

AGENDA

TRINITY RIVER PCB TMDLs PUBLIC MEETING

NORTH CENTRAL COUNCIL OF GOVERNMENTS
616 SIX FLAGS DRIVE
CENTERPOINT II (TOM VANDERGRIFF CONFERENCE CENTER)
REGIONAL FORUM ROOM , FIRST FLOOR

Wednesday, February 3, 2010

1:00 P.M. – 3:00 P.M.

1. **Welcome & Introductions**
2. **General Overview of Texas TMDL Program**
2. **Overview of Trinity River PCB TMDL Project**
 - PCBs Review
 - PCB Conceptual Model
 - Data Collection Summary (March 2008 – August 2008)
 - Preliminary Data Results (March 2008 – August 2008)
 - Endpoint Identification
 - Pollutant Source Assessment
 - Existing Loads
 - Draft Load Allocations
3. **Open Discussion of Ongoing TMDL Project Work and Next Steps**
4. **Adjourn**

The TCEQ web page for this TMDL project may be found at:
http://www.tceq.state.tx.us/implementation/water/tmdl/77-trinity_pcb.html
The web page includes the project overview, meeting information,
meeting summaries, and project documents.

NCTOG Offices Locator Map Available at www.nctcog.org/aa/locator_map.asp

Attendees:

Susan	Alvarez	City of Dallas
Mike	Bastian	CHZM Hill
Peter	Blanchette	City of Dallas
Jennifer	Bronson	TX Parks & Wildlife Dept
Sam	Brush	NCTCOG
Ashley	Colburn	Hanes Geo
Gordon	Dickson	Fort Worth Star-Telegram
Mark	Ernst	Tarrant Regional Water District
Bill	Gase	City of Dallas
Becca	Grassl	Tarrant County
Pam	Griffin	Benbrook MHC
Michael	Kazoa	City of Fort Worth EMD
Rod	Kinard	Oncor
Randy	Loftis	Dallas Morning News
Donna	Long	City of Dallas
William	Madison	City of Dallas
Kiran	Makanji	City of Dallas
Cathy	Matthews	City of Fort Worth
Chris	McCoslin	Stakeholder
Cindy	Mendez	City of Grand Prairie
Tracy	Michel	NCTCOG
Lisa	Monroe	Test America Labs
Tom	Moore	City of Irving
Brian	Mueller	EPA Region 6
Casey	Nettles	City of Fort Worth
Barbara	Nickerson	Freese & Nichols
Bob	Ressl	City of Arlington
Echo	Rexroad	City of Grand Prairie
David	Rutledge	Luminant (formerly TXU)
Sala	Senkayi	US EPA Region 6
Trey	Shanks	Freese & Nichols
Jeff	Shiflet	City of Irving
Brian	Smith	Land Owner
Vicki	Stokes	City of Fort Worth
Dandi	Swindoll	Benbrook MHC
Tammy	Trey	Benbrook MHC
Christi	Upton	City of South Lake
Asaaty	Whitesly	DFW Airport
Libby	Willis	Oakhurst Neighborhood
Christy	Yorek	Lockheed Martin
Jonathan	Young	Alan Plummer Associates
Kate	Young	Lockheed Martin
Krystal	Zwinggi	NCTCOG

Support Staff:

Dania Grundmann – Texas Commission on Environmental Quality (TCEQ)

Earlene Lambeth – TCEQ

John Mummert – TCEQ – Region 4

Natalie Bell- TCEQ

Randy Palachek– Parsons Corporation

Kirk Dean – Parsons Corporation

Administrative Issues

The fourth informal public meeting of the Trinity River Polychlorinated Biphenyls (PCBs) Total Maximum Daily Load (TMDL) Project was hosted by the North Central Council of Governments on February 3, 2010. The meeting was scheduled by the TCEQ to update the public stakeholders on the development of TMDLs that are addressing PCBs in the Trinity River watershed. The goal of the TMDL project is to determine the allowable loads of PCBs that the impaired stream segments of the Trinity River can receive and still meet the fish consumption use. The consumption use is impaired because the Texas Department of State Health Services (DSHS) has issued a fish consumption advisory and an aquatic life closure in the Trinity River in the Dallas-Fort Worth Metroplex and downstream to the Cedar Creek Lake discharge canal. The meeting was well attended and self-introductions were made by all meeting attendees.

Dania presented a brief overview of the TMDL program. She reported that a Total Maximum Daily Load (TMDL) determines the maximum amount (load) of a pollutant that a water body can receive and still maintain its designated uses, and allocates this load to broad categories of sources in the watershed. She explained that the project is now in the developmental phase and a draft TMDL report is expected to be completed by the end of the summer. At that time, another public meeting will be scheduled with the area stakeholders to receive the public comments on the TMDLs. After the TMDL is formally adopted by the Commission, the TCEQ will support a local stakeholder effort to draft a TMDL Implementation Plan (IP). An implementation plan typically includes management measures to reduce pollutant loading to achieve the water quality objectives of the TMDL. Dania stressed to the stakeholders that there was no need to wait for the TMDLs to be adopted before management measures begin. She said that the TCEQ would assist in the IP development by forming various work groups or committees with input from local partners or stakeholders. These groups will draft measures that meet the specific needs of the community and outline how water quality restoration will be achieved over time.

Polychlorinated Biphenyls (PCBs)

The next presentation was by Dr. Kirk Dean with Parsons Corporation, the consultant contracted for the TMDL project. Kirk explained that the impaired areas are approximately 150 miles in length and begin near downtown Fort Worth in Tarrant County, and extend downstream, to the discharge of Cedar Creek Reservoir in Henderson/Navarro counties and include the following four segments:

- Lower one mile of Clear Fork Trinity River Below Lake Benbrook, Segment 0829;
- Lower twenty-two miles of West Fork Trinity River Below Lake Worth, Segment 0806;
- All twenty-seven miles of the Lower West Fork Trinity River, Segment 0841; and
- All one hundred miles of the Upper Trinity River, Segment 0805.

Kirk also reviewed with the group the basic information about PCBs and explained that the group of 209 compounds (congeners) collectively known as PCBs have varying toxic

effects, limited water solubility, and tend to be associated with sediments in aquatic systems. PCB congeners are also known to partition into fish tissue (due to the fat content of the fish). The production, distribution and new use of products with these compounds were banned in 1976 by the Toxic Substances Control Act (TSCA). One of the main uses of PCBs was in electrical transformers. PCBs were sold in the United States under the trade name Aroclor.

PCBs in the Trinity are found in the dissolved phase and associated with suspended solids in the water. Kirk explained that because PCBs do not like to be in water and tend to build up in the fish tissue and sediments over time. Kirk said the suspended sediments will settle over time and become part of the surface sediment layer and the PCBs can become buried in the sediments or re-suspended back into the water column. Kirk reported PCB removal mechanisms from the water system include volatilization into the atmosphere, photo-degradation, biodegradation processes which tend to be slow, or outflow. He also said that sediment with more organic matter and fine-grained sediments such as clay and silt can absorb a much larger amount of PCBs relative to coarser-grained sediments such as sand and gravel.

PCB Sampling

Kirk explained that in order to get a better handle on the existing concentration of PCBs in the system as well as to quantify the sources, PCB concentration data was collected between March and August of 2008. PCB concentrations were measured in-stream in the Trinity River (both suspended and dissolved phase), in sediment at 77 sites (32 in the main stem and 43 from the tributaries), in wastewater discharges of the 4 large waste water treatment facilities in the area, and in storm water at 5 different sites. The individual PCB congeners were quantified by EPA Method 1668A. The results of the congeners are presented as the sum of all the congeners in nanograms per liter (ng/L).

Monitoring Data

Kirk provided a log scale graph depicting the partitioning of PCBs between the dissolved and suspended sediment phases in water. The graph included ambient, stormwater and wastewater treatment plant (WWTP) effluent samples. He noted the relationship between particulate and dissolved phase concentrations is not perfect but strong, as predicted by theory and seen in most other systems that have been studied.

Data collected in the spring under moderate flow conditions indicates that more than half of the PCBs tended to be associated with the suspended particulate phase in water. The data shows that from the confluence of the Clear Fork the total PCB levels rose from approximately 1 ng/L up to 3 ng/L. In August under very low flow conditions PCBs were measured in water in three different locations. While the dissolved PCB concentrations under low flow conditions were similar to those measured under moderate flow conditions, the suspended particle-associated PCB concentrations were substantially lower..

Sediment data show PCB concentrations peaking below downtown Fort Worth, declining and peaking again in Arlington, declining again, and then peaking again below

downtown Dallas. Comparing current PCB concentrations to those measured in the 1970's – 1980's, it appears that PCB concentrations in Trinity River sediments have declined by a factor of roughly 10 in the sections of the river downstream of Fort Worth.

Endpoint Identification

The water quality criterion for total PCBs was discussed and recent fish tissue samples by the Department of State Health Services were used to calculate a bioaccumulation factor – the ratio of PCBs in fish tissue to PCBs in water. Kirk explained a recent proposal by the TCEQ surface water quality standards that would include a new criterion for PCBs in fish tissue (new proposed levels set at 19.96 ng/g.)

Source Analysis

Kirk explained that in central Dallas storm water does not generally flow directly into the Trinity River. He explained that it is stopped just outside the levee in large sumps and that allows some of the solids and pollutants to settle out before the waters are pumped across the levees into the river.

Question: Do the measurements reflect the sump or the river?

Answer – KD: They reflect the water in the sump. However, they were collected right in front of the pump bar screens during periods when water was being pumped from the sump to the river. The results should reflect what is going into the river.

Kirk reviewed each of the concentration levels measured and the results and conditions shown in a slide presentation and provided additional handouts of permitted facilities and average PCB loads. Kirk said there were so many details and information time didn't allow for presenting it all at the meeting. He said the final technical report on the entire study could be accessed online at the project web site. A copy of the report was being circulated at the meeting for the stakeholders' review.

A water quality model was developed to facilitate TMDL calculations based on ambient data measurements. Under current conditions, the model indicates that in the system as a whole, the net flux of PCBs from historical sediment contamination that is resuspending into the water column represents 63% of the overall source of PCBs. Point source runoff comprises about 17% of existing PCB loads, wastewater treatment facilities about 8%, non point source runoff about 3%, and upstream (non-impaired tributary) sources comprise of about 10% of the total load.

Question: Do you have any regulatory levels for disposing of the sediment? I am having a hard time understanding what these levels really mean. What is the level in a park or a golf course?

Answer – KD: I do not know the answer off the top of my head.

Kirk again said this has been presented in a final technical report to the TCEQ. The report will be reviewed and a TMDL document drafted for public comment. After public comment and any additional changes to the draft TMDL, it will be taken to the TCEQ Commission for adoption. The next step after that is to submit to the EPA for approval.

Question/Comment: It seems it would be helpful to set up some kind of a benchmark would be helpful in figuring out a strategy.

Answer-KD: The TMDL will use a PCB concentration in water and/or fish tissue as a water quality target. A sediment target or benchmark could be calculated from the fish tissue concentration target using the biota-sediment accumulation factor (BSAF) presented in the final report.

Comment-DG: That point is well taken. Obviously it helps to know what is considered to be an acceptable level. Part of TMDL implementation will be to review threshold levels used by other state and federal entities.

Comment: The PCBs do stick to the solids and for storm water controls we need a number.

Question: I don't understand internal exchange, how is that determined?

Answer-KD: The sediment exchange could not be reliably measured, so it is calculated in the model. Although it is not measured directly, it makes up the difference after all of the measured PCB loads to and outputs from the system are plugged into the model, to achieve the measured instream concentrations.

Question: On one of the slides that went over the historical data you show there is a drop in PCB concentrations over time? Have your calculations taken into account the consideration of the expected drop over the next 10-15 years on the historical sediment levels? That is a very high contribution. There is should be dramatic reduction over time.

Answer-KD: I hesitate to ask the model to project what is going to happen in the future. In part because the historical data is limited and PCBs were measured with a different analytical method, we did not calibrate the model to the PCB measurements from sediment from the 1970's and 1980's and try to predict how rapidly these declines would continue in the future. The model is calibrated to current (2008) conditions, basically one data point at each site. I think it is tenuous to project that it is going to fall a certain amount in the future, even though I do believe that the declines will likely continue to happen.

Question: Even if it is not ten fold – that is the largest part that is contributing. It seems it should be considered in some fashion.

Question: I don't see that as possible. I am a landowner and how do you remediate all that poison in soil? I have about 100 acres on the river. Can PCBs get in plants? If it is in the past?

Answer-KD: The TMDL program is about addressing future loads for achieving designated uses such as safe fish consumption. Historically the TMDL program was dealing a lot with pollutants like dissolved oxygen and solids that would rapidly respond to reduced loadings. With PCB you are seeing levels that built up from use several decades ago, and because it is primarily bound in sediments and decays very slowly it is not likely to go away in a short timeframe.

Answer-DG: We are doing a little of both. The TMDL program can only assert effect on permittees. Is that what you are saying, are you affecting the future or the past? If needed we can look at their permits and make sure they are meeting their permit requirements. You can see they are not considered a large source. Obviously it is the past and remediation – we don't expect it to be solved overnight. We are studying what is going on and looking at various factors, biodegradation, natural attenuation, and we might look at some of the sediment. It is very difficult and expensive and management is keeping remediation in the loop. We are thinking about it.

Question: Have you seen the Richland Wildlife Management Area?

Answer-DG: No sir.

Comment: They discharge into the Trinity area for about 5,000 acres. It is pretty neat. It is fairly shallow and the solids filter out and settle in the grassland. There is a lot of land that you could run that river through and let the sun help.

Answer-DG: That is part of what the TMDL implementation could do. We could try some small scale projects and monitor results and expand them depending on their success.

There was a brief discussion of landfills. Kirk reminded the attendees that most landfills are clay lined and prevent permeation into the groundwater. It was also commented that most landfills had a collection leaching site and would discharge into a wastewater treatment plant for treatment before being discharged.

Question: What effect do you think all these gas wells have?

Answer-KD: I would not think much at all. With the exception of 1 or 2 of the PCB congeners, PCBs are not a naturally produced compound. They have to be synthetically produced. Their production was pretty much confined to this period somewhere between 1930 and 1977. However, any process that disturbs soil can mobilize any PCBs bound in soils in rainfall runoff.

Question: You said PCB could stay in the soil for decades. Who is to say that the drilling is not a part of the issue? Every gas job, every drill bit is a sloppy, soaked, clay runoff. It runs down through the hills where they set these rigs up. We are in Whiskey Flats. They are in our back yard. There is so much water. Who is to say they are not bringing up PCBs that have been dormant for decades?

Answer-RP: Most of the sampling was done last spring and summer before the drilling but this study was only focused on the river.

Comment: Everything ends up in the river.

Answer-KD: Oil and gas drilling is regulated by the TX Railroad Commission.

Comment: The fish tissue data is even older than those gas well projects.

Question: We live in an area very near downtown Fort Worth that is right on the river. We are very near the Trinity Uptown Project. Our park has been identified as a possible location for excavation for flood storage. The Corp did a study of the water quality and noted that fish could not be consumed. Since the Implementation Plan has not been done,

I am curious who has taken up the signs saying it is not safe to eat those fish? What has changed in the last 6 or 7 years since the Corp study?

Answer: I am not aware of the signs. It is very hard to keep those signs up. There has been a fish consumption ban on the Trinity for years. Before the PCB there was chlordane and other pesticides. The ban has been in effect since 1990. TX Parks and Wildlife and other sister agencies are always trying to address this, they are used for target practice, etc.

Comment: So we should not assume that just because the sign is not there that the fish are safe to eat.

Answer-DG: Most agencies are very limited on their budgets and it is impossible to keep signs posted all over the state. Game wardens are also trying to tell people. There is still a fish advisory/fish consumption ban.

Question: How long will it be before we start the Implementation Plan after EPA has accepted it?

Answer-DG: We would like to start now with stakeholders ideas. We have approached the North Central Texas Council of Governments (NCTCOG) to gauge their interest in facilitating some work groups. The COG seems interested and we are going to work this spring and summer to get a contract with them to facilitate implementation activities.

Question: Do you have any projections on when the Implementation Plan would be complete?

Answer-DG: Typically it takes 1 to 2 years. Considering the complexity of this contaminant it could take longer. It also depends on the interest and willingness of the stakeholders. If the COG will facilitate the various work groups and stakeholders are eager to get a plan together it will proceed much more quickly.

Question: Do other parts of the country have PCB bans, fish bans on streams? What kind of methods and plans has been used in other parts of the country? Are we just going to hydro blast the river and force it into Lake Livingston?

Answer-KD: The largest PCB clean up that I am aware of is in the Hudson River. They are dredging the sediment in hot spots from the Hudson River and replacing it with clean fill.

Answer-DG: The TCEQ is working on a pilot project in the Houston-Galveston area to look at bacteria that may enhance biodegradation and we can look at some of those research projects for their applicability in the Trinity River.

Question asked of TX Parks and Wildlife present: You don't feel an obligation to put up a sign warning the public about these problems?

Answer: Most of the bacteria and PCB levels are highest during high flow events and most people don't swim during a high flow event. TX Parks is very aware we follow the laws.

Answer-KD: The risk from PCBs in swimming is expected to be low, as dermal exposure should not be a major route of PCB uptake.

Question: How does this affect our drinking water?

Answer- KD: These segments of the river are not drinking water sources. With respect to groundwater in the area, PCBs are not very mobile and will tend to stick to the solids of the aquifer that are transported through. I cannot make a blanket statement without knowing the properties of the aquifer.

Dania closed the meeting by repeating that the next step is to draft the TMDL based on the final draft report received from Parson's. There will be another public meeting to let the stakeholders see the report before the public comment meeting on the draft TMDL. Dania encouraged the stakeholders to send any general comments or issues to her by e-mail. Staff was available for any questions after the meeting closed.

Please visit the project web page: or for http://www.tceq.state.tx.us/implementation/water/tmdl/77-trinity_pcbs.htmlloads for all data results associated with this project and other project information. The web page also includes the project overview, meeting information, previous meeting summaries, reports, and project documents.

Dania Grundmann said that if anyone had further questions to contact her at dgrundma@tceq.state.tx.us or (512) 239-3449. The meeting was adjourned.