Appendix B

Inside St. Clair Shores

May/June • 2002

PCB Information & Investigation

JUST THE FACTS on the 10-Mile Drainage District

HOW WERE THE PCBS FIRST DETECTED IN THE 10 MILE DRAIN DISTRICT?

Elevated levels of PCB contamination were discovered as part of a routine permit application for the dredging of the 10 Mile/Lange/Revere canals. The Michigan Department of Environmental Quality requested the assistance of the U.S. Environmental Protection Agency Emergency Response Team (USEPA) to locate, define the contamination and identify the source.

What area is affected by the PCB contamination?

Contamination is isolated in the 10 Mile Drainage District. The system, bordered to the north and south by Bon Brae and Lange and to the east and west by Jefferson and Harper avenues, and at the outlet near the "horse-shoe shaped" 10 Mile/Lange/Revere canals. It handles storm water runoff from approximately 258 acres in St. Clair Shores. In addition, PCBs were discovered in the sanitary system along Bon Brae Avenue in low concentrations.

What types of samples have been collected so far?

To date 322 sediment, water, air, and wipe samples were collected from storm and sanitary sewers in the 10 Mile Drainage District and in the 10 Mile/Lange/Revere canals.

What are you looking for in the samples?

All sediment and water samples were analyzed for PCBs and eight metals including arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. In addition, sediment and water samples were also analyzed for volatile and semi-volatile organic compounds, pesticides, herbicides and additional metals.

What have you found?

Preliminary results indicate the highest levels of PCBs were found in the storm sewer near the intersection of Bon Brae Avenue E-Street (121,000 parts per million total PCBs in sediment). PCBs have also been identified in the canal at concentrations as high as 4,900 ppm near the outlet from the storm sewer into the canal.

Is my drinking water safe?

Yes. The 10 Mile Drainage District is not the same system that brings drinking water into the City.

What are PCBs?

PCBs are a group of more than 200 similar manmade chemicals. They are oily liquids or solids, clear to yellow in color with no smell or taste. They are found as mixtures, and are very stable and resistant to extreme temperature and pressure.

What are PCBs used for?

PCBs were widely used in electrical equipment like capacitors and transformers. They were also used in hydraulic fluids, heat transfer fluids, lubricants, plastics, and as components of surface coatings and inks.

Are PCBs still used in industry?

No. Commercial production of PCBs ended in 1977 because of health effects associated with exposure. In 1979 the USEPA banned the use of PCBs.

How do PCBs get into the environment?

PCBs have been released into the environment through spills, leaks from electrical and other equipment, and improper disposal and storage.

How can I be exposed to PCBs?

PCBs can enter the body by eating or drinking contaminated food, through the air we breathe, or by skin contact. PCBs are easily absorbed by the body and are stored in fatty tissue. PCBs are not eliminated well, so they can accumulate in the body.

Most people are exposed to PCBs by eating contaminated fish, meat, and dairy products. Some bottom-feeding, freshwater fish may eat sediments containing PCBs while scavenging. Catfish and carp usually have the highest PCB levels. ***The 2001 Michigan Fish Consumption Advisory*** includes recommendations for limiting the eating of fish caught in Lake St. Clair due to PCB contamination.

How can PCBs affect my health?

Getting sick from being exposed to PCBs depends on the following:

- The amount of PCBs that entered your body
- How long you were exposed to PCBs
- How sensitive your body is to PCBs and
- Whether the PCBs were combined with other chemicals

The health effects associated with exposure to PCBs have been studied in both humans and animals. Several factors have complicated the evaluation of health effects. Some PCB mixtures have a greater ability than others to harm your body. Impurities in PCB mixtures may be more toxic than PCBs at lower concentrations.

In people, PCBs can affect the skin and may cause *chloracne*—small, yellow skin lesions that may last from weeks to years. PCBs can also cause short-term changes in the activity of the liver, but without any noticeable symptoms. These liver changes are similar to those resulting from the consumption of alcoholic beverages or smoking cigarettes. Animal studies also have suggested that PCBs can affect the immune, endocrine, and reproductive systems, but these effects are uncertain in humans.

Large amounts of PCBs given to laboratory animals over a short time can cause cancer. However, studies of human workers exposed to high levels of PCBs for long periods have not consistently shown that PCBs cause cancer in humans. USEPA has classified PCBs as *probable* cancer-causing chemicals, but there is no evidence that PCBs cause cancer at the low levels normally found in the environment.

Is there a medical test for PCBs?

A blood test is the best method for measuring exposure to large amounts of PCBs.

How can I reduce or prevent my exposure to PCBs?

1) Avoiding contact with contaminated sediments can reduce your exposure to PCBs.

2) Following the 2001 Michigan Fish Consumption Advisory.

3) Because PCBs can accumulate in fatty tissues, you can reduce your intake of PCBs by removing the skin and fatty areas from fish fillets. Do not fry fish. Instead, barbecue, broil, or bake fish on an elevated rack that allows the fat to drip away.

Should canal water be used for lawn irrigation or watering fruits and vegetables?

According to the Macomb County Health Department, the precise risk of using canal water for irrigation of lawns or gardens is unknown, but likely very low. Homeowners using canal water for irrigation purposes need to position the water intake in a way that does not disturb and mix the sediments with the irrigation water. And always wash fruits and vegetables before you eat them.

Can I swim or wade in the canal?

No. The Macomb County Health Department does not recommend swimming or wading in canals. These activities should only be pursued at a managed recreational swimming location where regular water quality monitoring and maintenance are conducted and where lifesaving personnel are present.

Does the Macomb County Health Department consider the 10 Mile Drainage District a health risk?

The Macomb County Health Department has reviewed the sediment results and issued the following statement:

"We do not consider the presence of PCBs in the sediment an imminent health risk to area residents. This is based on the fact that human exposure would require ingestion or direct skin contact with the contaminated sediment."

Will boat traffic on the canal stir up the sediments?

Yes. Boat traffic could stir up the PCB-sediments. However, by abiding by existing no-wake regulations within the canal, sediment disturbance can be minimized. Preliminary sampling results suggest that the highest concentrations of PCBs are located at the western end of the canal the outlet of the 10 Mile Drainage District drain. It is unlikely that boat traffic will be heavy at that end of the canal because boats cannot go under the bridge. PCB concentrations drop off significantly as you travel down to the canal out into Lake St. Clair.

Where do we stand in the investigation today?

The USEPA is in the process of analyzing and double-checking (validating) more than 300 samples to determine the scope of the PCB contamination. Working together, City, County, State and Federal agencies will then develop a cleanup plan to address the areas where the highest concentrations of PCBs have been found. At the same time, they are investigating long-term solutions.

What is the timeline for cleanup?

The assessment report containing the validated results for all of the samples collected will be reviewed by the USEPA in draft form at the end of June. It will be available to the City and the public by late July. Once the scope of the problem has been determined, cleanup plans should be finalized by late summer.

How long will the cleanup take, how much will it cost, and who will pay for it?

The cleanup will proceed as a "time critical removal action" which means that once the USEPA completes the assessment report and makes the determination that that there is an immediate threat to the community or to the environment, the cleanup can start. Under emergency response guidelines, the USEPA can fund the cleanup of the highest concentrations of PCB-contaminated areas. Typically, cleanup similar to what may be needed in St. Clair Shores could cost in excess of $1 million dollars. However, until the assessment report is completed, the USEPA cannot develop a budget to address these areas.

Where can I get more information?

The St. Clair Shores Library has been designated as the repository for all data from the USEPA. Completed sample data validation packages titled Volume #1 of the Data Validation Reports is available at the reference desk. USEPA will generate a final set of assessment reports containing all information collected during the investigation. This report will be available in the library by the end of July.

The City's web site at www.stclairshores.net also contains information about the PCB investigation and important links. If you do not have a computer at home, the Library offers free Internet access.

Special thanks to the following agencies for their assistance in providing information for this article-USEPA; MDEQ; Macomb County Health Department; Michigan Department of Community Health; Illinois Department of Public Health; Agency for Toxic Substances and Disease Registry (ATSDR).