SUMMARY OF THE STAGE I ASSESSMENT

This fact sheet describes the Stage I Assessment that was completed in March 2005 by the Natural Resource Trustees for the Kalamazoo River Environment.

Site History

PCBs in the Kalamazoo River Environment (KRE)
Polychlorinated biphenyls (PCBs) have polluted the KRE since the 1950s. Sources of the PCBs in the Kalamazoo River and Portage Creek include direct discharges and disposal of PCB-contaminated paper waste from several paper company facilities located in Kalamazoo and Plainwell. Portions of Portage Creek and the Kalamazoo River were declared a federal Superfund Site because of PCB contamination.

What are PCBs?
PCBs are a class of organic chemicals widely used in many industrial applications, including the manufacture of carbonless copy paper. The production and use of PCBs were banned in the United States beginning in 1978 because of their environmental toxicity. PCBs are a major environmental concern because they accumulate in living creatures over time, they are very resistant to degradation, and they pose a health hazard to humans and wildlife at low concentrations.

Kalamazoo NRDA History

Trustees: The Michigan Departments of Environmental Quality and Natural Resources, the Michigan Attorney General, the U.S. Fish and Wildlife Service, and the National Oceanic and Atmospheric Administration serve on the public's behalf as Trustees of natural resources. Through a process called natural resource damage assessment (NRDA), the Trustees are assessing environmental effects of PCBs and potential restoration actions in the KRE. The Michigan Department of Natural Resources recently became a Trustee and was not involved in the development of the Stage I Assessment, but will be involved in future reports.

NRDA: The purpose of the NRDA is to restore the natural resources that have been injured by the PCBs and to compensate the public for past and future lost use of the resources through additional restoration. Any funds recovered in the NRDA are used to restore or enhance natural resources to compensate for the effects of the PCBs. NRDA is authorized by both federal and state laws and supplements the Superfund cleanup process. NRDA differs from the Superfund cleanup process, which focuses on cleaning up the PCBs to reduce future risks to human health and the environment.

Status

In May 2000, the Trustees released a Preassessment Screen that documented a reasonable basis for proceeding with an NRDA for the Kalamazoo River Environment (KRE).

The Trustees decided to conduct the NRDA for the KRE in two stages and in November 2000 released a Stage I Assessment Plan for public review and comment. The Stage I Assessment was intended to be completed quickly to provide additional information for consideration during the Superfund cleanup process and to facilitate negotiations. It is preliminary and based primarily on existing data. The Trustees released the results of the Stage I Assessment in March 2005. A Responsiveness Summary that addresses the public comments received on the Stage I Assessment Plan was also released in conjunction with the Stage I Assessment Report.

The Stage I Assessment Report consists of two volumes: an Injury Assessment and an Economic Assessment. Together, these volumes document the following: the releases of PCBs, the manner in which PCBs have moved through the environment, that which is known about injuries to natural resources, how the Trustees might place a value on public losses resulting from the injuries, and preliminary natural resource restoration ideas. The results of the Stage I Assessment are described on the following page.

Next steps

The Trustees will use the results of the Stage I Assessment Report in discussions with the paper companies concerning approaches to negotiate a fair and appropriate NRDA settlement. If necessary, the Trustees will conduct focused Stage II Assessment studies to help resolve remaining issues.

Key Results of Stage I Injury Assessment

PCBs were released by paper companies in the Kalamazoo and Plainwell area and have come to be located in natural resources throughout the KRE. PCBs are found at concentrations sufficient to injure many natural resources along the river.

Natural resources injured in the KRE include:

- Living resources, including fish, bald eagles, mink, and invertebrates
- Surface water resources, including river and bank sediments
- Geologic resources, including floodplain soils
- Aquatic habitat, due to indirect effects from dams that would have been removed but for the presence of PCBs in sediments behind the dams

Potential injuries that may require additional study:

- Injuries to waterfowl due to limited data
- Injuries to other birds due to limited information on their sensitivity to PCB toxicity
- Injuries to muskrats and shrews due to limited data and limited information on their sensitivity to PCB toxicity
- Indirect injuries from response actions, pending selection of a remedy

Key results of Stage I Economic Assessment

Damages resulting from PCB releases into the KRE include costs to restore injured resources, and the services they provide, to the condition they would have been in if PCBs had not been released (baseline), and the value of interim public losses incurred until the injured resources and their services are returned to baseline conditions.

- Costs of restoring resources and services to baseline
  - Because the cleanup has not been completed, the additional costs to restore services to baseline conditions cannot be determined at this time.
  - The Trustees have developed potential restoration actions and developed screening criteria to evaluate potential restoration projects.
  - The screening criteria will be used to determine whether potential restoration projects are appropriate, feasible, and cost-effective, and will provide benefits for a reasonable period of time.
  - For restoration, the public prefers:
    - Actions to eliminate or reduce ongoing exposure of the injured resources to PCBs (in coordination with the cleanup).
    - Actions that address environmental stressors other than PCBs (like habitat loss and nonpoint source pollution) that impact resources and services injured by PCBs.

- Determining compensable values of interim losses
  - Recreational fishing damages resulting from PCB fish consumption advisories are believed to be the largest category of damages.
    - Fish consumption advisories issued because of PCB contamination in the Kalamazoo River and Lake Michigan have resulted in loss of fishing quality and reduced fishing days.
    - Estimated total recreational fishing damages for the past 20 years range from $9.4 to $19.8 million.
    - Estimated future recreational fishing damages for the Kalamazoo River and Lake Michigan range from $3.6 to $10.9 million depending on the remediation scenario.
  - Other service losses that may be occurring in the KRE have not been quantified but may be significant.
  - Restoration actions can address these additional service losses.

Where can I find reports?

All of the NRDA reports are available to the public. They can be downloaded from the internet (http://midwest.fws.gov/nrda/kalamazoo) or are available at the following locations:

Allegan Public Library
331 Hubbard Street
Allegan, MI 49010
269-673-4625

Kalamazoo Public Library
315 South Rose Street
Kalamazoo, MI 49007
269-553-7838
269-342-9837

Otsego District Public Library
219 South Farmer Street
Otsego, MI 49078
269-694-9690

Saugatuck-Douglas District Library
10 Mixer Street at Center Street
Douglas, MI 49406
269-857-8241

Waldo Library
Western Michigan University
1903 West Michigan Avenue
Kalamazoo, MI 49008
269-387-5059

Charles A. Ransom District Library
180 South Sherwood Avenue
Plainwell, MI 49080
269-685-8024

How do I find out more?

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