PCBs

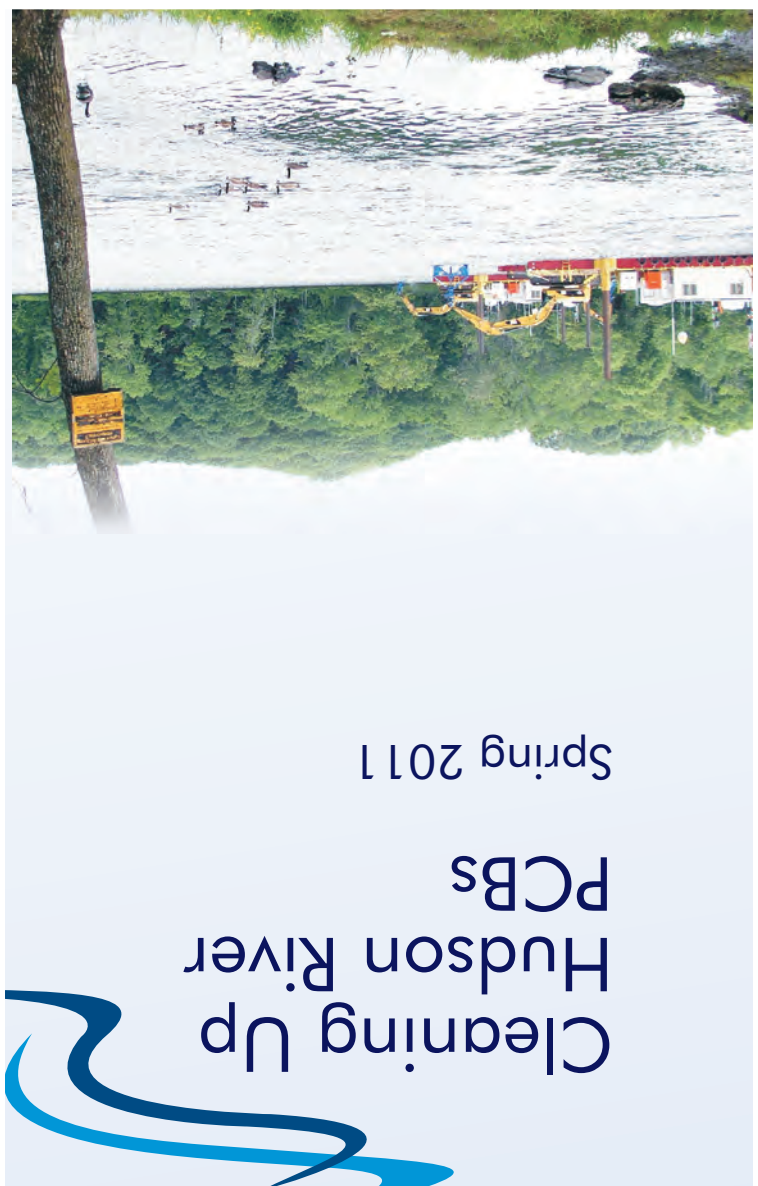
Cleaning Up Hudson River

Spring 2011

Hudson River PCBs SUPERFUND SITE

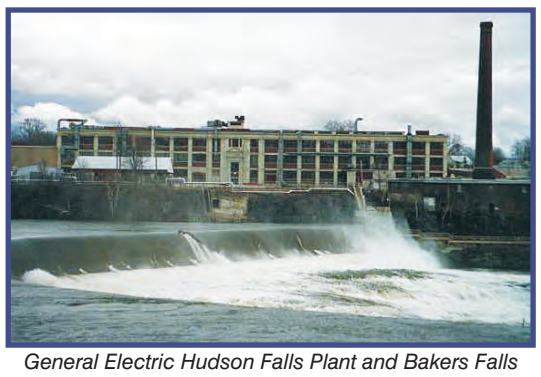
US Army Corps of Engineers®

UNITED STATES · ENVIRONMENTAL PROTECTION AGENCY



Background

For 30 years, ending in the late 1970s, the General Electric Company (GE) discharged as much as 1.3 million pounds of polychlorinated biphenyls (PCBs) into the Hudson River from its capacitor manufacturing plants in Hudson Falls and Fort Edward, New York.

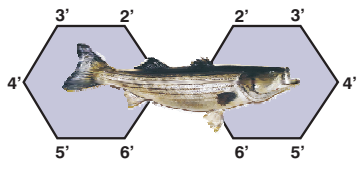


General Electric Hudson Falls Plant and Bakers Falls

In February 2002, the federal government ordered GE to conduct targeted environmental dredging of PCB-contaminated sediment in a 40-mile stretch of the Upper Hudson. After many years of study, dredging has begun. The ecological and economic benefits of cleaning up the river will be enjoyed for generations to come.

What are PCBs?

- PCBs were widely used as a fire preventive and insulator in the manufacture of transformers and capacitors.



Structure of Polychlorinated Biphenyl (PCB) Molecule

- The chemical stability of PCBs, which made them valuable for industrial uses, also makes them hazardous to the environment.

The Decision to Dredge:

PCBs in the sediment are not safely buried.

River sediment is continually redistributed across the bottom by erosion and river flows. This movement exposes PCB-contaminated sediment, making it available to fish. PCBs degrade naturally over time, but the process, called natural dechlorination, does not make them harmless. EPA considers all PCBs, regardless of their level of chlorination, to be hazardous.

PCBs are harmful to people's health.

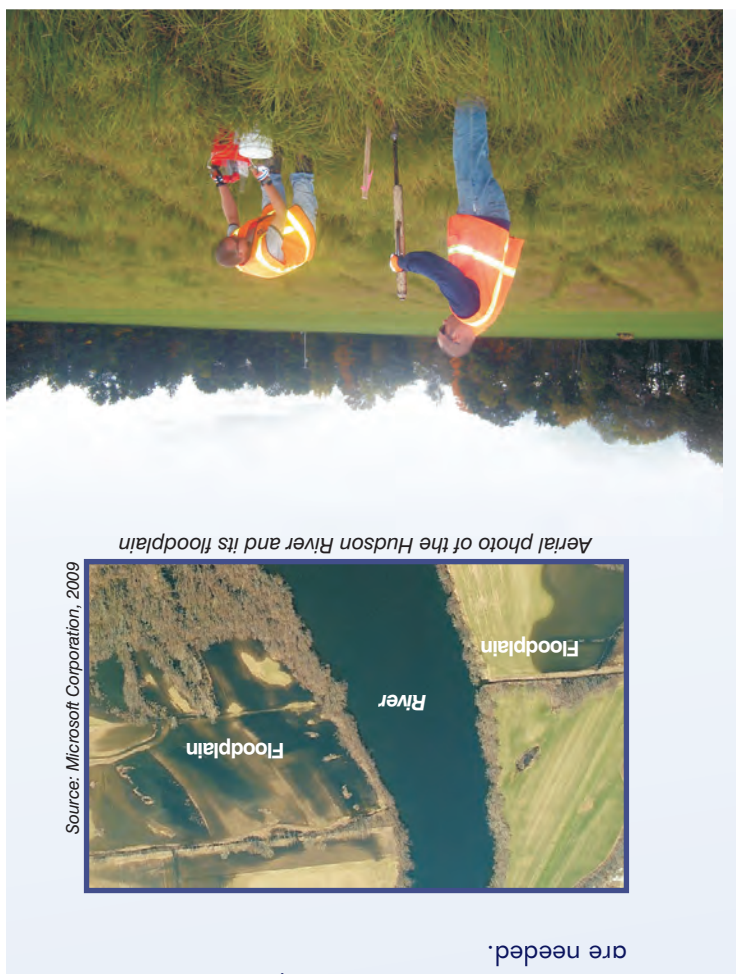
PCBs cause cancer in laboratory animals, are considered a probable cause of cancer in people, and can trigger reproductive and immunological health affects and low birth weight.

PCBs in the river sediment also affect fish and wildlife.

Removal of PCB-contaminated sediments will reduce PCB levels in fish, and result in a reduction in the risk to people's health, wildlife, and the environment.

Floodplains Investigation

As part of the cleanup, the floodplains of the Hudson River are also being evaluated for the presence of PCBs. Since 2002, EPA and GE have collected approximately 5,000 soil samples from the floodplain areas of the Hudson. The results of the sampling will be used to supplement a comprehensive study to determine if interim cleanup measures are needed.



Aerial photo of the Hudson River and its floodplain

Source: Microsoft Corporation, 2009

Eating fish from the Hudson can be dangerous.

For more than 30 years, concerns about PCBs in Hudson River fish have prompted New York State to issue health advisories that recommend limits on eating fish from the river.

- Women of childbearing age and children under 15 should not eat any fish from the Hudson River.
- Between Bakers Falls (in Hudson Falls) and the Federal Dam in Troy, **catch and release fishing only**.

To reduce your exposure to PCBs, follow state fish consumption advisories available at **www.health.ny.gov/environmental/outdoors/fish/fish.htm**

For more information, call the NYS Dept. of Health at 1-800-458-1158.

For More Information:

Visit, call, or write to the Hudson River Field Office at the address below or log on to **www.epa.gov/hudson**

EPA Contact:
Larisa Romanowski, *Community Involvement Coordinator*
Hudson River Field Office
421 Lower Main Street
Hudson Falls, NY 12839
(518) 747-4389 or (866) 615-6490 Toll-Free
hrfo@roadrunner.com

The Field Office hours are Monday through Friday, 8:00 a.m. to 4:30 p.m., with evening hours by appointment.

To ask questions or voice concerns about the project, call General Electric's 24-hour dredging information phone line: (518) 792-4087, or, toll-free (888) 596-3655

Dredging Project Information

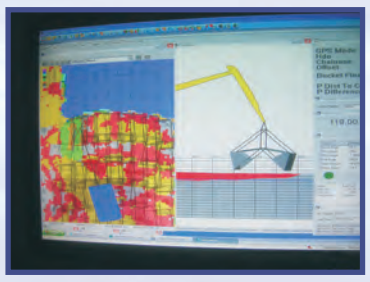
Dredging the Hudson River

The cleanup of the Hudson River will occur in two phases. Phase 1 (the first year of the Project) was conducted by General Electric Co (GE) with oversight by EPA from May to November 2009. During this phase, approximately 283,000 cubic yards was removed from a six-mile stretch of the Upper Hudson River near Fort Edward, New York. After an extensive evaluation by an independent panel of scientists and input from a broad range of stakeholders, EPA developed plans for the second part of the cleanup. Phase 2 will be conducted at full production to remove the remainder of the contaminated river sediments; Phase 2 targets the removal of approximately 350,000 cubic yards of sediment per year.

It is estimated that the second phase of the project will take five to seven years to complete. Extensive monitoring will be done during both phases to ensure that the dredging operations are safe and that public health is protected at all times.

Sediment Removal, Processing, and Disposal

Mechanical dredges are being used to remove PCB-contaminated sediment from the river bottom. Dredges mounted on deck barges use clamshell buckets to place dredged sediment into barges. Tugboats then push the filled barges to a dewatering and sediment-processing facility located on the Champlain Canal in Fort Edward, NY. Once there, debris is removed and sediment is mechanically dewatered. The water is treated on-site before being returned to the Champlain Canal. The dewatered sediment and debris are loaded onto railcars for transport to a secure, PCB-approved landfill.



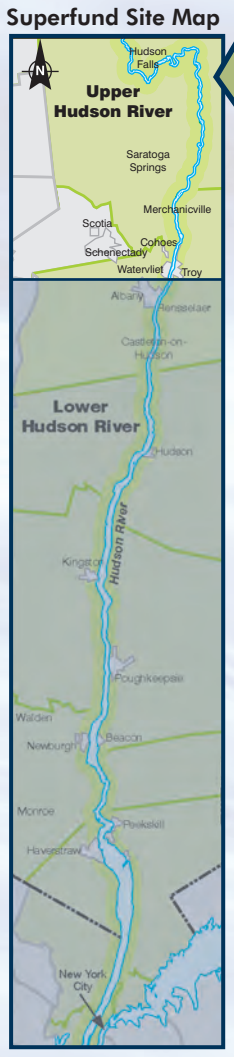
This is what dredge operators see and what allows them to identify where to dig. The depth and locations are determined by satellites. The computer software being used is specific to the Hudson River dredging project.

Fast Facts

- Dredge areas were identified using the results of a multi-year sediment sampling program conducted by GE that began in 2002 and generated more than 50,000 sediment samples taken from the bottom of the Upper Hudson River. Some additional sediment sampling will occur as the project continues.
- Dredging occurs 24 hours a day, six days a week, when the Champlain Canal is open (May to November).
- In total, about 490 acres of the Upper Hudson River will be dredged.

The Hudson River PCBs Site encompasses a nearly 200-mile stretch of the Hudson River in eastern NY from Hudson Falls, NY to the Battery in NYC.

Hudson River PCBs Superfund Site Map



Dredging Project Area Map

Dredging will occur in the upper 40-mile section of the Superfund Site, from Fort Edward, NY, south to the Federal Dam in Troy.

Performance Standards

Engineering Performance Standards

Strict Engineering Performance Standards have been developed to minimize resuspension of PCBs during dredging. The resuspension standard created for the project was specifically designed to:

- Protect drinking water intakes downriver of the dredging operations, and
- Limit the downriver transport of PCB-contaminated dredged material.

The Resuspension Standard

The performance standard for dredging sets a resuspension level of 500 parts per trillion (ppt) total PCBs- the EPA drinking water standard under the Safe Drinking Water Act.

In-River Water Monitoring

An extensive water quality monitoring program is in place at upstream, near-field, mid-field, and far-field stations.

Near-field monitoring: 300 meters downstream of dredging.

Mid-field monitoring: approximately 1 to 2 miles downstream of dredging.

Far-field monitoring: greater than 2 miles downstream of dredging. (See map for far-field monitoring locations)

Water Quality Protection

EPA is committed to making sure that the project is completed in a way that is protective of human health and the environment.

- EPA has provided an alternate water supply to the towns who draw their water from the river.
- If certain criteria for the water quality standard for PCBs is exceeded, dredging operations will be evaluated and adjusted.

Project Safety

The Phase 2 Remedial Action Community Health and Safety Plan (CHASP) addresses potential health and safety issues for the public associated with the dredging project.

Components of the Plan:

- Identifies potential hazards to the community during work in-river, on-shore, and at the processing facility
- Discusses the control of potential hazards
- Outlines the measures that are being taken to protect drinking water supplies
- Includes emergency response plans for spills/releases/accidents
- Discusses the community notification process
- Identifies project safety personnel & emergency contacts
- Outlines the complaint-resolution process

For the CHASP and other project-related documents go to: **www.epa.gov/hudson or www.hudsondredgingdata.com**

Quality of Life Performance Standards

EPA wants to minimize the impacts of the Hudson River cleanup on local communities. In response to public concerns, Quality of Life Performance Standards have been developed for:

- Air quality
- Noise
- Odor
- Lighting
- Navigation

For more information about the performance standards and to view monitoring data during dredging go to www.hudsondredgingdata.com