

WATER QUALITY COORDINATING COMMITTEE

DNR Conference Center
Bennett Springs Conference Room
1730 E. Elm Street
Jefferson City, Missouri

January 20, 2009

10:00 a.m.

MEETING AGENDA

Superfund Site Remediation Impacts on Surface Waters,
Don Van Dyke, DNR, Hazardous Waste Program

Climate Change in Missouri Streams, A Pilot CSI Project,
Wayne Maresch, DNR, Environmental Services Program

Other

Agency Activities

Meetings & Conferences

MISSOURI WATER QUALITY COORDINATING COMMITTEE

January 20, 2008

DNR Conference Center
Bennett Springs Conference Room
1730 E. Elm Street
Jefferson City, Missouri

MINUTES

Attendees:

Sarah Fast	DNR, Water Protection Program	Cindy DiStefano	MO Dept. of Conservation
Darlene Schaben	DNR, Water Protection Program	Chris Riggert	MO Dept. of Conservation
Sherry Fischer	MDC, Stream Team	Bob Broz	Univ of MO Columbia, Extension
Wayne Maresch	DNR, ESP, Stream Team Coord.	Greg Anderson	DNR, Water Protection Program
Priscilla Stotts	DNR, Stream Team	Tim Rielly	DNR, Env. Services Program
Kat Lackman	MDC, Stream Team	Clif Baumer	USDA-NRCS
Susan Higgins	DNR, Stream Team	Mark Osborn	DNR, Water Protection Program
Robert Voss	DNR, Water Protection Program	Jaci Ferguson	EPA Region 7
John Johnson	DNR, Water Protection Program	Anna Nowack	DNR, Water Protection Program
Tucker Fredrickson	DNR, Water Protection Program	Don Van Dyke	DNR, Hazardous Waste Program
Trish Rielly	DNR, Water Protection Program	Robert Brundage	Newman, Comley, Ruth P.C.

Introductions were made.

Superfund Site Remediation Impacts on Surface Waters, Don Van Dyke, DNR, Hazardous Waste Program, Superfund Section
PowerPoint Presentation

Don showed pictures of an abandoned coal mine that is part of a Superfund site in Jasper County. This is part of the Oronogo-Duenweg Mining District Site where lead and zinc were mined. Superfund is involved because there are still lead and zinc contaminated chat remaining underneath the tailings. Even though it looks like a good place to swim, it has a pH of 3. They are working with DNR's Land Reclamation Program to close out the pit. Chat will be used to fill the pit, which is 6.5 acres in size and 65 ft. at the deepest point. Mined waste will be used as the secondary final cover. Topsoil will be used for the top layer. Once the area has been reclaimed, it can again be used for residential development, industrial use, or however they choose.

There is lead, cadmium, and zinc in the surface water runoff from properties where contaminated chat piles are stored, which then runs into a stream. They are working with EPA to reclaim 7,500 acres of mine-affected lands that remain from previous mining operations. EPA has allotted approximately \$5-10 million per year to do reclamation in this area. An area of 75-acres is the first increment. Don showed a picture of a phospho-gypsum waste pile that remains from Farmland Industries, which is another of his projects. Farmland Industries manufactured fertilizer and made phosphoric acid. The pile is approx. 65 acres. A basin was built at Short Creek to hold the high flow. That flow is diverted through a pipeline that goes underneath the waste pile which then resurfaces further down. The problem is that the pile sits on top of a mine shaft (from lead and zinc mining). A pH of 2 runs off the phospho-gypsum pile. The low pH leachate is mobilizing the lead, zinc and cadmium, taking it to the state border. The water treatment plant, where the runoff goes, is wanting to close. If that happens, some really nasty water will be sent into the Spring River Watershed. Spring River is used as a potable water supply for people in Kansas. It costs Kansas a lot of money to treat the water to bring it up to a standard to use for potable conditions. So, Don is working with Kansas to obtain property close to the border for this runoff from Short Creek to keep it out of the watershed.

Don said he is currently working with a Tri-State Task Force and they are looking at water issues in Missouri, Kansas, and Oklahoma to alleviate the issues associated with past mining activities.

The Superfund Section is also involved with the Central Mining District, which includes Jefferson City to Springfield; and the Old Mining District, which deals with Desloge, Farmington, and others on the east side of the state.

In answer to a question, Don said that the Grand Lakes of the Cherokees group attends the Tri-State Task Force meetings. MDC, Solid Waste, municipalities, city managers, zoning staff, etc. also attend these meetings. Greg mentioned that 319 grant funds are available to use for some aspects (information/education) of abandoned mine lands.

Land use restrictions are placed on all the areas where there were mine shafts, or open areas. They will be part of Superfund's long-term stewardship program, where those are monitored and no construction will be allowed. They are reserved as 'green space.' As the pit is filled, the water is treated before it is allowed to discharge to surface waters of the state. Jasper and Newton counties are part of Special Area 2, which states that if you drill a water well into the shallow aquifer, which is the Mississippian Aquifer, you have to test the water prior to finishing the well. If the test comes back as laden with lead, zinc, or cadmium, that shallow aquifer must be sealed and then drill to the next aquifer, Ordovician, and establish your well in that aquifer. This increased the price of drilling a well immensely.

Bob suggested having a presentation from DGLS on special areas on water quality and well drilling. Don said there are three special areas in Missouri.

Climate Change in Missouri Streams, A Pilot CSI Project, Wayne Maresch, DNR, Environmental Services Program
PowerPoint Presentation

Last summer, EPA provided funding to look at climate change in Missouri streams. Wayne said they are using volunteers for this project. Volunteers were recruited to assist in deploying data loggers. That data will be compared with previously collected data. This is a five year pilot project. They will look to see if there is an increase due to climate change in the temperature of streams. Cool and cold-water streams will be used. The combination of warmer surface waters plus declining base flows in these cooler water streams could result in the loss of cool water fish species. These cool water streams could be the most at risk streams in Missouri. Wayne talked about how volunteers are selected and where the data loggers would be placed.

Some of the factors that could cause temperature changes include: different depths in pools; where the water comes from, i.e., spring, runoff from urban areas, etc.; or presence or absence of shade. An ideal sampling location would be one that always maintains an obvious flow and is within or immediately downstream of a long section (100 yds.) of stream that is not shaded by vegetation or by physiographic features for most or all of the middle part of the day (10 AM to 3 PM). The data loggers would be deployed from March 15 – October 31. Wayne discussed how they would be secured and placed in the stream. A data sheet (showed example) and map of the site will be completed at the time of deployment. Every 2-3 weeks the volunteers are to check to make sure the data logger is still secure and in its correct position. Every 2-3 months the data will be downloaded and stored at the department's Environmental Services Program. The data loggers are set to record temperature readings every hour so there is a lot a data to download. They used two types of data loggers for this pilot project. They were placed in Cedar Creek and Lost Creek. Next year they plan to deploy six around the state.

On October 31, Wayne retrieved the data loggers and downloaded the data. This will be used in the future for data comparison. Starting on March 15, the six data loggers will be placed in the cold water streams of Cedar and Lost creeks, two in Phelps and Pulaski counties, and two in Jefferson County. Locations will be chosen that are close to a volunteer. Wayne added air temperature and rainfall events to the spreadsheet to have a better idea of what is

going on in those creeks. They also look at accessibility of getting to the stream, the type of flow, and flood events. He hoped that funding would be available yet after five years so this project could continue.

Agency Activities

Sarah said the next meeting will be in Columbia on Feb. 17. She invited suggestions for topics for future meetings.

Mark Osborn mentioned the finalized version of the 2004/2006 303(d) list will be on the Web this Friday. The Clean Water Commission approved submission of the Nutrient Criteria rule for lakes to the Secretary of State. The first meeting of the Nutrient Criteria for streams stakeholder group will be Feb. 11, 10 a.m., Lewis & Clark State Office Building.

Greg Anderson mentioned that there are some 319 changes in the works.

Bob Broz reminded the group of the Missouri Natural Resources Conference at the Lake on Feb. 4-6. The National Water Quality Conference is scheduled in St. Louis on Feb. 9-12. It may be expensive but several have said it's the best conference to get a full range of research, teaching, and extension components of what is going on in the world. It not only included ag but also concept areas on watershed planning, volunteer planning, and volunteer monitoring program from Wisconsin. Bob also mentioned that because of budget shortfalls, the Water Quality Short Course would not be offered this year, unless someone else has available funding, but would be offered next year.

Chris Riggert said he and Wayne were in the middle of teaching QA/QC workshops for Level 2 volunteers. Chris received a list of streams from the Water Protection Program where data is needed. These Level 2 volunteers can sign up for special projects.

Priscilla Stotts announced they now have a student from Lincoln University working 20 hours per week to enter volunteer data. They are about a year behind on data entry in the volunteer database.

Sherry Fischer said the Stream Team Program will have two Academy Workshops coming up in the next few months. There will be a groundwater workshop in May or June and an introduction to mussels in July. The mussel workshop will probably be in Kansas City in coordination with some research at the zoo. The groundwater workshop may be in Columbia.

Meeting adjourned.