PCBs & LOST NAVIGATIONAL SERVICES

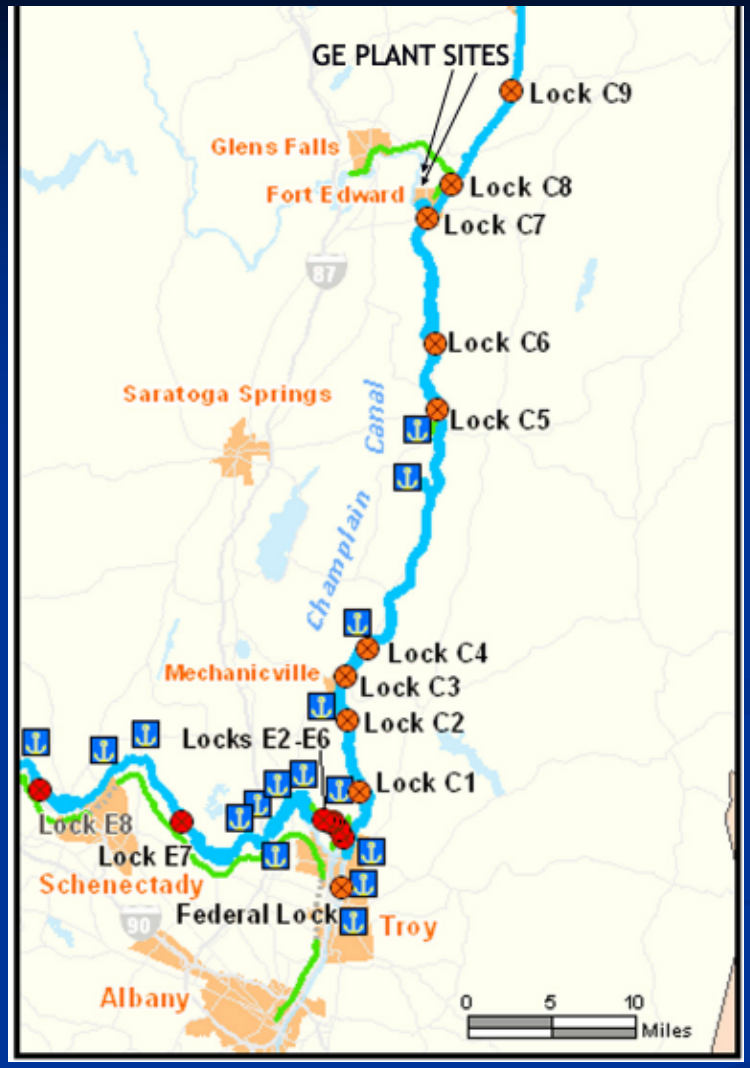
Hudson River Natural Resources Trustees

Trustees for Natural Resources of the Hudson River Ecosystem

- U.S. Department of Commerce
- U.S. Department of the Interior
- State of New York

The Champlain Canal

- Opened to boat traffic in 1916
- Links Troy and Lake Champlain
- Historically provided an effective means for recreational travel and commercial transport through the Upper Hudson River



Existing Canalway Trail

Canal

Canal Lock

Proposed Canalway Trail

Boater Services

Constitutional Recognition

- "The legislature shall not . . . abandon . . . the now existing or future improved barge canal, the divisions of which are the Erie canal, . . . [and] the Champlain canal . . . ." New York Constitution (Art. 15, § 1)
- Navigation is a "committed use" of the Upper Hudson River.

Navigational Dredging in the Past

- Sediment naturally accumulates in the navigation channel.
- Water depth should be 12 feet under State regulations
  - Tug boats typically require 10-12 feet of draft
  - Many barges require at least that much
- The State of New York periodically removed sediment.
- Agencies responsible for maintaining the Canal system:
  - New York State Department of Public Works--before 1967
  - New York State Department of Transportation—1967-92
  - New York State Thruway Authority, through its subsidiary, the New York State Canal Corporation--since 1992

The Canal--Lock 5

PCB Contamination

- GE discharged PCB-laden waste waters into the Hudson River between 1947 and 1977 from its plants in Fort Edward and Hudson Falls.
- PCB-contaminated storm water was also discharged to the River from both plants.
- PCB-contaminated oils migrated through bedrock at the Hudson Falls plant site and under an outfall pipe at the Fort Edward plant site. Some releases continue to this day.
- In 1991, there was a partial failure of the Allen Mill gate structure near GE's Hudson Falls plant, which resulted in a release of PCB-contaminated oils and sediments there.

Curtailment of Navigational Dredging

- Toxic Substances Control Act (TSCA), effective January 1977
- Virtually all uses of PCBs and their manufacture have been prohibited in the United States since 1979.
- TSCA regulations and State guidelines were adopted to control the disposal of PCBs.
- In approximately 1980, the State terminated its maintenance activities in the Upper Hudson River portion of the Champlain Canal
  - One exception--mouth of the Hoosic River

Increased Costs

- Cost of mechanical dredging, treating and disposing of PCB-contaminated sediments—
  - Over $300 per cubic yard
- Cost of mechanical dredging and disposal of uncontaminated sediment —
  - Approximately $35 per cubic yard
- Difference—
  - More than 8 times more expensive

Extent of Contamination

- Nearly 90% of the areas that require navigational dredging are affected.
- Based on PCB concentrations greater than 1 part per million (ppm) within the top 12 inches
- Concentrations in many areas are much higher.

NYSDOT Comment to EPA on October 22, 1991

- "In past years the barges have plowed their way through the yearly refill as best they could. The refill has recently become so wide, the barges can no longer push the sediments. This has limited the amount of draft, thus cargo the barges can carry. This is having a very negative effect on the commercial traffic on the canal and is rapidly approaching effecting [sic] the recreational traffic (fixed keel sail boats)."

1991 NYSDOT Comment

- "South of the Northumberland Bridge, the land cut canal enters the Hudson River and becomes a canalized river. . . . There is now a large PCB contaminated shoal at the intersection that has forced the northbound vessels to perpendicularly enter the canalized river from the land cut. Since the build up of the shoal, the Northumberland Bridge pier has been struck twice by the [barge] Mobil Champlain and thus the bridge was closed."

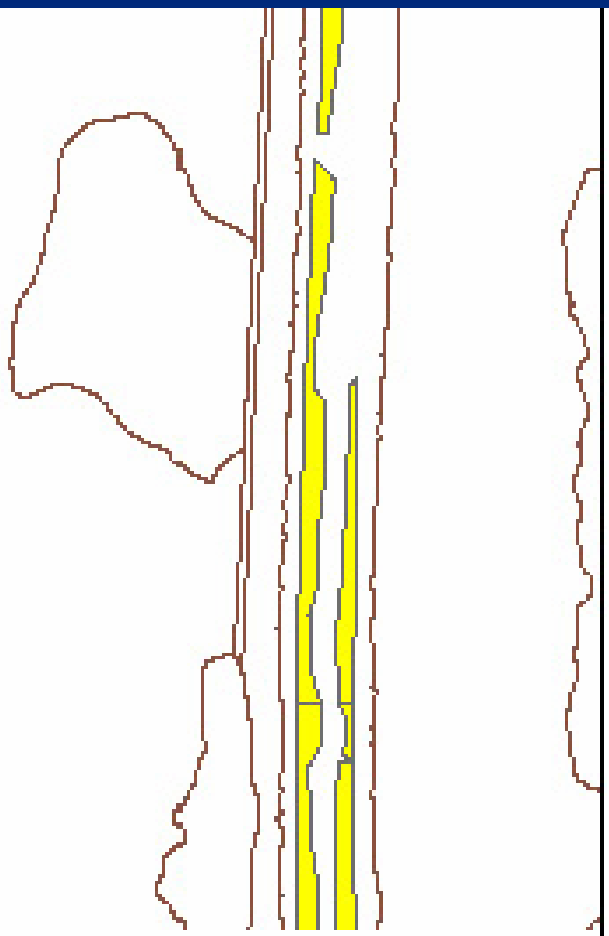
Canal Corporation Notice to Mariners

- In 2005, warnings were given of reduced depth in the Canal:
  - Over 72% of the measurements in the channel were less than 12 feet.
  - 21% were 9 feet or less.
  - In one reach, between Route 197 Bridge and Ft. Edward Yacht Basin, the draft is only 3 feet.

Navigational Dredging for EPA Remedy

- Navigational dredging currently anticipated to be done pursuant to EPA's Record of Decision will address 10% or less of the area in the channel that need to be dredged for navigational purposes.

PCB Levels in Navigational Channel below EPA Criteria



PCB Concentrations in Top 12 inches

RS1-intersection-3

SurfaceTPC

- Abandoned
- 0 to 0.1 ppm
- 0.1 to 1 ppm
- 1 to 10 ppm
- 10 to 100 ppm
- >100 ppm

Surface PCB Concentrations in Navigational Dredge Areas

Figure 1

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Trustees' Report on Lost Navigational Services

- Report on injury to surface water resulting in the loss of navigational services
- Issued for public comment on July 31, 2006
- Public comment period ran through September 30, 2006
- Revised report to be completed and issued shortly

Natural Resource Damages Approach

- U.S. Department of the Interior Regulations define "injury" to natural resources
  - ". . . a measurable adverse change . . .
  - in the chemical or physical quality . . .
  - of a natural resource
  - resulting either directly or indirectly from exposure to . . .
  - a release of a hazardous substance . . . ."

    (43 C.F.R. § 11.14(v)).

Trustees' Conclusions: Adverse Changes

- The releases of PCBs (hazardous substances) from the GE plants in Hudson Falls and Fort Edward have caused measurable, elevated PCB concentrations in surface water and sediment.
- These changes are adverse.

Effect of PCBs on Navigation

- PCBs have prevented the State from maintaining the committed navigational use of the Upper Hudson River because of the greatly increased cost of dredging and disposing of contaminated sediment.
- This has resulted in the failure of the channel dimensions to meet the State-mandated specifications (12 feet deep and 200 feet wide) throughout the Upper Hudson River, adversely affecting the navigational use of the canal by preventing many types of vessels from safely navigating the canal.

Trustees' Conclusions

- Draft report concluded:
  - PCB contamination from GE made the cost of disposing of dredged sediment in the Upper Hudson River portion of the Champlain Canal prohibitively expensive.
  - The State has been unable to maintain the navigational channel.
  - Navigation has been impaired, which is a "Lost Use" of the River.

Damages Claim

- The public is entitled under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to be compensated for the loss of navigational services.
- One measure of the damages is the added cost due to PCBs of fully restoring the navigation and maintaining those services in the future.

Another Solution

- The potentially responsible party—GE—could go a long way toward settling this claim by agreeing to dredge the navigational channel.
- The work could be combined with Phase 2 of the EPA project.
- The State is ready to discuss how this can be done through the cooperation of all parties.