

**Saginaw-Tittabawassee Rivers Contamination CAG
Summary of Full CAG Meeting
Saginaw Valley State University – Curtiss Hall
Monday, December 3, 2012
6 pm – 8:46 pm**

CAG Members Present

Drummond Black
Jeffrey Bulls
Charles Curtis
Leonard Heinzman
Deborah Huntley
Ryan Jankowski
Wendy Kanar
Michael Kelly
Rachel Larimore
Judith Lincoln
Laura Ogar
Joel Tanner
William Webber
Bob Wiese

CAG Members Absent

Jeffrey Bulls
Charles Curtis
Matthew de Huis
Janet McGuire
Paul Vasold

Ex-Officio Members Present

Todd Konechne, Dow Chemical
Mary Logan, US EPA
Al Taylor, Michigan MDEQ
Joe Haas, US Fish and Wildlife

Support and Agency Staff Present

Diane Russell, US EPA
Mary Breeden, US EPA
Cheryl Howe, MDEQ
Doug Sarno, facilitator
Janelle Pistro, Dow Chemical

Doug Sarno called the meeting to order at 6:05 pm. Agenda items included:

- Leadership Team Updates
- EPA Community Outreach
- NIEHS-funded Community Perceptions of Dioxin Study
- Project Updates
- EPA planned activities for 2013
- CAG meeting planning for 2013
- Public questions and comments

1. Leadership Team Update

Drummond Black was elected to the CAG Leadership Team.

Matt Robinson is now the videographer for the CAG; he will do editing and upload to the website.

2. EPA Community Outreach

Diane Russell gave an overview of community outreach efforts in 2012. The EPA set up informational booths at 28 events this year and fulfilled two speaking engagement requests. The Bay County Health Department, which is one of the EPA's local partners, has distributed over 30,000 fish advisory brochures to local businesses, county WIC clinics, rescue missions, churches, community centers, and to local physicians. BCHD has also participated in 54 events and speaking engagements this year. The First Ward Community Center, which is another EPA partner, has concluded their River Walker program for this year; the volunteers have talked with over 2,200 fishermen. The Bay City State Recreation Area, which is another EPA partner, reached over 70 classrooms in 2012; over 2,000 students were reached with a program that taught about bioaccumulation and introduced them to the local fish advisory. Fish advisory messages continue to go out to the public at the BCSRA fall programs and at displays at the Visitors' Center. The latest EPA issue of the Our Rivers Today newsletter is now available.

Outreach work will continue and in 2013, we will be focusing our efforts on engaging the Tittabawassee River floodplain property owners.

CAG Questions

The fish advisory is well covered, but what about outreach for the cleanup itself? Newsletters highlight those accomplishments, are trying to incorporate that in outreach, have included that in local speaking engagements. We are taking steps in that direction. We are working on ways to improve communication, trying to build timelines and other information to do a broader outreach on this. We are trying to update our website as well.

Agree that the newsletter has some strong information about the cleanup, how is that being used? There are several hundred people on the mailing list who get it in hard

copy, there is also an electronic list serv and it is posted on line. We also take it to all the events.

3. NIEHS-funded Community Perceptions of Dioxins Study

Dr. Brian Zikmund-Fisher of the U of M School of Public Health presented findings from a study that assessed community perceptions of dioxins; this included lay risk beliefs, misconceptions related to risk beliefs, what people believe about exposure pathways, and implications of exposure beliefs.

Used a Mental Model approach to understand how people conceptualize a situation— assess and compare expert mental models with lay mental models and focuses on the differences to target communication. Focused on the concepts that were consistent across experts, basically that health effects can exist.

Conducted 50 face to face detailed interviews about people's perceptions of dioxins.

Mailed over a thousand surveys to understand population understanding about key facts about dioxin and dioxin contamination. Looked at issues of

- Particle transport
- Fish concentration
- Ingestion exposure pathway
- Inhalation exposure pathway

People largely understood these issues and the way that dioxin exposure can happen.

Areas where people did not understand issues well included:

1. Dioxins do not dissolve in water, they do dissolve in oil and fat (most people believe that dioxin is in the water and that they drink it every day). This could affect how people perceive the safety of dredging. And obviously the safety of drinking water and the source of risk, high percentages of people believe that dioxin is present in drinking water.
2. Dermal exposure incorrectly seen as a source of risk, that dioxin could pass through skin on casual contact. Might result in people not knowing that they could wash their skin to remove particles.

Asked about a wide range of potential sources of exposure, all pathways were seen as sources of risk. With living on contaminated soils highest and eating food much lower. It was seen as the single largest exposure (60%) and eating food one of the lowest (10%) which is opposite of reality.

Conclusions

- Community residents of midland and Saginaw have fairly detailed mental models of dioxin contamination and exposure
- These models are congruent with the expert models in several ways
- However there are key misconceptions that impact how people think about environmental contaminants

- Ultimately what matters in risk communication is whether community members understand how dioxins move within and react to the environment
- Assessing understanding of these how questions may be more important than simple recall of facts
- Any risk communication should focus on key chemical properties of contaminants and consider using analogies to clarify environmental interactions.

The Community Perceptions of Dixon Study was funded by National Institute for Environmental Health Sciences (NIEHS). This study has no connection to Dow, and did not receive funding from Dow or any industry.

Study findings could be used to design risk communications. Study documents can be found at <http://www.sph.umich.edu/CPOD/>

The CAG presentation can be found at:

<http://www.epa.gov/region5/cleanup/dowchemical/cag.htm>

(click on the “What People Know (and don’t know) about Dioxins” link).

CAG Questions

Who are the experts you contacted?

Bound by confidentiality in regards to that question.

You talked about a communication model and how it’s difficult to create one – how would you create one?

My example spoke about how dioxin is like oil. I cannot speak to what should be done about the way dioxin is like oil; this is a lever.

Did your study look at the degree of contamination?

We did not ask anything about levels of contamination. Study was designed to assess what people believe is plausible.

You pointed out that the State refused to participate – did they say why?

It is inappropriate for me to speculate.

MDEQ noted that they asked management about this – it was decided there was not enough staff to participate.

What do you suggest about educating the public?

Less is more. There is so much information that people don’t know what to focus on. Maybe there should be messages that don’t say everything- maybe use the oil and water analogy.

Was there a specific age group you studied?

We focused on the U of M Dioxin study participants and used the same criteria for our control group.

Were your questions geared toward different age groups?

No. Some things were better understood by older residents, some were not.

When was this study done?

It was funded in 2009; the majority of it was done in 2011; we have been working on analysis ever since.

What was the process that went into gathering information from experts?

We used the same protocol as was used with residents. The experts spontaneously shared a large body of knowledge. Between one and two hours was spent with each expert.

Public Comments

My property borders the floodplain and the property behind me was cleaned by the EPA; so if we drive a 4-wheeler out there on a windy day, what about inhalation?

None of our experts said you shouldn't be concerned about inhalation.

EPA: We've never done a cleanup that left soil blowing around that could be inhaled.

Wouldn't you be putting a mixed message if you ignore the fact that water is a transportation device for the contamination so it is a mechanism of exposure in relation to the sediment?

From a risk communication standpoint it is clearly important to think about how water can move contamination down river, at the same time we want people to really have their main attention on where is the sediment to understand where they may be more at risk and where they may be less at risk. This may help people focus on the things that are most important to their potential risk, because it is not everywhere that the water goes.

Property owner asked if he could be interviewed or tested?

The study had no testing, it was not an exposure study, the study is now complete. The sampling process did not try to contact everyone, looked at a sample.

4. Project Updates

Segment 1 Field Work- Todd Konechne, Dow, went over Segment 1 cleanup progress. This included installation of vertical wells, identifying the wells for DNAPL recovery, routine pumping, and handling of recovered DNAPL. The complete presentation can be found at:

http://dowchemical-cag-seg1-presentation_20121203.pdf

2012 DNAPL recovery at SMA 2, 3, and 6 including recovery and treatment.

- Used floating dock to access the river, custom designed a boat to serve as a well drill rig, 240 wells were installed this beginning in June. Also had three product recovery boats in operation plus a support boat.
- Shutdown and demobilization on 11/29/12
- Successful in finding and removing DNAPL in all 3 SMAs
- SMA 4 and 5 caps installed, SMA 4 was a Geocell cap, SMA 5 was a sand and armor stone cap. Both basically done except for monitoring, Geocell cap is successfully filling in should be completely filled by spring.

CAG Questions

Can we close the book on segment 1 after 2013?

Yes except for monitoring, there are at least 8 segments total however.

Will you keep pumping DNAPL even after 2013 if you find it?

Yes

How much have you extracted already?

About 2400 gallon

5. EPA Activities for 2013

Mary Logan provided a short overview of the site and cleanup process.

Three Major goals:

Limit contact with bare floodplain soils

53 properties assessed and remediation taken at 20 floodplain properties in 2012. Will continue to identify additional properties for assessment in 2012 and develop a maintenance plan.

Comprehensive long-term cleanup options for the rivers and bay

2012 conducted innovative capping pilot at Reach K, investigated bank and in-channel areas, and began a sediment erosion and deposition assessment (SEDA). 2013 will complete the SEDA, and conduct ongoing investigation of banks.

Controlling movement of highly contaminate soil and sediment

Segment 1 decisions made in 2011, cleanup begun in 2012.

Segment 2 are planning the response proposal for public draft in mid-2013, cleanup selected later in 2013 and construction to start in 2014.

2013 EPA is also looking to develop floodplain options for the Tittabawassee River floodplain all at once and will work to reach out to floodplain property owners. Will develop an Alternatives Array with a formal proposal by 2014.

Segment 3 cleanup plan scheduled for 2014.

EPA had committed to conduct an assessment of sediment traps by the end of 2012. EPA has not completed this yet, has had a lot of conversations with a number of parties and is still working on this issue.

EPA looking for feedback

- Segment 2 proposed cleanup plan
 - Informal feedback on options
 - Formal comments during comment period
- Tittabawassee River Floodplain
 - Informal feedback on outreach plans
 - Informal feedback on potential options and their tradeoffs

CAG Questions:

What is EPA's thought about informal vs. formal feedback? Informal feedback is really just discussions, or in-meeting interactions. Formal feedback is more tied to specific written consensus recommendations.

For outreach, what would you be looking for?

Help EPA to understand what tools and approaches will be most effective.

Will more sampling be done as part of future decision-making?

It is not just contaminant sampling, also looking at erosion and other issues. We have been doing additional sampling but we actually have a pretty densely sampled site in the Tittabawassee.

Would a letter from the CAG to State help to encourage the State to ensure the state is able to participate in studies?

There is no reluctance on the part of the staff, but we all have to manage finite resources.

Would a letter to the Army Corps also be needed?

EPA noted that the Army Corps has not been uncooperative.

6. CAG Meeting Planning for 2013

CAG retreat will be January 21, 2013 at the EPA Saginaw Outreach office. Future CAG meetings will most likely be bi-monthly.

7. Public questions and comments:

We're in Segment 6 and we know there's a hotspot there – so when will you get to Segment 6?

We will be talking with property owners this year and hope to start implementing options in 2014. We have prioritized residential properties first, then eroding areas, then systematic upstream to downstream cleanup. We are not yet at the point of knowing when we will get to Segment 6. If you're a property owner, we will be contacting you for input.

I think it's commendable what you're doing with the fish advisory outreach – what are you doing about the dioxin?

I think we need to think more about how to address misconceptions in the community. Dr. Zikmund-Fisher brought up some good points concerning how less is better.

EPA thanked the CAG for their personal time and the effort they've put into the CAG.

The meeting was adjourned at 8:58 p.m.