

WATER QUALITY COORDINATING COMMITTEE

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

September 15, 2009

10:00 a.m.

MEETING AGENDA

Targeting BMPs, Verel Benson, Environmental Analyst, Benson Consulting

Soil and Water District Needs Assessment, Colleen Meredith, Soil and Water Conservation Program, DNR

Other

319 Request for Proposals

Agency Activities

Meetings & Conferences

MISSOURI WATER QUALITY COORDINATING COMMITTEE

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MINUTES

Attendees:

Greg Anderson	DNR, Water Protection Program	John Johnson	DNR, Water Protection Program
Darlene Schaben	DNR, Water Protection Program	Anne Peery	DNR, Water Protection Program
Verel Benson	Benson Consulting	Brenda Macke	Camp Dresser McKee
Jim Plassmeyer	DNR, Soil & Water Conservation Pgm	Clif Baumer	NRCS/DNR
Davis Minton	DNR, Director's Office	Doug Beck	Lake Ozark Watershed Alliance
Michelle Grumminger	City of O'Fallon	Donna Swall	Lake Ozark Watershed Alliance
Valerie Hentges	DNR, Water Protection Program	Bob Bacon	Environmental Resource Coalition

Introductions were made.

Targeting BMPs, Verel Benson, Environmental Analyst, Benson Consulting
PowerPoint Presentation

Dr. Benson recently received a Lifetime Achievement Award from an international SWAT users group. Also included in the group receiving the award was Jimmy Williams and Jeff Arnold, the two key developers for the EPIC/APEX/SWAT system of models. A total of eight received the award. Dr. Benson spent the last 25 years working with the models and applications, and provided training at several workshops.

Dr. Benson said this project is funded by a two-year grant from the Environmental Protection Agency, Region 7. The focus is to target best management practices (BMPs) in the selected three watersheds—the Marais des Cygnes River, Little Sugar Creek and Indian Creek watersheds. He explained that to select a watershed, you would first look at the 303(d) list. Then identify BMPs that would address the issues; identify landscape and land use characteristics that contribute to the concern; and encourage users to implement the BMPs. He listed several potential resource uses that could contribute to the problem.

In the Marais des Cygnes watershed, the key focus was to move feeding areas away from streams, move livestock watering sources, and fence streams to keep livestock out. He worked with the University of Missouri's CARES to create maps using topography, soil and land use characteristics. The maps help with showing users the higher potential benefits. He used this same concept for the Little Sugar and Indian Creek watersheds. He is still working on modeling the assessment of putting in a small flood control structure to capture the flow and release it so as to not change the bank downstream. His work thus far has been on rural areas but not urban areas yet.

He needed to develop a quantitative tool to estimate reduction of BOD from implementation of livestock pasture feeding and stream fencing BMPs in the Marais des Cygnes River watershed. The goals of the tool development was to estimate pollutant reduction using livestock feeding area relocation BMPs; provide estimates of benefits for BMP bid proposals; estimate benefits for use in calculating cost/benefit relationship; provide unbiased benefit estimates; and provide a method to be used by local users. Dr. Benson built a representative pasture with appropriate BMPs. The APEX model was used to calculate quantitative estimates of pollutant loads. Each field is based on the EPIC simulation. APEX includes all EPIC processes. SWAT includes most EPIC process. He mentioned he would use SWAT when looking at the urban areas.

He talked about what determines the relative importance of the various pollutants in the Marais des Cygnes watershed. That can be determined by the likelihood of deposition in a stream floodplain or streambed; the availability in solution or suspension for aquatic plant use; the likelihood that the pollutant interacts with in-stream demands for oxygen; and the likelihood that the pollutant moves downstream to Truman Lake. Dr. Benson looked at multi-year data so he used annual load information but daily load information was available. If you are trying to protect an aquatic species, you may want to look at the daily load information. He showed graphs of an estimated annual phosphorus runoff from winter pasture for thirty 11-year weather sequences for alternative BMPs and another graph of an average flood pollutant reduction estimate over thirty weather cycles. He took this information to get one measure for oxygen ratio to nitrogen or phosphorus availability to get total BOD reduction benefit. Another table showed quantitative estimate of BOD reduction benefit. That number can be compared to the bid/cost estimate to come up with the benefit/cost ratio.

In summary, BMPs can be targeted by topography, hydrology, soil attributes, land use and land management. BMPs can be targeted by the economic efficiency of BMPs considered. They can also be targeted by the leadership team's assessment of whether local farmers will do them. The methods described can be used to assess nutrient management, pasture management, stream fencing, urban development with sediment and water retention structures, septic system maintenance, and others. The whole idea of modeling is to get quantitative estimates to go with a BMP. These can be used as indicators rather than being precise numbers. If you use the same representative BMPs, you could use this in any other watershed.

A copy of this presentation can be obtained from Greg or Darlene.

Dr. Benson is working on a project with EPA through North Carolina to estimate ammonia volatilization and nitrous oxide related to cropland from fertilizer. They want to do EPIC simulations for every 12-kilometer grid for the country for a number of different crops. He will take the 20,000 different soils and assign them on a representative basis based on 8-digit HUCs. They are looking at air deposition of pollutants. North Carolina has a model that covers the U.S., part of Canada and Mexico. Their model takes weeks each time they run it. In the process of building something that can simulate all the different crops and soils in different locations, he will have a huge database that can be used for other purposes. He will get the data to Texas A&M for their GIS group to make it available to others.

Soil and Water District Needs Assessment, Jim Plassmeyer, Soil and Water Conservation Program (SWCP), DNR PowerPoint Presentation

The SWCP developed a Needs Assessment tool to use as a process to allocate the cost-share dollars to the Soil & Water Conservation Districts (SWCD). This tool was designed to be implemented for FY2010. Prior to 2010, the allocation process for cost share dollars was set up in statutes and rules. The rules stated that half of the cost share dollars were to be split equally among all districts; the other half was divided based on "need" of the districts. The "need" was based on dollars spent. The rules were changed this past year to address that it will all be based on needs. The SWCDs will go to the Commission and request the needed dollar amount. Jim said this is a proactive approach.

The statute change opened up the cost share program. A definition was changed to also include soil erosion and water quality concerns. The AgNPS SALT program was available only in selected areas and had their own set of practices. These practices are now available statewide. The Needs Assessment process will have districts working to develop a five-year plan. Every year, as they work through the cost share allocation process with the Commission, the districts would update their numbers for the next year. Currently, the districts are working on their Needs Assessment for FY11 so the Commission can start working on an allocation process to divide the funds. As they have developed this process, the SWCP has broken the cost share needs into resource concerns. The practices were then categorized under each resource concern to address those concerns statewide. The list contained ten resource concerns: Sheet/Rill and Gully Erosion, Woodland Erosion, Irrigation Management,

Sensitive Areas, Animal Waste Management, Nutrient Management, Pest Management, Ground Water Protection, Grazing Management, and Streambank Erosion. Jim went over each practice available under each resource concern. Sheet/Rill and Gully Erosion were combined and has been the practice most addressed statewide. Districts now have 42 practices to utilize statewide. In the future he thought the Commission may look into combining other practices that are somewhat identical. Since the change has been in effect, some practices are being used statewide more.

The District Boards look through the resource concerns as they build their needs assessment and work with staff to identify their resource concerns. The Board lists an estimated dollar amount needed for each resource concern area and the goals to be treated with the funds which are reported in acres or each, depending on the practice. This first year is a learning process. The Needs Assessment is then submitted to the Commission for their consideration. The Commission formulates their goals for treating each resource concern.

This is the first time the Commission is given the opportunity of deciding where they want the Districts to focus their resources during the year. The Commission will then allocate the funding according to the District's request and based on the dollar amount requested, funding available, and number of practices. For FY10, they received requests for \$48 million, but the cost share appropriation was \$26 million. Jim explained how the Commission came up with the estimated figures for this first year's funding allocation.

This year they are also putting additional funding in three targeted watershed areas—Jack's Fork, North Fork Spring River, and Black Creek. He explained how they determined the funds for each watershed area.

He figured they would have \$26.3 million available in cost share funds. In total, he said they would have \$29 million the Districts could obligate. They anticipate only claiming \$21-\$23 million in this fiscal year when completed. The Districts' Needs Assessments for FY11 are due November 2009.

In the future they want to work towards tracking where each practice has been implemented and measure impacts of all the practices.

Other

319 Request for Proposals, Greg Anderson, Water Protection Program PowerPoint Presentation

Greg said funding is received from the Environmental Protection Agency (EPA) for the Section 319 program to address nonpoint source issues. The state receives an annual grant to implement its nonpoint source program. Approx. one-half of the funding goes for implementation of the program; the other half goes to pass-through for competitive projects. The hypoxia issue is a big priority for the program. Greg mentioned several common nonpoint source challenges. EPA likes to see nine element watershed management plans. The funding must be used for nonpoint sources. Non-profit organizations, education institutions, and local governments are eligible. A watershed approach that is locally led and consistent with Missouri's Nonpoint Source Management Plan is also eligible. Examples of subgrants that have received funding included a focus on information, education, innovative pollution prevention practices, demonstration, project-specific monitoring, planning, and implementation/remediation.

The 2008-2009 grant focus is on non-agriculture projects. Part of the 319 grant previously partnered with and complemented the AgNPS SALT projects. Since the cost share program experienced rule changes, the Department felt most of the 319 funds could be focused on non-agriculture type projects (e.g., urban, mining, hydrologic modification). The 2008 and 2009 319 grant funding has been combined providing approx. \$7 million available for pass-through. To target municipal areas for this year's funding, Greg looked at municipalities, metro areas with over 5,000-10,000 population, and that were within one-half mile of a 303(d) listed water body. To target the mining areas, he looked at the 303(d) list and abandoned mines. 75% of the funding will be focused on

impaired water bodies and have a watershed management plan. These funds would start the implementation process and address the impaired water. 25% will be available for other typical 319 projects statewide. Greg showed pictures and talked about some previously funded 319 projects. He also showed a map of where AgNPS SALT projects and 319 projects overlapped.

The 319 RFP was sent out earlier with optional pre-proposals due today, Sept. 15. Pre-proposals were helpful in that staff can help make proposals more competitive. Final applications are due Jan. 15, 2010.

Agency Activities

Verel Benson said he's been working with EPA Region 7 on a project and also with the University of North Carolina and EPA on air deposition. He is also using the models on a project with the University of Tennessee, who is doing a national analysis on switchgrass to look at environmental impacts of growing energy. He will be busy with these projects between now and the end of the year. After that he may be a good resource for people on their 319 projects. He has retired three times so he doesn't want to be really busy but could help with some phase of a project.

Jim Plassmeyer mentioned the Soil and Water Conservation Program has a new director, Bryan Hopkins. He previously was the Department's hypoxia coordinator.

Michelle Grumminger mentioned the city of O'Fallon has the typical municipal urban stormwater issues and it's budget time right now. During budget time it's hard to get a pre-proposal completed. They work closely and communicate with NRCS in the St. Peter's area.

Anne Peery reminded the group of the Hinkson Creek public meeting that will be held Sept. 22 regarding the TMDL, which will be on public notice starting Sept. 18.

Clif Baumer mentioned that since the NRCS State Conservationist, Roger Hansen, retired in June, a new State Conservationist has been hired, J.R. Flores from North Dakota, effective Aug. 31, 2009. He mentioned that in partnership with the DNR Director's Office and State Parks, one of their bigger water quality related projects is the purchase of the Zell Tract on Locust Creek and Pershing State Park. There will be a dedication either on Oct. 20 or 21.

Doug Beck said LOWA (Lake Ozarks Watershed Alliance) is working diligently to develop their watershed management plan.

Bob Bacon said they are just finishing up their ecological water resources assessment project. This is a \$4 million grant to provide information to the water quality standards program. They are working closely with the Department's Water Protection Program—Water Quality Monitoring and Assessment & Permits sections. They developed several deliverables to improve existing water quality standards items. One was a waste load allocation procedure for dissolved oxygen. They monitored some streams and got over 11,000 data points over a summer of low flow, low dissolved oxygen period. A series of reports will be completed to look at the assessment of those streams; these are biological reference streams. Some regional dissolved oxygen procedures will also be developed. These will be completed by the end of the year.

Greg Anderson mentioned the Jefferson City River Cleanup is scheduled for Sept. 19 at the Noren Access. Let Greg or Darlene know if you have any topics you would like to hear about or present

Meeting adjourned.