five separate subcategories: working lands, private lands protection, land retirement, stewardship, two new initiatives, and reauthorized the small watershed rehabilitation program and resource conservation and development program.

Darlene said the Farm Bill is trying to clarify the authority under which USDA NRCS can promote soil & water activities and also define the meaning of "technical assistance." EQIP received a \$3.4 billion increase in funding over the 2002 Farm Bill, effective through 2009 and 2012. She reminded the group that Congress has to pass a law to have USDA spend money on a specific program but then another law must get passed to give out the money. This still depends on OMB saying the money is available to give out. Darlene went over the programs under each subcategory and the changes and limitations of each. EQIP also includes forest management and energy conservation benefits. The maximum payment was lowered to \$300,000/person. \$3.75 million was added for air quality issues over the next four years. The maximum payment limitation for WHIP is \$50,000/person annually. She said that they anticipate most programs to be funded in 2009 at the same level as 2008, possibly a little higher, as long as they actually receive the funding, that is. The Conservation Reserve Program will have a lower cap of 32 million acres throughout the U.S. The Wetland Reserve Program was reauthorized with an overall cap of three million acres and only allowed on private lands or tribally-held lands. The Conservation Security Program has changed names and will be known as the Conservation Stewardship Program. This program will allow 12.7 million acres each year through 2017. The payment limitation will be \$200,000 over the life of the Farm Bill. Instead of NRCS submitting a recommended list of watersheds, acres will be accepted in every watershed in every state throughout the year.

The "new initiatives" are a Voluntary Public Access and Habitat Incentive (Open Fields) Program, Environmental Services Market, and a Cooperative Conservation Partnership Initiative. The Open Fields Program is where states or tribes apply for a grant from USDA to encourage private landowners to voluntarily make their land public-accessible for wildlife related activities. The Environmental Services Market is more of an internal process where USDA will make sure their activities are science-based and have empirical data to support that information. The Cooperative Conservation Partnership Initiative is telling USDA that a certain percentage of funds and acres for certain programs have to be used for target conservation activities.

Darlene showed several tables of annual funding for each of the programs under the Farm Bill for 2008-2012. She had another table showing what the 2007 Farm Bill authorized and what Congress ended up allowing, as she talked about earlier in the presentation.

She will let the group know when there is an interim rule or a final rule. It will be available on the USDA Web site.

Bob Ball said that we need to start now planning for the next Farm Bill. He also mentioned a provision to have a state innovation grant. Roger Hansen, NRCS, may decide to allow state innovation grants once the final rule is approved. These grants have a \$75,000 limit, but this could change.

### **Agency Activities**

Phil Schroeder said the Department of Natural Resources anticipates publishing the 2008 303(d) list of impaired waters soon. Comments are welcome. The final list will be taken to the Clean Water Commission for their adoption early next year.

Ron Myers said an Open House is scheduled for Sept. 27, 2008, 9 a.m. – 4 p.m., at Jefferson Farms in conjunction with a bigger Open House at University South Farm.

Bryan Hopkins said there is a hypoxia task force looking at defining some level of guidance on state planning.

Bob Broz mentioned four upcoming conferences/meetings.

- Oct. 4 Missouri Land Improvement Contractors Association, Drainage Field Day at MU's Bradford Farm, Columbia, Installation of sub-surface irrigation system and subsurface field drainage to reduce water use and improve nitrogen and pesticide effectiveness. RSVP to Debbie at 573-634-3001
- Oct. 22 AmerenUE is hosting a Low Impact Development Workshop at Tan-Tar-A, Osage Beach, 7:45-12, 4 hours of continuing credits will be given. Pre-register by contacting Bryan Vance at 573-365-9252.
- Dec. 16-17 National Turf Management Organization meeting in Overland Park, Kansas, the latest on pesticide, fertilizer turf management decision making.
- Feb. 9-11 National Water Quality Conference in St. Louis sponsored by USDA CSREES. People from every state attend to see what USDA, Department of Natural Resources, Missouri Department of Conservation and Fish and Wildlife Service is doing. Learn about research, teaching and extension from all fifty states. <http://guest.cvent.com/EVENTS/Info/Summary.aspx?i=acc30817-0724-4300-87dc-7ea9b4f75ce9>

Darlene Johnson reminded the group to check the Web site for the interim rule and information for the FY09 EQIP sign-up, which ends Oct. 31.

Sarah said at the October meeting John Hoke will talk about the on-line stream use tool and how that worked. Don Van Dyke will discuss case studies using Superfund and cleanup of streams.

Meeting adjourned.