



**Saginaw - Tittabawassee
Rivers Contamination
Community Advisory Group**

Meeting Summary

**Memorial Park, Freeland MI
Monday, March 19, 2018
6:00 PM – 8:00 PM
DRAFT**

CAG Members Present

Peter Bagley
James Krogsrud
Joe Kozumplik
Terry Miller
Luis Mulford
Mike Nusbaumer
Kevin Quiggle
David Sommers
Virginia Thibodeau
Merri DeSanto
Michael Kelly

CAG Members Absent

Pamela Binder
Charles Curtiss
Leonard Heinzman
Laura Ogar
Joel Tanner
Bob Wiese

Ex-Officio Members Present

Diane Russell, USEPA
Todd Konechne, Dow Chemical
Joe Victory, Michigan DEQ

Support Staff Present

Doug Sarno, Facilitator
Janelle Pistro, Dow Chemical

CAG information, materials, recommendations, meeting summaries, and presentations provided at CAG meetings can be found at: <http://www.saginawcag.org>

Doug Sarno called the meeting to order at 6:00 PM. Agenda items included:

- Results from the January Retreat
- Ideas and comments for the CAG web site
- Planning for Member Recruitment
- TAP Dioxin Literature Review
- Introduction to Segments 6 and 7

CAG Activities

The CAG annual retreat was conducted in January, focus was on bringing newer members up to speed and community information. Some key items included:

- Better understanding the challenges of floodplain properties whose owners choose not to accept clean up.
- The desire for an Acronym list to keep track of all the terms being used.
- The CAG is looking forward to a plain language executive summary of the dioxin literature review.
- The CAG also identified the need for basic information on dioxin and its hazard to human health and the environment that they can share with neighbors when they ask about the project.
- The CAG would like a better map to show how the townships line up with future activity and have roads, landmarks, and political boundaries that folks can identify in relationship to the cleanup segments.

Members were asked on input to the CAG web site. Folks would like to see a more complete calendar if possible. The CAG used to connect to EPA's calendar, but that link is no longer up to date. We need a more current link and will work with EPA to update that and make sure that the CAG meetings are accurately posted. The site does keep up with presentations and summaries from meetings. The site covers all the essentials, might consider breaking out meeting location and a link to maps for the CAG meetings.

The 2018 CAG Membership committee was established in January. We have had good recruitment in the past two years and only one CAG member is retiring this year so there is not an overwhelming need for new members. However we continue to lack minorities, and the gender and age balance should continue to be addressed. There will be a need to ensure that we are attracting members from the Saginaw River area as the project transitions to that direction in the coming years.

TAP Dioxin Literature Review

Peter DeFur, Environmental Stewardship Concepts (ESC), is an independent consultant for communities surrounding hazardous waste sites and is the contractor to the CAG under the Technical Assistance Program. He specializes in PCBs and dioxins.

ESC was tasked with looking at what's new in research for dioxin since the CAG began, over the last 5-10 years, and what is to be learned from other sites doing cleanup.

There have been no major breakthroughs in last 6-7 years partly because dioxin has been heavily studied over the years, so we are dealing with the same basic set of information we had 10 years ago. We understand how dioxin works in the body and its toxicological effects. We also don't have anything new on how dioxin interacts with other chemicals. Dioxin works with on specific protein in cells which are present in all major vertebrate and a few invertebrate species (like clams). Some PCBs also work this way, almost as strongly as dioxins.

One piece of information is relatively new. January 2012, EPA responding to the National Academies of Science (NAS) completed their dioxin reassessment. NAS regularly reviews issues in front of EPA like arsenic and mercury toxicity. NAS asked EPA to look at noncancer effects of dioxin—the amount of a material that one could take in without causing harm (known as the reference dose). This reference does was completed in 2012 and put into the EPA database.

On the ecological side, even plants can be affected. A professor in Maine has identified a dioxin receptor in a clam, which can be affected by dioxin.

ESC also looked at how the cleanup here compares to other Superfund cleanup sites. There are a few places around the country where dioxin is the sole contaminant or a major driver. The Passaic River in New Jersey is one of the most dramatic examples. They have a ROD in place to clean up the lower Passaic. They are removing the top layer of sediment bank to bank in 8 miles of the river in order to place a cap on the entire river bottom. The summary also identifies cleanups at a few other sites where dioxin is one of several contaminants of concern.

CAG Question: On the Passaic how are they dealing with banks?

Answer: This river goes through the city of Newark, it has lots of hardened banks, a working riverfront, and in a coastal plain so it is very depositional. The Superfund Rod is not addressing banks directly.

CAG Question: Dioxin synergizes with a specific protein, what is that protein and is it found in every cell in the human body and almost all other species?

Answer: It is a receptor protein called the Ah receptor, it uses the same process as an estrogen or endrogen receptors. Dioxin strongly binds to this receptor.

CAG Question: Over the last five years has the level or focus on dioxin research changed?

Answer: It has changed in relation to scientific developments, which have allowed us to look at a smaller and smaller focus. Scientists are not looking at whole animal studies as they have done in the past. There

are not a lot of brand new health effects to investigate. We know it affects the immune system, developing brain, and other systems.

CAG Question: Is there more or less funding into research on ecological effects, and overall has funding for research declined?

Answer: Sometimes the research is driven at universities by what is going on at a particular site or program. There was a lot of research when pulp and paper mills were producing dioxin. But when research dollars tighten up, research tends to focus on human health. My sense is that funding for research has declined in recent years.

CAG Question: Can you repeat the numbers you identified for no harm?

Answer: That is the reference dose published in 2012 for noncancer impacts. EPA has a long list of reference doses for different compounds. It is not for any specific impact but for causes of harm overall. This is independent of cancer. Peter will send the number, it is phrased as mg/kg per day.

Mary Logan, EPA, noted that dioxins and furans are a wide range of related compounds (over 200) of which 17 are toxic. The reference dose established in 2012 was set for 2,3,7,8 TCDD of which we have very little here on the Tittabawasee. We have calculations that we use to convert the reference dose for the different congeners that we do see here.

CAG Question: How does this account for individuals who all have different susceptibility to hazards?

Answer: EPA looks at the most sensitive populations it can and then builds in extra caution.

Brad Upham, MSU, noted that MSU has scientists that are looking at these issues, and do conduct these sorts of studies to look at impacts by dioxins on immune impacts and fatty livers. It is an emerging area of research.

CAG Comment: This is a serious question for people raising families along the river.

Answer: This is true, a small child with lower body weight and higher likelihood of eating dirt is more susceptible to contamination which is why we look at the most vulnerable populations in these studies and in setting cleanup targets.

Project Updates

Mary Logan, EPA, noted that Peter Wright of Dow Chemical has been nominated to head up the office of EPA Land and Emergency Management. If he is confirmed, he would need to likely recuse himself from involvement in this site. However, we get little oversight from Headquarters on this site, so this should not be an issue.

There will be work starting up this spring to continue floodplain cleanups in segments 4 and 5. Sampling for floodplain properties for 2019 action in Segment 6 will occur this year as well.

Additional bank stabilization work on segment 4 and segment 5 will also be going on as well as some sediment areas in these segments.

Introduction to Segments 6 and 7

Tittabawassee cleanup is being conducted on the lower 24 miles of the river.

- Segments 6 and 7 begin at river mile 17.7
- Segment 6 is 3 miles long
- Segment 7 is 3.7 miles long
- No previous sediment of bank responses have occurred on these segments.

Properties along these segments include undeveloped lands, agriculture, and the Shiawassee National Wildlife Refuge (SNWR).

We have conducted chemical sampling and analysis, stability evaluation and biological evaluations. A total of 250 sediment cores with 1734 samples and 152 bank soil cores with 184 samples were taken. Samples are taken along transects at different points in the river to get a full view of the river.

CAG Question: Did you see a lot of changes in sampling over time.

Answer: Not that much, most of the dioxin appears to have been in place for many years in the sediments.

Key Findings include:

- Dioxins/furans are key drivers of contamination
- Bank concentrations are generally lower than in previous upstream segments
- Dioxins/furans are not evenly distributed
- Riverbank and sediment erosion varies.

EPA is looking at cleanup of five Bank Management Areas (BMAs):

- Range from 130 to 830 feet
- A little less than a half mile in total
- 3 deposits are adjacent to the Shiawassee National Wildlife Refuge
- One is on an island in the middle of the river

EPA is looking at cleanup of four Sediment Management Areas (SMAs):

- Range from 0.4 – 1 acre in size

BMA technologies will explore stabilization or removal as was done in previous segments. Shaping and native vegetation are a key component. Current vegetation does not provide good stabilization.

SMA technologies include Monitored Natural Recovery (MNR), capping, and removal, all of which have been previously used on the Tittabawassee.

Mary showed a variety of photos showing the different technologies that have been used.

There is no presumptive remedy, and all technologies have proved to be effective. Will look at effectiveness, implementability and cost in determining a proposed remedy for these two segments. Will also look to state and community acceptance.

EPA will go to the public with a proposal for comments and take written and oral input. EPA is looking to the CAG to provide written comments.

Dow is preparing a response proposal similar to what has been done in the past. It is a thick technical report. The target date is summer or fall 2018. EPA expects to provide a 45 day comment period with no extension.

The decision should be finalized in late 2018, with designs conducted early 2019 through 2020, then cleanup starting spring/summer 2019 and completing in the fall of 2020.

If this schedule holds, we could expect to complete cleanup work on the Tittabawassee by the end of 2020.

CAG Question: I live on Segment 3, there was bank stabilization in 2015 and then there was a flood and they had to repair the bank. We are getting a lot of floods lately, so how will maintenance occur?

Answer: Since we install banks late in the year, those next year floods are really damaging, it takes a few years to get a stable bank. After a few years they need a lot less work. Dow will continue inspect the banks twice per year and conduct repairs as necessary.

CAG Question: I've had a few neighbors complain that even after a year or two of growth, their yards are not back to where it was. Mostly a weed control issue.

Answer: Since Dow is not here, EPA will coordinate with Dow to explore how that work is being conducted.

CAG Question: What is the policy about tree removal?

Answer: in the floodplain, we try to work around trees. On the banks, we want to maintain trees that are stable but will remove any trees that are at risk. We also do canopy management to allow more sunlight to reach the bank and ensure growth of vegetation.

CAG Question: Can people still choose to have their properties cleaned up?

Answer: If it was sampled and eligible, then you can get cleanup.

CAG Question: I have erosion on my property.

Answer: The EPA is not addressing all areas of river erosion, only those that could result in an ongoing source of contamination.

Diane Russell, EPA noted that there is an internship open in the Flint EPA office for anyone finishing up a degree or recently graduated in the sciences.

Public Comment

Question: Who ultimately makes the cleanup decisions?

Answer: The Region 5 EPA.

The meeting adjourned at 7:45 PM.

The next CAG meeting is Monday, May 21