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RIVER VOICES

NOVEMBER 1998

Reassessment Reports

PCBs Not Being Buried; Dechlorination No Solution

The long-held beliefs that PCBs are being safely buried under clean sediment and that dechlorination will gradually eliminate the PCB pollution problem were disproved by two Reassessment reports, each representing years of data collection and analysis.

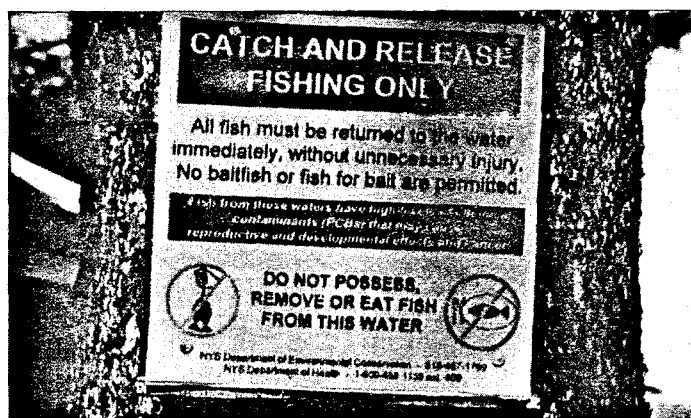
The Phase 2 Low Resolution Coring Report (LRCR), released in July 1998, compared new estimates of sediment PCB amounts at a number of locations in the Thompson Island Pool (TIP) to the existing PCB sediment database constructed from a 1984 New York State Department of Environmental Conservation (NYSDEC) survey. It also refined estimates of the amount of PCBs present in a limited number of historic hot spot locations in the Upper Hudson below the Thompson Island Dam defined by a 1976-78 NYSDEC survey.

No Burial; PCBs Lost

The analyses presented in the Low Resolution Coring Report lead to four major findings:

- There was little evidence of widespread burial of PCB-contaminated sediment by clean sediment in the TIP. Burial was seen at some locations, but more core sites showed loss of PCB inventory than showed PCB gain or burial.
- From 1984 to 1994, there has been a net loss of approximately 40 percent of the PCB inventory from highly contaminated sediments in the Thompson Island Pool (30% redistribution; 10% from dechlorination).
- From 1976 to 1994, there has been a net loss of PCB inventory in *hot spot* sediments sampled via low resolution coring in the area between the Thompson Island Dam (river mile 187) and the Federal Dam at Troy (river mile 155) (see maps, pgs.8 and 9).
- The PCB inventory for one particular *hot spot*, in this case, Hot Spot 28 (river mile 185 in Schuylerville) calculated from the low

resolution coring data is considerably greater than previous estimates. This apparent gain in inventory is attributed to significant underestimates in previous studies rather than actual deposition of PCBs at this location. (Continued on page 3)



PCBs Safe?

Concern Goes Beyond Cancer

Recent statements that PCBs pose no risk to human health have created confusion among residents of the Hudson River Valley. EPA Administrator Carol M. Browner testified on PCB health issues before the New York State Assembly's Committee on Environmental Conservation in July 1998. From her testimony:

GE tells us this (PCB) contamination is not a problem. GE would have the people of the Hudson River believe, and I quote: "living in a PCB-laden area is not dangerous."

But the science tells us the opposite is true.

In 1996, at the direction of Congress, EPA conducted one of the most comprehensive reviews ever of PCB scientific studies to determine whether the chemicals cause cancer. EPA reviewed more than 20 published, peer-reviewed animal and human studies — conducted by

(Continued on page 5)



Produced by the U.S. Environmental Protection Agency Region 2

Page 1

10.10248

Better than Before. But...

The Hudson's Not Clean Yet

The Hudson River is news. From the autumn 1997 visit of Interior Secretary Bruce Babbitt to Olana on the Hudson, to the publication of *The Riverkeepers* by John Cronin and Robert F. Kennedy, Jr., to reports on the major television networks, it seems that every other day there is another story about the health of the Hudson River. Add the sum of Hudson River websites, published advocacy pieces, newspaper articles, and editorials and it indeed appears that the Hudson weighs greatly on many minds today.

The Hudson is no longer the floating junkyard or open sewer it once was. Its waters look cleaner, clearer, more inviting, and more like the river immortalized by the school of painting that carries its name. Much of this progress is in response to a public that has demanded strong and protective environmental regulation and enforcement. The creation of the US Environmental Protection Agency (EPA) and New York State Department of Conservation (DEC) and passage of sweeping national laws such as the Clean Water Act, the Clean Air Act, the Resource Conservation and Recovery Act, and Superfund have combined to bring about a rebirth for the Hudson and other polluted waterways across the country.

The pretty pictures on television, however, don't tell the whole story. Many of the worst chemical offenders continue to cling to the mud that makes up the river bottom and lower levels of the food chain, invisible from the surface. PCBs work their way from the sediments and biota into the fish and other aquatic species.

Because of concerns about PCBs in the Hudson, fish advisories issued by the New York State Department of Health (DOH) and DEC have been in place since the mid-1970s along the entire length of the river. The PCB advisories are based on the U.S. Food and Drug Administration's (FDA) calculation of what constitutes contaminant risk to humans through ingestion of fish. The FDA limit for PCBs in fish is 2 parts per million (2 ppm). Although the river above Troy is now open for catch and release fishing, New York State strongly advises the public not to eat any fish caught in this reach of the river due to PCB contamination.

In the lower Hudson, advisories on fish consumption range from "eat no more than one meal per week" to "eat none," depending on the species and who is doing the eating. For example, women of childbearing age and children under the age of 15 are advised not to eat fish from the Hudson River.

Last July, EPA Administrator Carol Browner announced that the Agency would provide grant funds to New York State to "ensure an aggressive fish advisory campaign." Over the next few months, DEC and DOH will be working with EPA, community and environmental organizations, environmental justice groups and other concerned parties on the development of a more than \$170,000 program to inform anglers, subsistence fishers and fish consumers about the risks of eating PCB-contaminated fish.

In addition to exposing the public to a chemical contaminant, PCB pollution of Hudson River fish has caused the loss of a commercial fishery and loss of revenue to the state of New York, and has brought to extinction an historic way of life. Contemplating the environmental errors of the past connects to our concerns for the future. This imagery of what might be, versus what is, prompts us to ask, "What is the future of the Hudson River?"

EPA, along with many others, is working to answer that question and the challenge contained within it. This question has led us to the Reassessment. When we first began this investigation, three questions made up the foundation of the study:

- When will PCB levels in fish meet health criteria without any action?
- Can implementing a remedy reduce the time required to reach acceptable levels?
- If the PCB problem is being reduced by burial in the sediments, could a major flood event make those PCBs available again?

In the answers to these questions lies the key to the Hudson's future. Do we have all the answers yet? No. But we are getting closer. To those who say they already have all the answers, we say, "A full picture of the river is needed, and when the Reassessment is complete, we will have that complete portrait." Both our Phase 2 Low Resolution Coring Report, released in July 1998, and the Data Evaluation and Interpretation Report (DEIR), released in February 1997, punctured some popular PCB myths. [See related article, p.1]

These conclusions are significant, but do not stand alone in pointing the way to resolving the problem. They are a part of the overall picture of the Hudson, which is slowly emerging through the science of the Reassessment. More reports are due, documents that will deal with computer modeling, ecological risk and human health risk. Not until the picture is complete will we have all the answers - and the key to making the Hudson as safe and productive as it is beautiful.



"And the mighty Hudson waits - serene on the surface, but on the bottom, massive deposits of PCBs contaminating the fish and the people who eat them." Mike Jensen, NBC News



Dechlorination No Solution... *Continued from page 1*

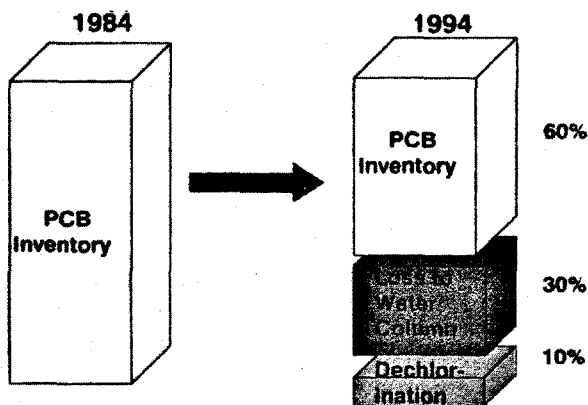


Technicians perform low resolution coring in the Thompson Island Pool.

The low resolution coring work gives us more information on the amount of PCBs lost and gained in the sediments, their distribution and levels of dechlorination, and how the action of moving water impacts the river bottom by scouring out some areas and redistributing PCBs or by covering contaminated sediments with clean deposits.

The decrease in PCB inventories in the more contaminated sediments of the Thompson Island Pool and from several of the studied *hot spots* below the Thompson Island Dam, along with the gain in PCBs in the coarse sediments of the Thompson Island Pool, indicate that PCBs are being redistributed within the Hudson River system. These results show that the stability of the sediment deposits cannot be assured.

Burial of contaminated sediment by cleaner material is not occurring in most locations. Burial of PCB-contaminated sediment by less contaminated sediment has occurred at limited locations. In addition, significant portions of the PCB inventories at other *hot spots* have been re-released to the environment. It is likely that PCBs will continue to be released from the Upper Hudson River sediments.



From 1984 to 1994, there has been a net loss of approximately 40 percent of the PCB inventory from highly contaminated sediments in the Thompson Island Pool.

Dechlorination Debunked

Both high and low resolution coring are important to an understanding of the river's PCB problem, and when viewed together, give a fuller picture of where the PCBs are, how long they have been there, where they come from, and what happens to them in the sediments. The Phase 2 Data Evaluation and Interpretation Report (DEIR) released in February 1997, was based in part on high-resolution analysis of sediment cores and in part on water column analysis. The DEIR provided the first conclusive answers about PCB contamination in the Hudson River.

Careful evaluation of the analyses contained in the DEIR lead EPA to the following four conclusions:

- The area upstream of the Thompson Island Dam (approximately river mile 187) represents the primary source of PCBs to the freshwater Hudson. This area includes the GE Hudson Falls and Ft. Edward facilities, the remnant deposit area (an area of PCB-contaminated river bank that was capped in 1990 to keep PCBs from making their way into the environment), and the sediments of the Thompson Island Pool located between river miles 188 and 195.)
- The PCB load from the TIP has a readily identifiable homologue pattern ("fingerprint") that dominates the water column from the Thompson Island Dam to Kingston ten months out of the year.
- The PCB load from the Thompson Island Pool originates from the sediments within it.
- PCBs in the sediments will not be naturally remediated through dechlorination. In fact, the extent of dechlorination is limited, resulting in less than a ten percent mass loss from original PCB concentrations. In short, the river is not cleaning itself.

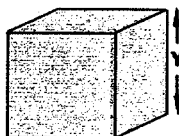
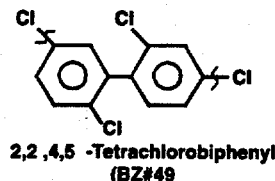
Dechlorination, to the degree it occurs, is the stripping of outer chlorine atoms from the PCB molecule. It is important to note that loss of PCB mass does not mean loss of PCB molecules; only the weight of the PCB molecule is reduced.

Water column analyses from the Thompson Island Dam to the federal dam at Troy showed no real increases in PCB measurements, and no major load of PCBs coming in from the tributaries downstream of the Thompson Island Dam. In addition, PCB "fingerprinting" or congener-specific analysis of the water column samples showed different "fingerprints" in the mainstem Hudson River (the Hudson River without its tributaries) samples compared to those found in the

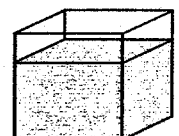
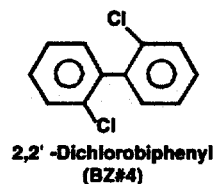
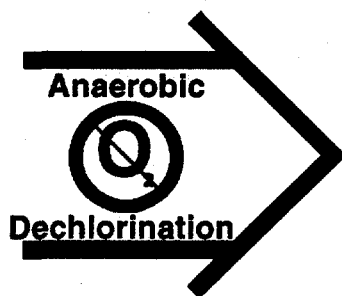
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Mass Before Dechlorination



Mass After Dechlorination

0.26 Y = Maximum
Mass Loss
0.74 Y = Minimum
Mass Remaining

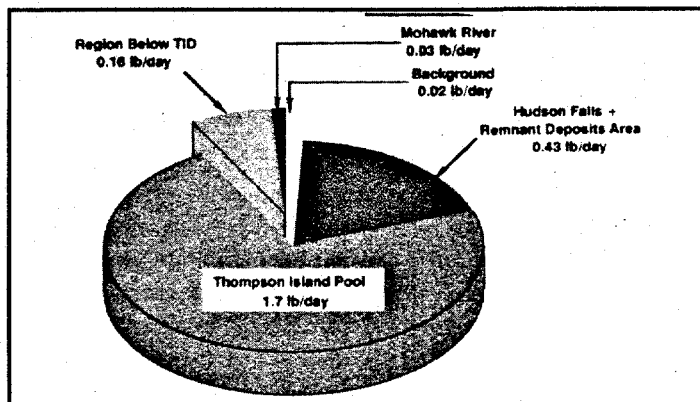
Effects of Anaerobic Dechlorination: PCB-contaminated sediments will not naturally clean themselves through dechlorination. The extent of dechlorination is limited in the sediments, resulting in probably less than 10% mass loss from the original concentrations.

Dechlorination No Solution...Continued from page 3

samples from the tributaries (Hoosic and Mohawk rivers). This is important in that it tells us that the PCBs in the water column originate in the Thompson Island Pool and not from other sources.

This water column work is supported by the sediment core analyses that showed that the PCBs found in the sediments of the tributaries were distinctly different from those of the mainstem Hudson River. Sediment cores also suggest (based on this same fingerprinting method) that the Upper Hudson is responsible for at least 75 percent of the PCB loading to the freshwater portion of the river, and approximately 50 percent of the PCB load in the NY/NJ harbor. Only cores from the NY/NJ Harbor showed substantial evidence indicating that the remaining 50 percent of PCBs in that part of the river come from other sources such as discharges from wastewater treatment plants and combined sewer overflows.

Water column samples showed a different PCB fingerprint (homologue pattern) between the water entering the TIP and the water leaving it. In addition, both EPA and GE monitoring data show increased water column PCB loading at the downstream location,



1993 Summer Mean PCB Loads to the Freshwater Hudson based on Phase 2 Data

How It Works:

Sediment Coring Program

Sediment cores are taken by pushing a hollow cylinder down into the river bottom, which removes a long column of river sediment for analysis. In high resolution coring, the sediment core is sliced into many sediment samples. The top of the core is sliced into four wafers, each less than one inch thick. The rest of the core is cut into slices roughly 1.6 inches thick. Thus, a two-foot core could be sliced into as many as seventeen different samples.

In low resolution coring, a two-foot core is typically cut three times, yielding three samples for PCB analyses and a smaller bottom section for radio nuclides (radioactive elements present in the sediment that are essential to the dating of the cores.) Each of the PCB samples is then stirred to create a thoroughly homogeneous blend, which is then also analyzed. Field sampling for the low resolution core study was conducted in August 1994. Approximately 150 sediment cores were taken, from which about 450 samples were extracted.

meaning the river is picking up PCBs as it flows through the TIP. This is particularly true under low flow conditions.

Based on monitoring data collected from June 1993 to 1997, water PCB concentrations and loads typically doubled and sometimes tripled during the passage of the river through the pool. Thus, a relatively large PCB load originating in the TIP is clearly evident in much of the EPA Phase 2 Reassessment and GE data. The unique PCB fingerprint found in both the water column and sediments of the TIP can be traced from the pool south to Kingston, a distance of approximately 100 river miles.

Upon examination of the PCB fingerprint present in the sediment cores
(Continued on page 9)



Concern Goes Beyond Cancer... *Continued from page 1*

the top scientists in the field. What did the studies conclude? PCBs are a known animal carcinogen and a probable human carcinogen--that the type of PCBs found in Hudson River fish are the most potent of all PCBs.

Fifteen of the nation's top PCB experts reviewed the EPA report, and all agreed, including a GE scientist, that the EPA scientific review fairly interpreted the body of PCB science relative to animal carcinogenicity.

But you don't have to take EPA's word for it. The International Agency for Research on Cancer declared PCBs to be a probable carcinogen. The National Toxicology Program concluded that PCBs are reasonably likely to cause cancer in humans. And the National Institute for Occupational Safety and Health has determined that these chemicals are a potential occupational carcinogen.

Even General Electric's own studies have shown that every PCB mixture it tested caused cancer.

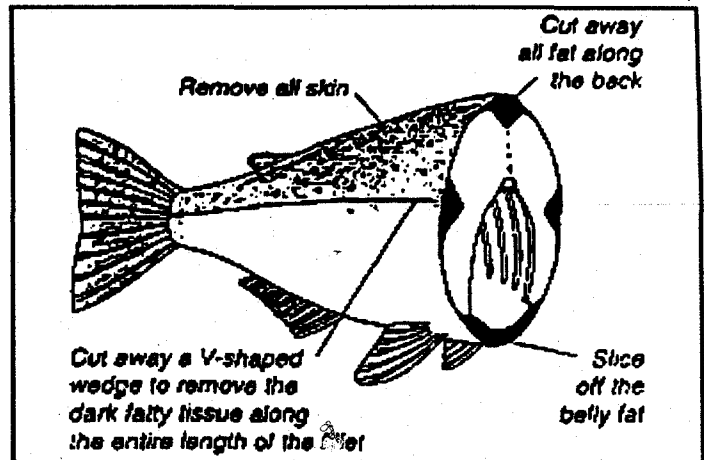
And concern about PCBs goes beyond cancer. Studies show that these chemicals may have profound effects on immune systems, neurological development, and reproduction. And PCBs may pose a special health risk for infants and children.

Already, studies in animals have found altered motor skills, spontaneous abortions, and low birth weights in animals. In fact, reproductive effects in these studies continued long after exposure ended, and through multiple generations -- a reflection of the long-lasting nature of the chemical.

And just as troubling is what we *don't* know about PCBs. New research suggests pound for pound, nursing infants may ingest 50 times more PCBs than their mothers ingest from fish and other foods they eat. Preliminary research indicates that PCBs may disrupt human endocrine systems, potentially causing abnormal growth and development in children. And yet more research is providing further evidence of a link between PCBs and malignant melanoma, non-Hodgkin lymphoma, and other cancers.

We do not have every single answer, nor every single piece of data. But clearly, the science has spoken: PCBs are a serious threat--a threat to our health, a threat to our environment, a threat to our future.

But GE would have us ignore all the overwhelming evidence supplied by animal studies. It would even ignore the results of its own study.



You can reduce the amount of PCB contaminants in a fish meal by properly trimming, skinning and cooking your catch. Remove the skin and trim all the fat from the belly flap, the line along the sides, the fat along the back and under the skin.

But to ignore studies on animals is to ignore the vast amount of medical research that relies on these kinds of studies -- from testing drugs to setting pesticide tolerances to testing food additives. To suggest, as GE does, that no action should be taken because some of the PCB studies may be inconclusive, flies in the face of every decision this country has made in the last quarter century to protect human health and the environment.

The best way to meet our goal, is to work together -- the State of New York, General Electric, and concerned citizens -- to protect the health of people along the Hudson River. For example, we must fully address one of our greatest concerns -- the many people who still subsist on Hudson River fish and the others who simply enjoy fishing in these waters. They hook it, and they cook it, as many fishermen say.

Vans line roadways with signs that say "fresh, local fish for sale." Generous fishermen unwittingly share their catch with neighbors -- often young women and children, the two populations that are advised not to eat *any* fish caught in the Hudson.

We are committed to working with our partners in the New York Department of Environmental Conservation to ensure an aggressive fish advisory campaign -- more outreach and better education and posting of advisories in critical areas. In the short term, this is the single most important step we can take to protect public health and ensure that people don't eat contaminated fish.

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A Continuous Record of Public Outreach

1990

- Dev Mailing List/October
- Design CIP/October
- Est 16 Info Repos and 2 Admin Records/November
- CRP to public/December
- Kickoff Mtg/December
- TAG Availability Ann/December

1991

- 4 Mtgs; form 4 LGs/February
- EPA Update/February
- AG LG Mtg/February
- CIT LG Mtg/March
- ENV LG Mtg/March
- SC Mtg/March
- ENV LG Mtg/April
- STC Mtg/April
- HROC Mtg/April
- STC/HROC Mtg/May
- STC Mtg/July
- JLG Mtg/July
- AG LG Mtg/July
- SC Mtg/August
- Ph 1 Rept/Pub Comm /August
- 2 Public Mtgs/September
- Phone-in Avail Session/September
- STC Mtg/September
- River Voices/September
- SC Mtg/September
- HROC Mtg/October
- AG LG Mtg/October

1992

- AG LG Mtg/January
- CIT LG Mtg/January
- SC Mtg/January
- HROC Mtg/January
- JLG Mtg/February
- River Voices/February
- Ph 2 Work Plan/Pub Comment/June
- JLG Mtg/June
- AG LG Mtg/July
- STC Mtg/July
- Ph 1 Resp Sum/July
- SC Mtg/August
- Revised CRP/August
- SC Mtg/September
- HROC Mtg/September
- EPA Update/Autumn
- Coring Demo/October
- River Voices/October
- JLG/STC Mtgs/November

1993

- CIT LG Mtg/February
- AG LG Mtg/February
- JLG Mtg/March
- STC Mtg/May
- River Voices/May
- SC Mtg/July
- HROC Mtg/October
- STC Mtg/October
- JLG Mtg/November

1994

- STC Mtg/March
- JLG Mtg/April
- Comm Interviews/May and June
- River Voices/July
- Comm Interviews/August

1995

- EPA Update/July
- Ph 2 Database Rpt/Pub Comment/October
- JLG Mtg/October
- ENV LG Mtg/October
- JLG Mtg/December

1996

- Wash Co. Briefing/March
- CD-ROM Database/March
- Est CD-Rom Repos/April
- AG LG Mtg/April
- ENV LG Mtg/April
- Prel Mod Cal Rept/Pub Comment/October
- JLG Mtg/October
- TAG Awarded

1997

- Data Eval & Interp Rept/Pub Comment/February
- JLG Mtg/February
- STC Mtg/March
- CIT LG Mtg/March
- AG LG Mtg/April
- Editorial Bd Briefs/July
- SC Mtg/September
- HROC Mtg/October

1998

- ENV LG Mtg/January
- HROC Mtg/January
- SC Mtg/April
- HROC Mtg/July
- Low Res Coring Rept/Human Health Risk Assess SOW/July
- JLG Mtg/July
- STC Mtg/August
- Avail Sessions, Albany & Poughkeepsie/August
- First Peer Review/September
- Eco Risk Assess & FS SOWs/September
- JLG Mtg/September
- SC Mtg/October

KEY

- AG -Agricultural LG
- CIT -Citizen LG
- ENV -Environmental LG
- HROC -HudRivPCBs Oversight Committee
- JLG -Joint Liaison Grp
- LG -Liaison Group
- SC -Steering Committee
- STC -Scientific&Tech Com

Late in 1997, John Santacrose, Environmental Liaison Group Chairperson, suggested that it might be helpful to compare the Reassessment's Community Relations Program (CIP) with the legal requirements for community relations under the Superfund law.

Ann Rychlenski, Community Relations Coordinator for the project, developed and presented an activities timeline at the January 1998 meeting of the Hudson River PCBs Oversight Committee (HROC). Representing all public involvement activities since the start of the project in 1990, it dramatically contrasts the community relations effort of the Reassessment with the required activities. The CIP timeline Ms. Rychlenski presented appears in the margins of this centerfold.

Under Superfund, only four activities are required prior to issuance of a Proposed Plan: develop a mailing list; establish information repositories and administrative record; conduct community interviews and develop a Community Relations Plan (CRP); and announce availability of Technical Assistance Grant (TAG) monies.

Nothing further is required until the Proposed Plan is issued. Required at that time are: a public meeting and a 30-day comment period; a responsiveness summary and transcript of the public meeting; provision of information to the public on the approved plan; revised CRP; and a forum to discuss the remedial design.

The CIP is a reflection of the dynamism and energy of the Reassessment. It ebbs and flows with public need, public input, and what's going on in the project. As Phase 3 of the Reassessment, the Feasibility Study, moves ahead, and in response to input from the public as to what is desired, activities under the CIP will continue and in some cases be augmented.

Concern Goes Beyond Cancer...Continued from page 5

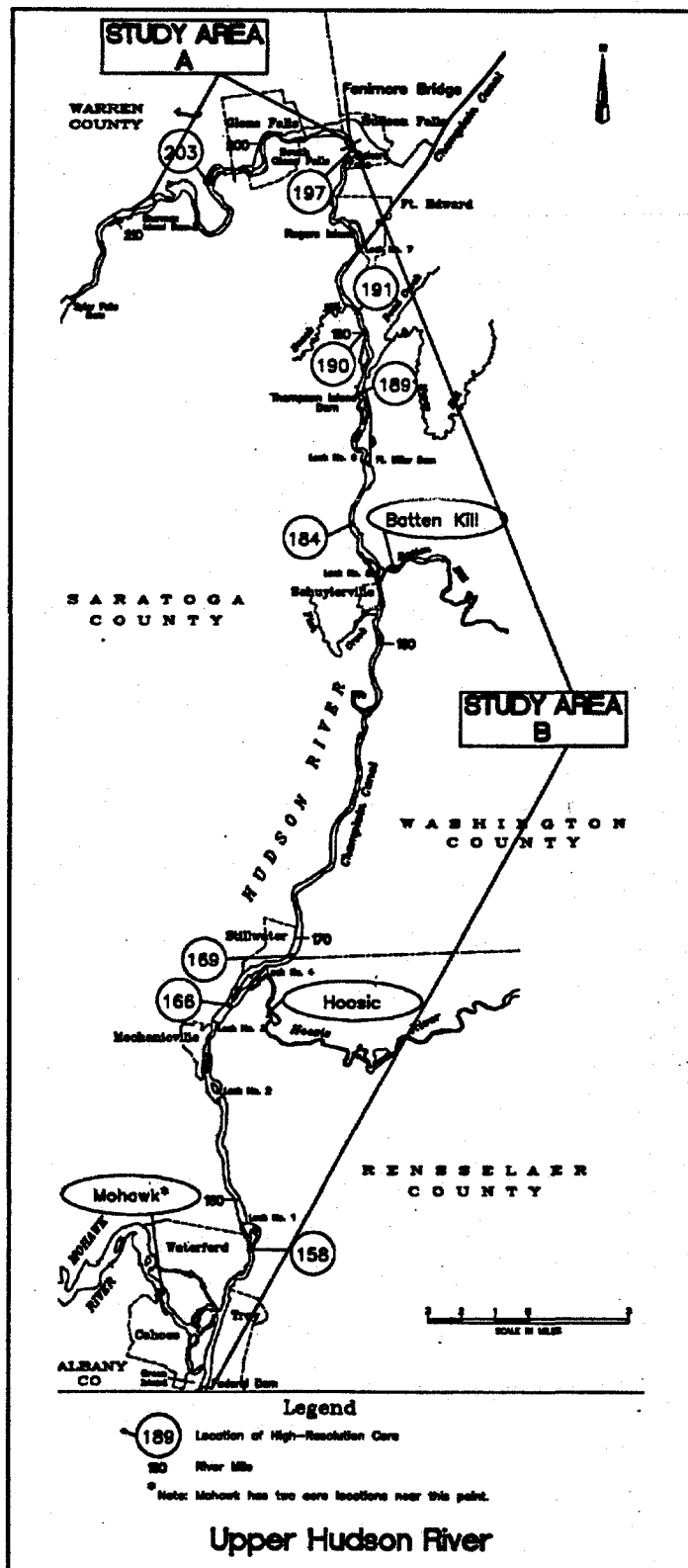
I call upon GE to work with us to provide the public with full and accurate information and help finish the job of cleaning up the Hudson River.

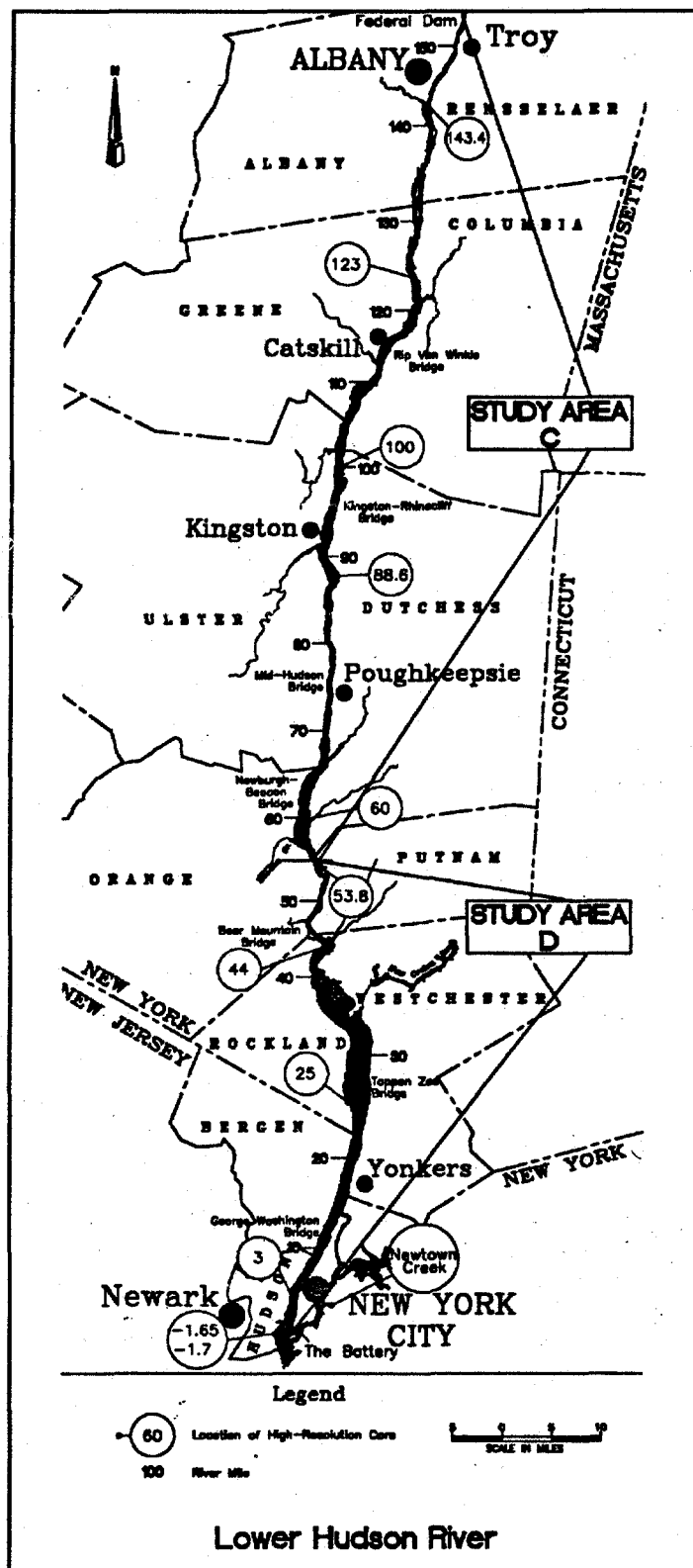
The people who live along the Hudson River deserve no less. The Hudson River deserves no less. The generations yet to come deserve no less.

Carol M. Browner
Administrator, EPA
Testimony, Albany, NY
July 9, 1998

HUDSON RIVER PCBs REASSESSMENT PROJECT SCHEDULE

DOCUMENT	DATE
PHASE 2 REPORTS:	
1- DATABASE REPORT	Nov. 95
2- PRELIMINARY MODEL CALIBRATION	OCT 96
3- DATA EVALUATION & INTERPRETATION	FEB 97
3A- Low Resolution Coring Report	JUL 98
Human Health Risk Assessment Scope of Work	JUL 98
CD-ROM Database Re-issue	JUL 98
Modeling Approach Peer Review Begins	JUL 98
Ecological Risk Assessment Scope of Work	SEPT 98
Feasibility Study Scope of Work	SEPT 98
Responsiveness Summary DBR, PMCR, DEIR, LRC AND HHRA SOW	DEC 98
4- BASELINE MODELING REPORT	MAY 99
BMR Responsiveness Summary	JAN 00
5- ECOLOGICAL RISK ASSESSMENT	AUG 99
6- HUMAN HEALTH RISK ASSESSMENT	AUG 99
ERA AND HHRA RESP. SUMMARY	APR 00
Phase 2 Peer Review Begins	OCT 99
Phase 2 Peer Review Comments Complete	MAR 00
Response to Peer Review Comments	AUG 00
PHASE 3 REPORT	DEC 00
PROPOSED PLAN	DEC 00
RECORD OF DECISION	JUN 01
RESPONSIVENESS SUMMARY	JUN 01





Dechlorination No Solution...Continued from page 4

collected from the TIP and elsewhere, it became clear that the characteristics of sediment PCBs closely matched those found in the water column at downstream locations. On the basis of this fingerprint, it was concluded that the TIP sediments, not the water column, represented the major source of PCBs throughout much of the year.

Evidence for this conclusion was principally derived from the dated sediment cores obtained during the Phase 2 investigation. These data showed that dechlorination of PCBs within the sediments of the Hudson River is limited in theory to a maximum mass loss of 26 percent from the original concentration. However, EPA believes that 10 percent mass loss is closer to the real level of dechlorination.

Also, sediments with PCB concentrations below 30 parts per million showed no predictable degree of dechlorination. This suggests that sediments with lower degrees of PCB contamination are largely unaffected by the dechlorination process. In short, even with natural dechlorination taking place, only 10 percent of PCB mass is lost. Even with natural dechlorination taking place, we still have PCBs. They have just changed from one type to another.

Need More?

Information Repositories

EPA maintains information repositories in 13 locations. They are updated several times a year, and contain the most current and most complete collection of Reassessment documents. The Phase 2 Database Report is accompanied by a CD-ROM, available at repositories marked by an asterisk (*). "Satellite" repositories have CD-ROM and the Database Report, but do not contain all of the Reassessment documents.

Full Repositories:

- Crandall Library, Glens Falls
- Washington County Office Building, Fort Edward
- * Saratoga Springs Public Library, Saratoga Springs
- * Saratoga County EMC, Ballston Spa
- Troy Public Library, Troy
- NYSDEC, Albany
- * NY State Library, Albany
- Catskill Public Library, Catskill
- NY Sea Grant Institute, Cornell Coop. Ext., Kingston
- * Sojourner Truth Library, SUNY New Paltz
- Adrianne Memorial Library, Poughkeepsie
- White Plains Public Library, White Plains
- USEPA, New York City

Satellite Repositories

- * R. G. Folsom Library, RPI, Troy
- * University Library, SUNY Albany
- * Marist College Library, Poughkeepsie
- * USMA Library, West Point

OPINIONS

Articles appearing in *River Voices* are the sole opinion of the author
whose name appears in the by-line and do not represent or reflect the opinion or policies of EPA.

RIVER TRUTH

by Andy Mele, Environmental Director, Hudson River Sloop
Clearwater; member, Environmental Liaison Group

During the past year, GE took a beating in the press over the Hudson River PCB problem.

First, EPA's February *Data Evaluation and Interpretation Report* made a very compelling challenge to GE's science. Then U. S. Fish & Wildlife Service's *Polychlorinated Biphenyl Contamination of Tree Swallows in the Upper Hudson River Valley, New York* proved that relatively complex organisms are being adversely affected by PCBs which appear to have been coming from breaches in the allegedly secure remnant deposits of the upper Hudson. Governor Pataki announced that the State would initiate the Natural Resource Damage Assessment (NRD) process, opening the door to potentially huge ecosystem restoration settlements. At Clearwater's invitation, Interior Secretary Bruce Babbitt came to the Hudson Valley and denounced GE, urging it to spend its millions on cleanup instead of lobbyists. Scenic Hudson released a report proving the feasibility of low-impact river-bottom dredging, and Clearwater released the first-ever video about the PCB story.

This situation was clearly unacceptable: a \$7 billion corporation with a CEO making \$40 million losing the information war with a couple of environmental groups sporting advocacy budgets smaller than the salary of a single GE public relations person. GE, apparently feeling that a reality-based defense was getting it nowhere, prepared a rhetorical message composed of disinformation, misquotes, and pseudo-science, and flying below the radar of media fact-checkers took directly to the streets, unleashing an unprecedented corporate "grassroots" campaign. A team of GE public relations hirelings has been promoting the GE version of things before audiences once viewed as *our* constituency: school groups, colleges, boaters, sportsmen's groups, editorial boards, and municipal associations, extending beyond Fortress GE - the Washington County area - into the Mid-Hudson. The new GE version of reality is encapsulated in the most recent copy of *River Watch*, a newsletter that looks and feels like a river advocacy journal, but is actually the house organ of GE's anti-Hudson River agenda.

Let's review and refute the biggest bloopers from *River Watch*, quoted in bold below:

"[There are] No Adverse Health Effects [from PCB exposure]." GE stands alone in claiming that PCBs make good neighbors. There is an *overwhelming* body of evidence, spanning decades, that points to the role of PCBs in cancer, endocrine disruption, and neurological impacts. The public relations contractors who write *River Watch* have no knowledge of the science around the PCB issue, and are hired for the

(Continued on next page)

COMMERCE COMES TO THE HUDSON RIVER/ CHAMPLAIN CANAL

by Judy Schmidt-Dean, Chair, Citizen Liaison Group

The fall of 1997 will be long remembered by those participating in this Reassessment. The discovery and finally, disclosure of the secret landfill study conducted more than a year from that date by EPA and TAMS has called into question the entire Reassessment. The anger and mistrust of the fall turned to a weariness this winter that did not promise to lift soon.

On October 3, 1997, when asked by Congressman Solomon to give testimony at his hearing concerning the landfill siting study, I had much to say about what my husband and I experienced last summer as owners of the Schuyler Yacht Basin in Schuylerville. Also at the time, the media was full of stories about our "filthy" Hudson River/Champlain Canal (HR/CC). I am so tired of hearing how bad, how polluted, how filthy how "dead" the HR/CC is. If the EPA and other groups such as Scenic Hudson would take a good, honest look, they would see how healthy, how "alive" the river really is. And recently, more government and private monies have been invested and committed to the HR/CC than ever before. A "healthy" economy does not grow in an "unhealthy" environment.

Let me tell you about a few of the things happening this summer on the HR/CC:

The river/canal traffic was up this year for the first time in years. The Canadian trade, once comprising almost 45% of the travel up and down the river, has been cut dramatically in the last five years. Now though, they have started coming back and couldn't be happier with the beauty and cleanliness of the canal. Virtually all said they plan to return and tell their friends to make the trip. As owners of the Schuyler Yacht basin in Schuylerville, we heard this every day, all summer long.

Three new boating cruise companies have come to the HR/CC. We already have 40' canal boats from Colar City tours out of Troy, and the larger cruising vessels from Mid-Lakes Navigation Co. out of Skaneateles, whose bookings were full on our stretch of the river. Now we also have Champlain Boat Tours, based in Schuylerville and offering hourly and daily tours. There is the Erie Canal Cruise Line whose larger canal boats have, in the last two years, only cruised the Erie Canal and Intercoastal Waterway to Florida. They were booked solid for the HR/CC cruises they offered this year, and will only increase next year when they bring more boats and another base of operation to Waterford. The Crown Blue Line has also come over from the Irish, English and French Canals to travel the NYS canals. Although

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sole purpose of sowing the seeds of confusion. They accomplish this in large part by citing solitary reports, often from GE-funded research and chemical-industry scientists, as legitimate, unbiased sources. *Nothing could be further from the truth.* Unfortunately, it is absolutely essential to follow the money trail to fully understand the results of scientific studies. Corporate money funds a very high percentage of scientific work, exerting a conscious or unconscious influence on study design, which can have a profound impact on conclusions. When you read anything under the GE logo, *caveat emptor* is the rule: buyer (in this case, reader) beware.

"Major study shows no link between PCBs, breast cancer." In this lengthy article on pages 4 and 5 of *River Watch*, GE is leveraging one isolated study to the status of Absolute Truth, relying on the legitimacy of the New England Journal of Medicine and a review by a veterinarian researcher named Stephen H. Safe. In fact, the Hunter study in NEJM is thought to be seriously flawed, and is about to become the subject of some critical rebuttals. Wendy Levinson, MD, Editor-in Chief of the *Women's Health Journal Watch* (published by the Massachusetts Medical Society, which also puts out the NEJM), commented, "[The Hunter] study may be flawed by the authors' use of plasma levels of DDE and PCBs; plasma levels indicate only acute exposure. Long-term exposure to these agents is reflected in adipose tissue levels, which were not examined here." GE also makes no mention of the six other studies which have found a clear correlation between PCBs and breast cancer.

pected toxicologist calls for end to 'paparazzi science'. The "respected toxicologist" in this case is a long-time advocate for the chemical industry, the aforementioned Ph.D. veterinarian researcher, Stephen H. Safe. Dr. Safe's NEJM review of the Hunter study began with the words "*Chemophobia, the unreasonable fear of chemicals, is a common public reaction to scientific or media reports suggesting that exposure to various environmental contaminants may pose a threat to health.*" By suggesting that persons who evince concern about chemical contamination may be phobic and unreasonably fearful, Dr. Safe immediately establishes his *a priori* bias - a bias that fits GE's purposes like a glove. According to Dr. Peter Montague, of the Foundation for Environmental Research, Safe's work "...is often funded by the Chemical Manufacturers Association."

"It's a whopper: The \$40-million fish story." GE desperately wants you to believe that the environmental community has been overstating the value of the Hudson River fisheries that were closed in 1976, most of which remain off-limits to this day. In 1976, a DEC employee named J. Douglas Sheppard authored a report entitled *Valuation of the Hudson River Fishery Resources: Past, Present, and Future*. On page 40, Sheppard states "...the total economic value will be in the area of \$35 to \$40 million. In the future, it would seem that this value can only rise..." The figure did not originate in 1986, as GE claims, and is supported by more than 35 pages of data. GE quotes an unnamed DEC source, whom because of graphics appended to the article we are led to presume is recently-appointed Commissioner John Cahill, as saying, "no such *ds* exist which constitute the source or basis...for the \$40 million *z.*" *I have the report in my hand as I write.* The \$40 million figure

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based in Frankfort, NY, out on the Erie Canal, it was the Champlain Canal that was used this year to show-off the NYS Canal System to the various corporate heads who came over from Europe. Our canal is considered to be the best and most beautiful in the state. An enormous investment has now taken place, with boats being built in New York State and next year's travel will be extensive. We know these various cruise lines because they have all been on our docks and have nothing but praise for the HR/CC.

A large communications company, Media Artists, Inc., based on the Erie Canal near Syracuse has just finished filming a major video production of the HR/CC. They already have a successful line of canal merchandise and a video introducing people to boating and the NYS canal system. Based on this alone, they invested hundreds of thousands of dollars in making a travel video marketing the HR/CC. We know this too, because they spent much time here on our docks.

The Saratoga County Chamber of Commerce is working with local officials and residents in completing work to designate Routes 4 & 32 between Waterford and Whitehall, a state Scenic By-Way, called The Champlain Canal Trail. This being a part of the NYS Thruway Authority Canal Revitalization Program, a five year, \$32 million effort to boost the economies of canal communities. This trail would link cultural, scenic, recreational, agricultural and historic assets of the HR/CC. We know this too, as long time supporters of the project and because these are just the attractions that bring people to our docks all season long.

In 1992, US Senator James Jeffords of Vermont proposed legislation to create the Champlain Valley Heritage Corridor that would work to preserve and promote the extensive historic resources of the Lake Champlain, Champlain Canal, and Hudson River waterways. The Senator's attempt was not successful then, but he has not received, through President Clinton, an administrative directive to fund a study conducted by the National Park Service. The study will be an inventory of cultural and historic sites, with suggestions of ways to develop and link these sites with the aim of attracting new tourists and encouraging others to spend more time in our region. Obviously, the time is now ripe for this kind of study. We know this having participated in the initial Champlain Hudson Conference five years ago and from our dealings with the National Park Service at the Saratoga Battlefield.

An announcement has also been made by President Clinton that the Hudson River is among the Top 10 to be named a National Heritage River. If it doesn't happen this year, it surely will next year. This type of designation is done with one thought in mind - to boost the river's economy by marketing its historical, cultural and recreational values.

Most importantly though, in mid-August, US Housing & Urban Development Secretary Andrew Cuomo announced monetary awards to 57 communities in New York State under the HUD Canal Corridor Initiative. More than 200 projects were awarded \$131 million in HUD assistance - \$57 million in grants and \$74.2 million in loan guarantees. The total awarded for the Champlain Canal is \$17.9 million. It's

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is never been presented as absolute fact - but is the only figure we have to work from. The range in the Sheppard report is wide, but allows *ample cause for suspecting that the costs may be greater yet*. In fairness, the report may indeed have overstated the value of foregone recreational fishing, but it almost certainly grossly understates the value of the commercial fishery, much of which was a cash-based, "informal economy," with no records kept. Anecdotal reports and interviews reveal that the commercial fishermen may have greatly understated their catches out of fear of being held liable for back taxes. Furthermore, the \$40 million figure *has not been adjusted for inflation to 1998 dollars*. The last time this was attempted (Clites et al, 1988), the total ranged from \$747 million to \$1.6 billion - a decade ago. And no attempt has been made to assess the subsistence fishery: the poor, disadvantaged, or just plain fish-loving folks who can no longer eat Hudson River fish. *The Riverkeepers*, a recent book by Robert Kennedy, Jr., and John Cronin, describes New York's historical bond with the river's bounty: "In the Great Depression thousands of unemployed men flocked to the river..." How many poor live in the metropolitan area? How many could the river feed if not for GE's PCBs?

"PCB levels in water and fish cut in half." Do not believe a word GE says until it is *confirmed by several reliable independent sources, and holds true over time*. With billions of dollars at stake, GE does not hesitate to bend the facts to its will. I personally witnessed GE scientist Dan Abramowicz, briefing DEC Commissioner John Cahill, describe proudly how GE uses the "best science" available: "We review all the scientific literature, and we find the people who are most likely to agree with us. And then we fund 'em!" I also witnessed six GE employees, including Vice President of Corporate Environmental Programs Steve Ramsey, hold up their hands under oath before a Legislative hearing, just like the tobacco executives who swore that tobacco was not addictive, and swear that dredging technologies have not improved since the mid-1980's. At the same hearing, GE displayed a large graph showing declines in fish PCB levels. After repeated attempts to avoid answering direct questions from legislators, the GE spokesmen were forced to admit that the PCB levels shown were from samples taken *upstream* of the Thompson Island Pool, thereby selectively omitting data from the area which, according to EPA, is the major source of PCBs entering the river. Given tactics like these, the public need not feel any obligation whatsoever to respect GE's science or rhetoric.

"Reports of [the Hudson's] demise are greatly exaggerated." GE's goal with this section is to isolate Clearwater, Sierra Club, and Scenic Hudson by making us appear out of step with the rest of the Hudson River community. We are honored to be selected for this special recognition! But the problem with GE's technique is that again it relies on quoting authorities out of context. To suggest that *Riverkeepers* Robert Kennedy, Jr. and John Cronin somehow favor GE because they have celebrated the river is the sort of tortured logic that can only survive behind the looking glass - or in GE land. Because Maurice Hinchey, Bruce Babbitt, and George Pataki celebrate the river, they support GE's position? These men are among the staunchest defenders of the Hudson, and in no way condone or support GE's desire to tear down Superfund law and leave the PBS in the river. Clearwater

celebrates the Hudson too, every year, multiple times, at shad festivals, pumpkin festivals, and at the ultimate river fest we call Revival - in fact, we have a whole department called Celebration! But we don't support GE. And neither do Hinchey, Babbitt and Pataki.

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certainly not small change. Obviously, HD recognizes the value of the HR/CC and is willing to commit to its growth potential. It is a humorous aside that while Interior Secretary Bruce Babbitt declared recently that the Hudson River is a "dead River," our river quality comparable only to the Exxon Valdez site. It is he who proudly made the Canal Corridor Initiative announcement with HUD Secretary Cuomo, committing the Interior Department and National Park Service to provide specialized assistance to HUD in carrying out the Initiative. Maybe Secretary Babbitt should decide which way he actually feels about the HR/CC and not make such wild and politically expedient comments.

Finally, we cannot speak about the "health" of the river without speaking about New York State lifting the fishing ban on the HR/CC on August 30, 1995, which created the Catch and Release Program currently in practice. As the EPA has already determined, the *only* potential for PCB contamination lies in eating the fish. In this Reassessment, the great unknown has always been who and how many people would eat the fish if they could fish the waters. Well, we have the answer now and at no point has the EPA been interested in that answer. There are virtually *no* fishermen who want to eat the fish. The entire fishing industry has moved to its own "sportsman" position that calls for catch and release even in waters where fish may be kept. And the notion, suggested by EPA early in the Reassessment, that the wretched poor are huddled along the banks of the HR/CC, catching fish and eating them to survive is absolutely ludicrous. There may be some in our communities needing public assistance and food stamps, but trust me, they are next to me in line at the grocery store, not next to me on the dock or on the banks fishing.

This calls into question too, the entire purpose of the Reassessment. To put it bluntly, if no one is eating the fish, then why are we here?

While I can certainly appreciate the need for a scientific analysis of the PCB situation and plan to see this Reassessment to its end, I must also make a demand of the EPA, one that is not only fair but obvious.

The HR/CC is not a static environment, it is ever changing and not the river it was 20-30 years ago. As such, it cannot be treated as it was then, and to ignore the social and economic explosion that has taken place in this year alone is blind and irresponsible. The economic impact of a dredge decision cannot be ignored or taken lightly. It *must* be considered in this Reassessment.

In all, the general public; the local, state and federal governments; the local, national and international business leaders, see and understand that any possible PCB contamination is minimal at best, and certainly no cause for concern. They are *all* willing to invest millions of dollars in this small stretch of river.

