HUDSON RIVER PCBS SUPERFUND SITE

Draft Third Five-Year Review & Project Updates

Community Advisory Group Meeting

Wednesday, September 25, 2024

EPA

Hudson River PCBs SUPERFUND SITE

Today's Agenda

Third Five-Year Review – Draft – Upper Hudson River

- Background/Overview: Report
  - Key Findings/Conclusions
  - **Special Studies and Follow-Up Items**
    - **Additional details and next steps**
- Timeline & Schedule (comment period extension)

Project Updates

- Floodplain - comprehensive study progress and next steps.
  - Additional discussion regarding areas identified in the Schuylerville area
  - Immediate actions – elevated PCBs – update on this year's work
- Lower River - update on the sampling work completed this year
- Upper River - other important work - habitat restoration, overview of 2024
- Sampling work and data evaluation/analysis status
- Deconstruction of Allen Mill and the Powerhouse – progress/schedule/next steps

Key Takeaways: Draft Third Five-Year Review

- **On July 10, 2024 - released the draft Five-Year Review report**
  - **90-day public comment (by October 8th)**
  - **+ 30-day extension - 120-day comment period (by November 7th)**
- **PCB levels in water and fish are going down overall**
- **EPA needs more years of fish data to draw a statistically reliable conclusion**
- **Post-dredging sediment data is inconclusive regarding recovery**
  - **Next sediment sampling event is planned for 2026**
- **A determination will be made as soon we can in late 2025, 2026 or 2027 (based on previous years data)**
  - **As addendum to this report**
- **The Agency is enhancing monitoring of the river to better understand its recovery**
  - **Special studies and follow up is planned (some underway)**
- **Much progress has been made**

What is a five-year review?

- ***Purpose: To ensure that cleanups are working as intended and protect people's health and the environment***
- Legally required under the Superfund law
- During the review, the EPA determines if the cleanup work is functioning as intended, if the assumptions made at the time of the cleanup decision are still valid, and if new information calls into question the effectiveness of the cleanup remedy.

What is a five-year review? (continued)

- If the EPA identifies any issues during the review that could affect protectiveness, the Agency makes recommendations to address them. These could include additional studies to gather more information.
- The process is intended to assess protectiveness of the selected cleanup; not to explore alternative cleanup options or strategies.

Other Considerations

- **Aspects of the Cleanup**:
  - Reduce impact to wildlife (ecological risk) through reduction in fish concentration
  - Habitat reconstruction/restoration
  - Limit to the extent possible fish consumption (institutional controls)
    - Help inform the public of the health risks associated with eating contaminated fish
      - Upper – Restriction and advisories in place
      - Lower (not part of this review)
        - Some fish consumption allowed for general population
- **EPA Perspective** – must follow the science when evaluating river recovery
  - Appropriate analysis – using multiple technical approaches to look at the data
    - Analysis is technically complex in some cases
  - Use of national experts and experience from other similar sites
  - Encourage independent review
  - Ask questions:
    - What we know
    - What we don't know
    - What we need to find out (additional data collection, analysis – special studies)

What did EPA review?

Upper Hudson River PCB cleanup (In-River Sediment):

- **Two-part cleanup plan** (Record of Decision) signed 2002: targeted environmental dredging followed by an extended period (decades) of natural recovery.
  - —Gradual improvement in water, fish and sediment would occur over more than 50-year timeframe.
  - —Key objective: lowering PCB levels in fish tissue (reduce risk to people and wildlife).

What did EPA review? (continued)

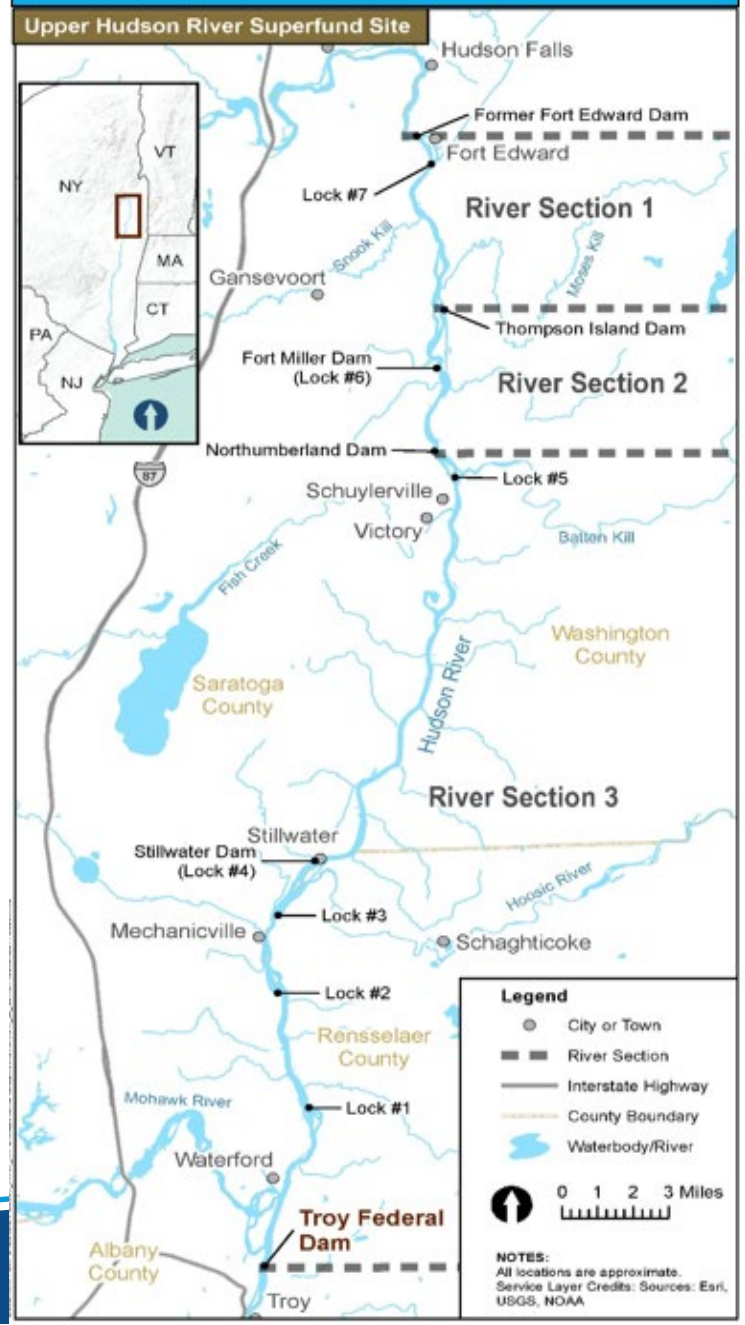
- **First part – dredging** (completed)
  - Substantially reduced mass of PCBs in the Upper Hudson River.
  - GE removed about 2.7 million cubic yards of PCB-contaminated sediment between 2009 and 2015.
- **Second part – natural recovery** (ongoing)
  - Long-term monitoring to track the recovery of the river over time.
  - Monitoring includes:
    - water, fish and sediment
    - reconstructed habitats (plantings)
    - stone and gravel caps – very little inventory capped – mostly residuals on rock

What did EPA review? (continued)

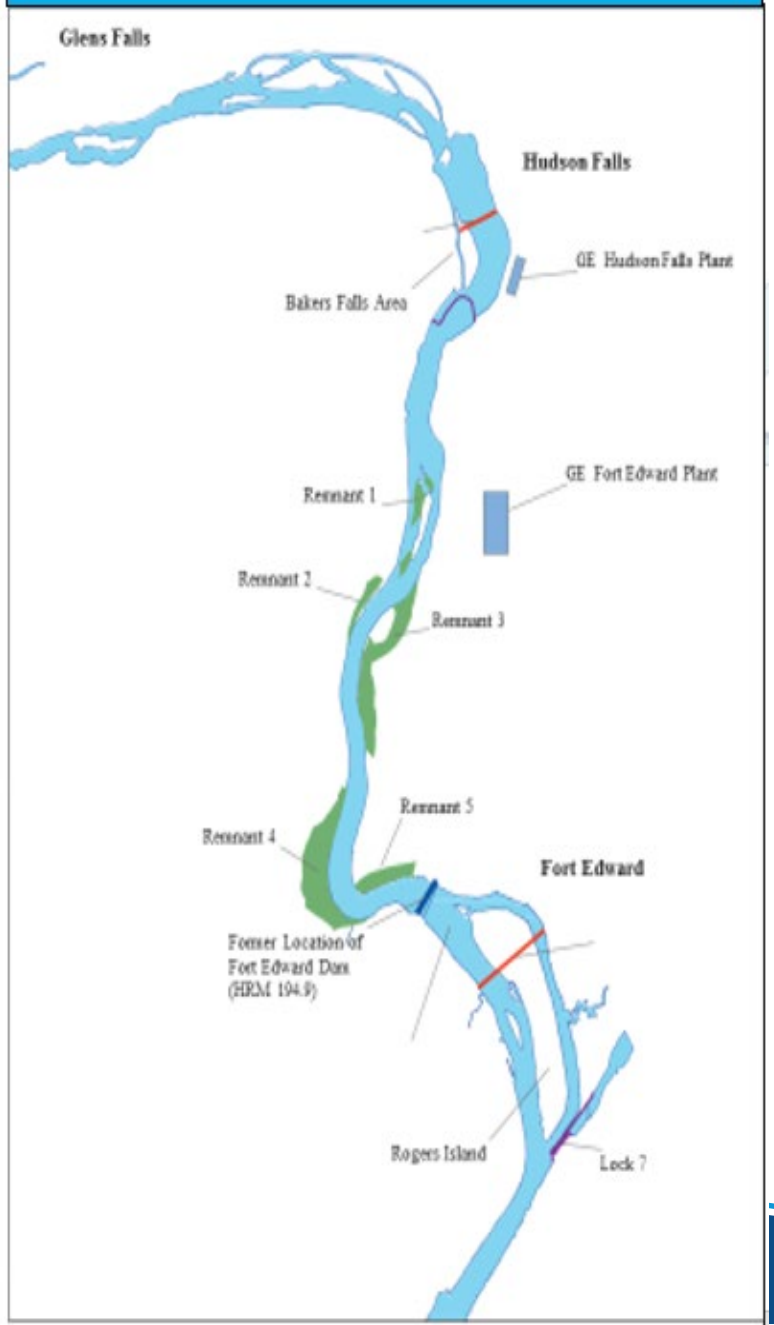
Remnant deposits:

- 1984 cleanup plan: Addressed areas of PCB-contaminated sediment that became exposed in the Upper Hudson River when the river water level dropped after the Fort Edward Dam was removed in 1973.
- Areas are capped, maintained, and monitored.
  - Signs and fencing around the area.

In-River Sediment (40 miles)



Remnant Deposits (2 miles)



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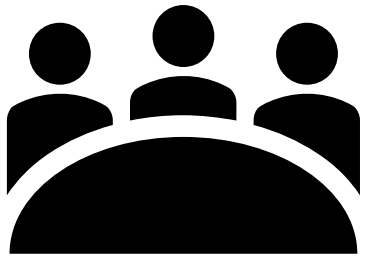
Five-Year Review Team

- EPA invited agency and community representatives to join Five-Year Review team.
- Included EPA technical experts, support agencies, members of Community Advisory Group.
- Team members provided input to EPA during technical meetings.
- Input was incorporated into the report as appropriate.

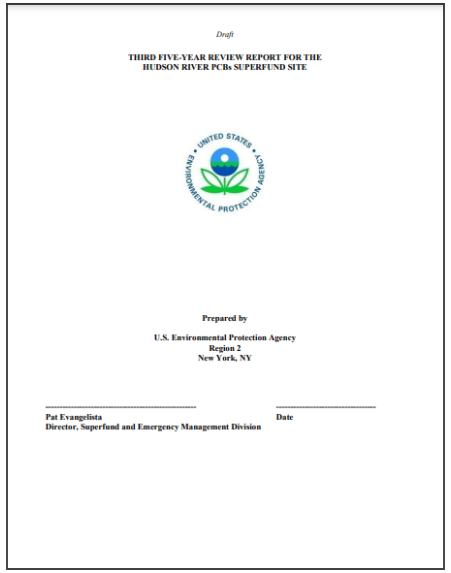
Team provided input on the performance and implementation of the cleanup based on information that included:



- Environmental data
- Document review
- Site inspection (considering current/future land and resource use)

Overview of the Report

- Draft report released July 10, 2024
- Based on sound scientific analysis and extensive evaluation of the data
  - All of the available water, fish and sediment data since end of dredging through 2022
- Comprehensive report is over 900 pages
  - Executive Summary
  - Text ~ 80 pages
  - Appendices - 11 detailed technical evaluations
  - Fact sheet
- Report and fact sheet are available on project webpage www.epa.gov/hudsonriverpcbs
- Public comment period initially set to end on Oct. 8; 30-day extension to Nov. 7
- EPA will carefully consider all comments



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THIRD FIVE-YEAR REVIEW REPORT FOR THE HUDSON RIVER PCBs SUPERFUND SITE

Prepared by

U.S. Environmental Protection Agency
Region 2
New York, NY

Pat Evangelista
Director, Superfund and Emergency Management Division

Date

FYR Conclusions Summary

PCB levels in water and fish are going down overall, but EPA needs more data before the Agency can make a protectiveness determination.

- More years of fish data is needed before a decision can be made about whether the cleanup in the upper river is meeting the expectations of the original cleanup plan.
- Consistent with the Agency's 2019 2nd Five-Year Review, EPA needs at least eight years of fish data after dredging to begin to draw science-based conclusions about the rate of recovery in the fish and EPA still does not have that.

2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Dredging ended	Year of Equilibrium	Year 1 Sediment collection	Year 2	Year 3	Year 4	Year 5 Sediment collection	Year 6	Year 7	Year 8	Year 9	Year 10 Sediment collection	Year 11	Year 12	Year 13
Upstream dredging Work ended in late November	Fish were collected in April – May (about 4 to 5 months after dredging ended) Demobilization of dredging equipment and habitat work	First full year of recovery						Preliminary data shows continued fish decline	3rd Five-Year Review Spring sport fish have been collected	Addendum - possible determination based on previous years data. Example: decision in late 2025 would be based on 2024 data				4th Five-Year Review

FYR Conclusions Summary (continued)

- Overall, the fish are recovering. The question is whether the Agency is satisfied with how quickly they are recovering.
- Over the next few years, the EPA expects to have the data it needs to identify reliable trends in the river's recovery and answer that question.
- The EPA also needs more years of data to fully evaluate the PCB levels in the river bottom sediment. The next sediment sampling is in 2026.
- EPA could make a protectiveness determination sooner based on the fish data.
- Evaluating the water and sediment data helps the EPA evaluate the overall recovery of the river.

FYR Conclusions Summary (continued)

The EPA will make a determination as soon as it can.

- The need for more years of data does not mean that EPA will wait another five years to decide.
- EPA experts will look at new data and will issue an addendum to the current five-year review report as soon as enough fish data is available, and as early as next year, which will include the agency's protectiveness determination. The EPA expects to issue the addendum no later than 2027.

FYR Conclusions Summary (continued)

The EPA is enhancing monitoring of the river to see what's happening.

- The latest report identifies several uneven patterns of recovery. To understand these patterns better, the report contains a series of recommendations and follow up items, which include carrying out special studies to take a closer look at water, fish and sediment in specific areas of the river.
- Some of these studies are already underway.
  - These studies will help the EPA understand how the river is recovering and guide the Agency's next steps.

FYR Conclusions Summary (continued)

- The concentration of PCBs in Hudson River water coming into the dredged area from upstream are very low, as expected.
- The stone and gravel caps placed on some areas of the river bottom during dredging to isolate PCBs from the surrounding environment remain in place.
- Institutional controls, in the form of fishing restrictions and fish consumption advisories continue to be in place.
- The caps placed on the remnant deposits are intact and functioning as intended.

Issues/Recommendations (Section 6.1)

- Additional Information Needed – more years of fish data
  - Same situation as last Five-Year Review
  - Work plans in-place and data is being collected
- Potential Differences in Fish Recovery Studies
  - Considerations (age, length weight, scales, ear bone, male or female)
  - Some of these relationships have been looked at in the past
  - Further discussion of scope of this work needed with experts (within agencies, consults etc.)
- Localized Areas of Elevated Remaining PCBs in Sediment - Potential Impact on Fish and Water Recovery Studies
  - Overall focus will be on areas linked to possible delay or unevenness in fish recovery
  - Areas that could not be dredged (engineering, safety and cultural resource offsets) will be considered
  - Floodplain soils that are river bottom a significant amount of the year will be considered
  - EPA will meet with DEC staff to discuss approach

Issues/Recommendations (continued)

- Supplemental Fish Collection to Inform Fish Advisories
  - Initial work plans in-place (listed in Cleanup Phase 2 agreement)
  - DEC/DOH have provided EPA input on scope of this work
  - Further discussion needed to confirm scope and timing of the work needed between EPA – DEC/DOH
- Institutional Controls – Continued Funding to Support Fish Advisory Institutional Controls
  - Discussions with DEC/DOH underway
  - Scope of future program being discussed
  - EPA anticipates funding to be extended
- Ecological Risk – Collection of Ecological Risk Target Species – Whole body fish collection
  - This work in existing scope but timing was not defined
  - The EPA understands and agrees with DEC/DOH request regarding this work
  - Further coordination and discussion needed to better define scope and timing

Other Findings (Section 6.2)

- Integrated Risk Information System - PCB Risk Info
  - Review new or updated information in IRIS (Integrated Risk Information System)
  - EPA risk assessor is following up
- Capping Institutional Controls
  - Monitoring plans in-place
  - Coordinate with NYSDEC and NYSCC – awareness of the caps to limit potential disturbance
- Monitoring to Support the Operation, Maintenance & Monitoring Program
  - Work plans are in-place that include an adaptive approach to adjust the work scope
  - Ongoing evaluation of data (including variability of data) so scope can be adjusted
- Rogers Island High-Flow Water Sampling Study
  - The EPA would like to better understand PCB transport during high flow in this area
  - Scope of work under development and future sampling planned
- Mohawk River Water Sampling Study
  - Ongoing regular sampling to continue
  - Frequency and scope need further technical consideration

Other Findings (continued)

- Passive Sampler Water Column Study
  - Scope developed and sampling complete
  - Data being evaluated – report to CAG in future meeting
  - Assist with evaluating water concentration variations
  - May assist with assessing fish recovery and identifying areas of elevated sediment
- Dissolved Phase and Particulate Organic Carbon Water Column Study
  - Improve understanding of PCB transport
- Lipid Normalization and Recovery Trends
  - Complex topic
  - Detailed analysis underway
  - Important in terms of considering fish recovery
  - Does not represent what is potentially consumed by people and wildlife
- Recently Deposited Be-7 Bearing Sediments
  - Sampling completed
  - Analysis of data underway – important consideration in terms of recovery of surface sediment
  - Future presentation to CAG planned
- Sampling of Cap Isolation Layer Material
  - Work plans in-place – method for sampling being discussed

Third Five-Year Review Timeline & Schedule

- **Take Away - Hudson River Team will be very busy leading up to a determination**
- July 10: Draft third five-year review released for public comment
- July 31: CAG meeting presentation on third five-year review
- August 21: Public Information Meeting on third five-year review
- August 28: Public Information Meeting on lower river investigation and third five-year review
- September 5: Friends of a Clean Hudson technical meeting with DEC/DOH
- October 2: Friends of a Clean Hudson – second technical meeting scheduled
- November 7th (Thursday): End of extended public comment period
  - EPA will issue formal notice

How to Submit Comments

Written comments on the report will be accepted until November 7.

Comments can be sent by mail to:

Gary Klawinski, Director
EPA Region 2, Hudson River Office
187 Wolf Road, Suite 303
Albany, NY 12205

Send comments by email to epahrfo@outlook.com

Discussion