



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY - REGION II

290 BROADWAY

NEW YORK, NEW YORK 10007-1866

DocID 80150

HUDSON RIVER PCBs REASSESSMENT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RRI/FS)
COMMUNITY INTERACTION PROGRAM

JOINT LIAISON GROUP MEETING

Monday, December 11, 1995

Latham, NY

On Monday, December 11, 1995, a Joint Liaison Group meeting was held at the Holiday Inn Express in Latham, NY, as part of EPA's on-going Community Interaction Program for the Hudson River PCBs Reassessment RI/FS. The purpose of the meeting was to provide liaison group members and other interested parties with a presentation on the Phase 2 Database Report and a demonstration of use of CD-ROM that contains the database.

Attached to these minutes are copies of the agenda, sign-in sheets, and presentation overheads. The Phase 2 Database Report, the first volume of six portions of the total Phase 2 Report - Further Site Characterization and Analysis, can be found in the Information Repositories and has also been distributed to the chairpeople of each of the liaison groups for the use of liaison group members. That report describes the organization of the data collected for the RRI/FS, including historical data, Phase 2 project data, and recent data collected by others.

The CD-ROM that contains the more-than-750,000 database records is available for use at two of the current RRI/FS Information Repositories, the Saratoga Springs Public Library and the Saratoga County Environmental Management Council (50 West High Street, Ballston Spa). The CD-ROM is also available at Rensselaer Polytechnic Institute's R.G. Folsom Library, the SUNY Albany library, the Marist College library (Poughkeepsie), and the USMA library at West Point. People genuinely intending to use the disk extensively can also obtain one directly from Doug Tomchuk at the above address.

Ann Rychlenski, Community Relations Coordinator for the RRI/FS, opened the meeting and introduced Doug Tomchuk, EPA Remedial Project Manager, who made some introductory remarks about the report. He explained that the report contained no conclusions. It is a guide for using, or going through, the database and provides information on what data sets were incorporated into the database. The report makes the foundation of the PCBs RRI/FS, the data, available to all interested parties. Mr. Tomchuk also referenced the five other volumes of the Phase 2 Report and reviewed the current release schedule.

Dr. Ed Garvey of TAMS Consultants, Inc. presented an overview of the contents of the database and how it is structured. His talk focused on a discussion of the database elements and how they are arranged/organized. Key points can be found and easily followed using the copies of the overheads that accompanied the presentation, Attachment 3 to these minutes.

Dr. Garvey entertained questions, but stressed that there is no interpretation in this report. In answer to a question from Darryl Decker, for example, as to whether "inconsistent" data were thrown out, Dr. Garvey explained that all data were validated, and data that did not meet data quality standards were rejected, but determining that data are "inconsistent" involves interpretation, and that has not been done here. Other questions pertaining to interpretation and analysis, such as what was discovered about impacts of 100-year flood events, were deferred until later in the project for the same reason.

Amy Michelson of Gradient Corporation, a subcontractor to TAMS, followed with a hands-on demonstration of how to use the database for inquiries. She used three examples of queries - sediment, water, and biota - for her demonstration. Copies of Ms. Michelson's overheads are also found in Attachment 3, including questions and illustrations of where in the hierarchical structure of the database the relevant information would be found. However, this type of presentation does not lend itself well to written summarization. Important to these minutes is the fact that Ms. Michelson emphasized several times during her presentation that the overheads contained illustrations and selections of data, pulled for the purposes of discussion only. That needs to be kept in mind when reviewing the copies of her presentation overheads in the attachment.

Ms. Michelson explained that the database is a "relational database," meaning that the data are contained in tables within the database that are related to each other using a common field, or link. The tables are made up of records and fields, separated into rows and columns. She stressed the importance of the Database Report itself as a very good basis from which to work and the place to find assistance in using the data correctly. For example, it is very important to use enough fields to identify a sample uniquely. Different data sets require use of different numbers of fields for this unique identification. The Database Report explains how to do this properly, based on what the user is trying to do.

Ms. Michelson explained that to use data from the CD, which is "read only," one must copy the desired files from the CD onto one's own computer hard drive. There are two formats available - Paradox™ 4.0 for DOS and FoxPro™/DBase III™.

Questions followed regarding specifics of CD and Database Report use.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY - REGION II

290 BROADWAY

NEW YORK, NEW YORK 10007-1866

**HUDSON RIVER PCBs REASSESSMENT RI/FS
COMMUNITY INTERACTION PROGRAM**

JOINT LIAISON GROUP MEETING

Monday, December 11, 1995

7:30 pm

Latham, NY

AGENDA

Welcome

Ann Rychlenski
Community Relations Coordinator
USEPA Region II

Introduction

Doug Tomchuk
Remedial Project Manager
USEPA Region II

**Presentation & Demonstration
Phase 2 Database Report**

Dr. Edward Garvey
TAMS Consultants, Inc.
Amy Michelson
Gradient Corporation

Closing Remarks

Ann Rychlenski

USEPA REGION 2
HUDSON RIVER PCBs RRI/FS
COMMUNITY INTERACTION PROGRAM
JOINT LIAISON GROUP MEETING
DECEMBER 11, 1995
LATHAM, NY

Name	Address	Affiliation if Applicable
Paul McDowell	1112 Parkwood Blvd Schuylkill NY 12508	New York Farm Bureau
John Santacrose	46 Rorick Rd Selkirk, NY 12158	The Audubon Society of New York State, Inc
Sharon Ruggi	15 Burgoyne Ave Hudson Falls, N.Y. 12839	CEASE
Judy Schwartz	1 Ferry St Schuylkill 114 12871	Chair Cit. Comm.
William T. Forts	3102 Low Pine Rd Schenectady, NY 12303	WYSDEC
Indy Mele	112 Market St. Poughkeepsie, NY 12601	HRS Clearwater, Inc.

USEPA REGION 2
HUDSON RIVER PCBs RRI/FS
COMMUNITY INTERACTION PROGRAM
JOINT LIAISON GROUP MEETING
DECEMBER 11, 1995
LATHAM, NY

Name	Address	Affiliation if Applicable
Mel Schweiger	1 computer Drive Albany, NY 12205	GE
John Haggard	1 computer Drive Albany, NY 12205	GE
DAVID ADAMS	216 STAGE RD CHARLTON, NY 12019	SARATOGA CO. EMC GOV'T. LIAISON COMM.
J. PIERRE GONTIER	1221 RT 295 E. CHATHAM NY 12060	CUL. CO EMC
MAK MICHELSON	330 OWL CREEK RD SPENCER, NY 14883	CORNELL UNIV
Ron Sloan	NYSDOL 50 Wolf Rd, Rm 576 Albany NY 12233	DEC
Frank Decker	P.O. Box 205 Cambridge, NY 12816	Gov't Liaison Group
MARIC BETHAN	PO Box 922 Glen Falls NY 12801	GE

PHASE 2 REPORT - FURTHER SITE CHARACTERIZATION AND ANALYSIS DATABASE REPORT

Dr. Edward Garvey, TAMS Consultants, Inc.
Amy Michelson, Gradient Corporation

PHASE 2 REPORT - FURTHER SITE CHARACTERIZATION AND ANALYSIS DATABASE REPORT

- Overview

- Database Elements

(20 minute break)

- Example Database Queries

DATABASE OVERVIEW: PURPOSE

Foundation for all studies to be performed by
USEPA for the Reassessment RI/FS

DATABASE OVERVIEW: ATTRIBUTES

Combination of data from many sources:

- ◆ Historical data collected prior to the Reassessment
- ◆ Complementary programs by other investigators (e.g., GE, NOAA)
- ◆ Phase 2 Reassessment sampling effort

DATABASE OVERVIEW: ATTRIBUTES (cont)

- More than 20 years of monitoring data
- Data from many media
 - ◆ Sediments
 - ◆ Dissolved and suspended matter in the water column
 - ◆ Fish and invertebrates tissues
- Both upper and lower Hudson River

DATABASE OVERVIEW: ATTRIBUTES (cont)

- Measurements of Total PCB, Aroclor mixtures, and congener-specific distributions
- Conventional parameters (e.g., TSS, TOC, grainsize distributions, percent lipids)

DATABASE OVERVIEW: PROCESS

- Compiled historical data during Phase 1
- Uploaded Phase 2 data
- Merged and reformatted additional data sources identified since Phase 1 including data from GE, USGS, NYSDOT, NYSDEC, and LDEO

DATABASE OVERVIEW: STATISTICS

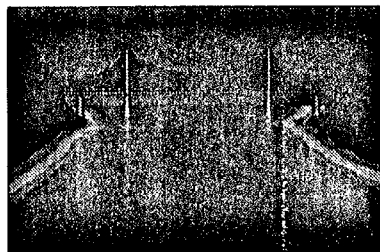
- Over 100 tables
- Over 1,00,000 records
- Available on CD as "read-only" in two database formats: Paradox™ 4.0 and FoxPro™/dBASE III™

DATABASE ELEMENTS: TERMS

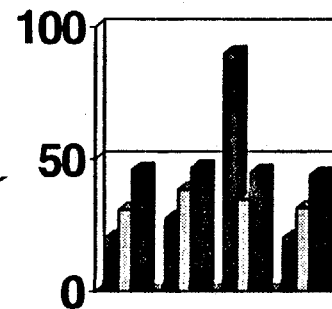
Collection of information organized into

- ◆ Tables
 - ◆ Records (rows)
 - ◆ Fields (columns)
- ◆ Links (relationships between elements)
- ◆ Data dictionaries
- ◆ Data glossaries

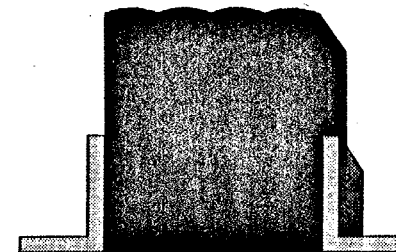
DATABASE ELEMENTS: HUDSON RIVER DATABASE



Sampling
Information

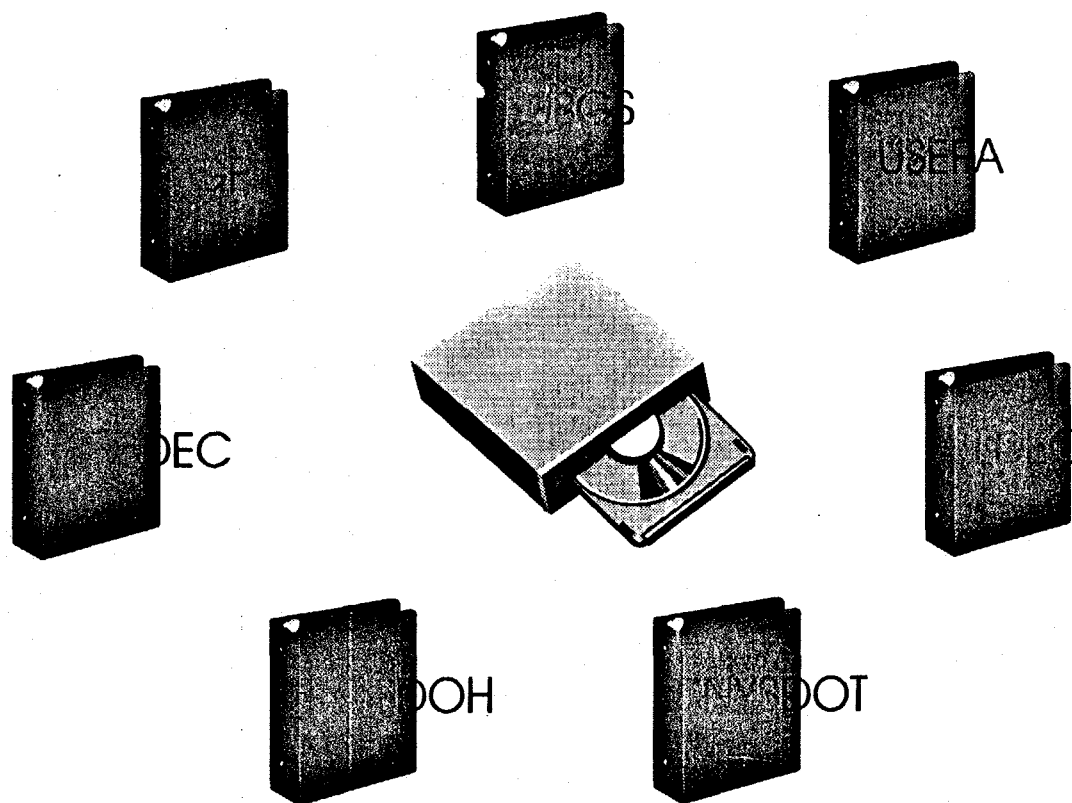


Chemical
Data

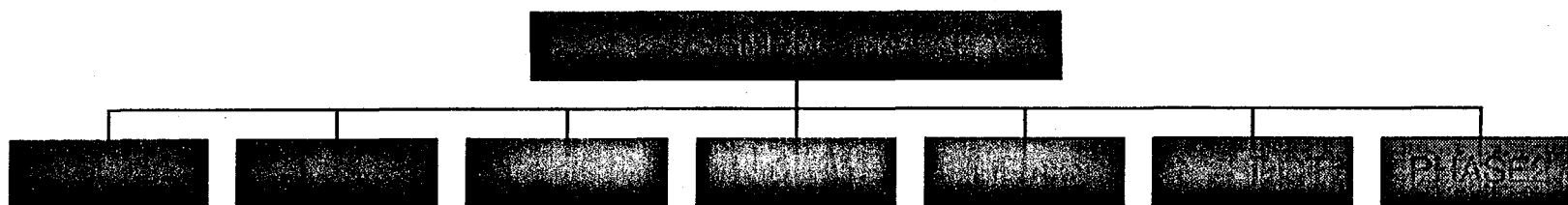


Definitions

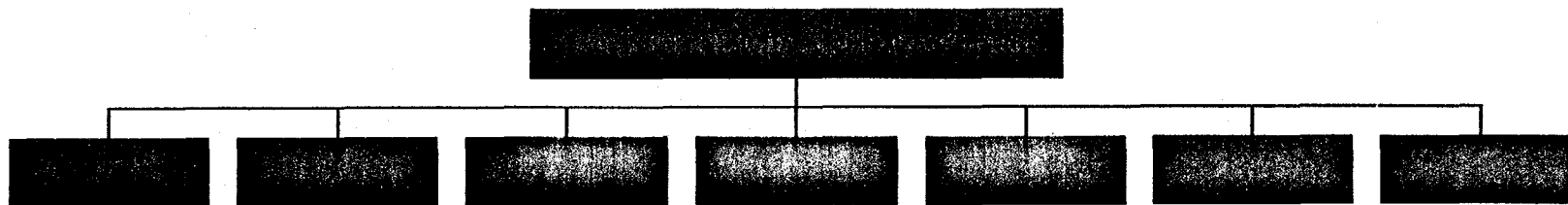
DATABASE ELEMENTS: DATA SOURCES



DATABASE ELEMENTS: DIRECTORY STRUCTURE



DATABASE ELEMENTS: SEDIMENT DATA



SEDIMENT DATA: HISTORIC

■ 1976-78 NYSDEC survey

- ◆ Aroclor mixtures measured in over 1,000 core and grab samples
- ◆ 40-mile region of the Hudson

■ 1984 NYSDEC Thompson Island Pool (TIP) survey

- ◆ Aroclor mixtures and Total PCBs in some 2,000 samples
- ◆ Approximately 5-mile reach in TIP
- ◆ Conventional parameters

SEDIMENT DATA: HISTORIC (cont)

- 1989 GE Baseline Studies for the Remnant Deposit Containment Project
 - ◆ Aroclor mixtures
 - ◆ Five locations near remnant deposits
- 1990 GE Sediment Sampling for Bioremediation Investigations
 - ◆ Aroclor mixtures
 - ◆ Approximately 100 cores from 12 "hot spots" from Fort Edward to below Mechanicville

SEDIMENT DATA: GE

- 1991 sediment program
- More than 400 sediment samples (composites)
- Total PCBs, homologue distributions, and capillary peak concentrations
- Conventional parameters
- Samples with coordinates located above RM 190

SEDIMENT DATA: LDEO

- Total PCB or Aroclor mixtures
- Radionuclide data
- Three cores from TIP and Kingston

SEDIMENT DATA: PHASE 2

- High Resolution Sediment Coring Study (1992)
 - ◆ 28 cores from Glens Falls to upper NY Bay
 - ◆ 12 supplemental core top samples
 - ◆ Approximately 500 samples
 - ◆ Congener-specific PCB analyses
 - ◆ Conventional parameter (e.g., grainsize, TON, radionuclides)

SEDIMENT DATA: PHASE 2 (cont)

- Low Resolution Sediment Coring Study (1994)
 - ◆ More than 160 cores from TIP and "hotspots" below TIP
 - ◆ Approximately 400 samples analyzed
 - ◆ Congener-specific PCB analyses
 - ◆ Conventional parameter (e.g., grainsize, TON, radionuclides)

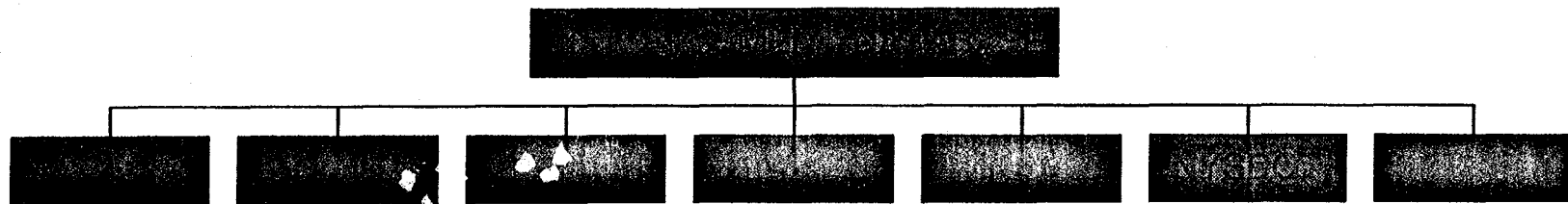
SEDIMENT DATA: PHASE 2 (cont)

- Confirmatory Sampling (geophysical investigation) (1992)
 - ◆ 87 cores and 98 grab samples
 - ◆ Approximately 340 samples analyzed
 - ◆ Hudson Falls to Lock 5
 - ◆ All conventional parameters (e.g., grainsize distributions, TC, TN)

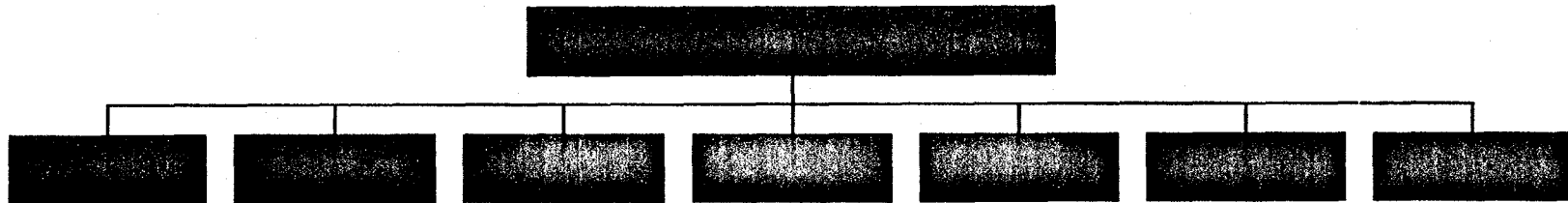
SEDIMENT DATA: PHASE 2 (cont)

- Ecological sediment sampling (1993)
 - ◆ Approximately 100 samples paired with fish and invertebrate samples
 - ◆ Congener-specific PCB analysis
 - ◆ Conventional parameters (e.g., grainsize distributions, TOC)

DATABASE ELEMENTS: WATER COLUMN DATA



DATABASE ELEMENTS: FLOW DATA



WATER COLUMN DATA: PHASE 2

■ 1994 Suspended Solids Monitoring

- ◆ High flow conditions (April)
- ◆ Conventional parameters only (e.g., TSS, WLOI, DOC)
- ◆ 18 stations in the upper Hudson

■ 1993 Suspended Solids Monitoring

- ◆ April to October
- ◆ Waterford to Fort Miller only
- ◆ TSS only

WATER COLUMN DATA: PHASE 2 (cont)

■ 1993 Transect samples

- ◆ Six transects consisting of 12 to 16 stations along the upper and lower Hudson
- ◆ Dissolved and particulate phases
- ◆ Approximately 100 samples collected January to September
- ◆ Congener-specific PCB analyses
- ◆ Conventional parameter (e.g., TSS, WLOI)

WATER COLUMN DATA: PHASE 2 (cont)

- 1993 Flow-Averaged samples
 - ◆ Six 15-day flow-based composites from 4 main stem stations along the upper Hudson
 - ◆ Collected April to September
 - ◆ Approximately 25 samples
 - ◆ Congener-specific PCB analyses
 - ◆ Conventional parameters (e.g., TSS, WLOI)

WATER COLUMN DATA: GE

- Temporal Water Column Monitoring Program
- Over 1,500 samples from 1991 to 1995
- From Troy to Hudson Falls
- Total PCBs, homologue distributions, and capillary column peak concentrations
- Conventional parameters (e.g., TSS)

WATER COLUMN DATA: USGS

- Water quality data from WATSTORE
- Total PCB and Aroclor mixtures
- 1975 to 1994
- From Green Island to Corinth

FLOW DATA: USGS

- Daily river discharge (flow) rates
- 1970 (some earlier) to 1994
- Upper Hudson and Mohawk stations

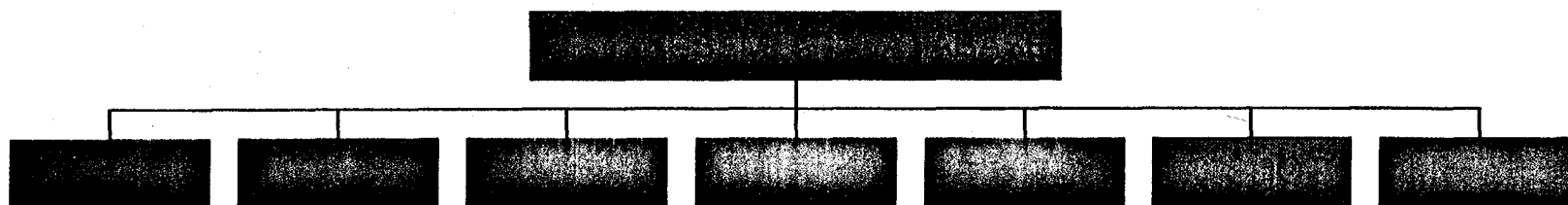
FLOW DATA: NYSDOT

- Staff gauge readings along the Champlain Canal in the upper Hudson 1976 - 1992

FLOW DATA: PHASE 2

- Calculated flow at Waterford and Stillwater
(USGS data not available because of
construction)
- January through September 1993

DATABASE ELEMENTS: BIOTA DATA



BIOTA DATA: HISTORIC

- More than 11,000 fish samples
 - ◆ 1973 to 1994
 - ◆ Individual fish and composited fish samples
 - ◆ Aroclor mixtures with Total PCBs being derived as the sum of Aroclors
- Macroinvertebrate data

BIOTA DATA: GE

- 75 archived NYSDEC fish samples and 18 biota samples (mostly fish) from GE 1992 Food Chain Program
- Total PCBs and Aroclor mixtures

BIOTA DATA: NOAA

- 115 fish samples collected at selected stations in upper and lower Hudson
- Collected in 1993 from 10 of 20 ECO sampling locations
- Congener-specific PCB analysis
- Percent lipids

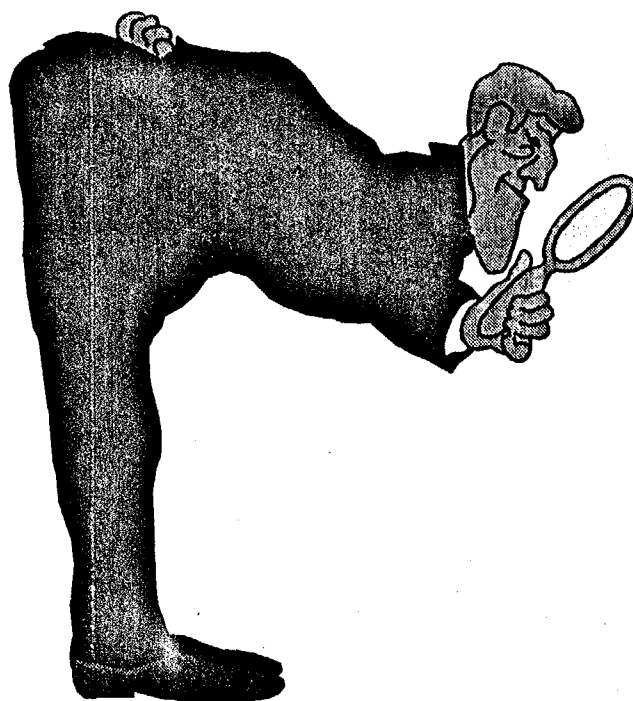
BIOTA DATA: PHASE 2

- 120 fish samples collected at selected stations in upper and lower Hudson
 - ◆ Collected in 1993 from 20 sampling locations
 - ◆ Congener-specific PCB analysis
 - ◆ Percent lipids

BIOTA DATA: PHASE 2 (cont)

- 87 Benthic and epibenthic samples from selected stations in upper and lower Hudson
 - ◆ Collected in 1993 from 20 sampling locations
 - ◆ Congener-specific PCB analysis
 - ◆ Percent lipids

EXAMPLE DATABASE QUERIES



EXAMPLE DATABASE QUERIES: SEDIMENT

What is the distribution of PCB homologue sums
with depth for a sediment core near the
Thompson Island Dam?



EXAMPLE DATABASE QUERIES: SEDIMENT (cont)

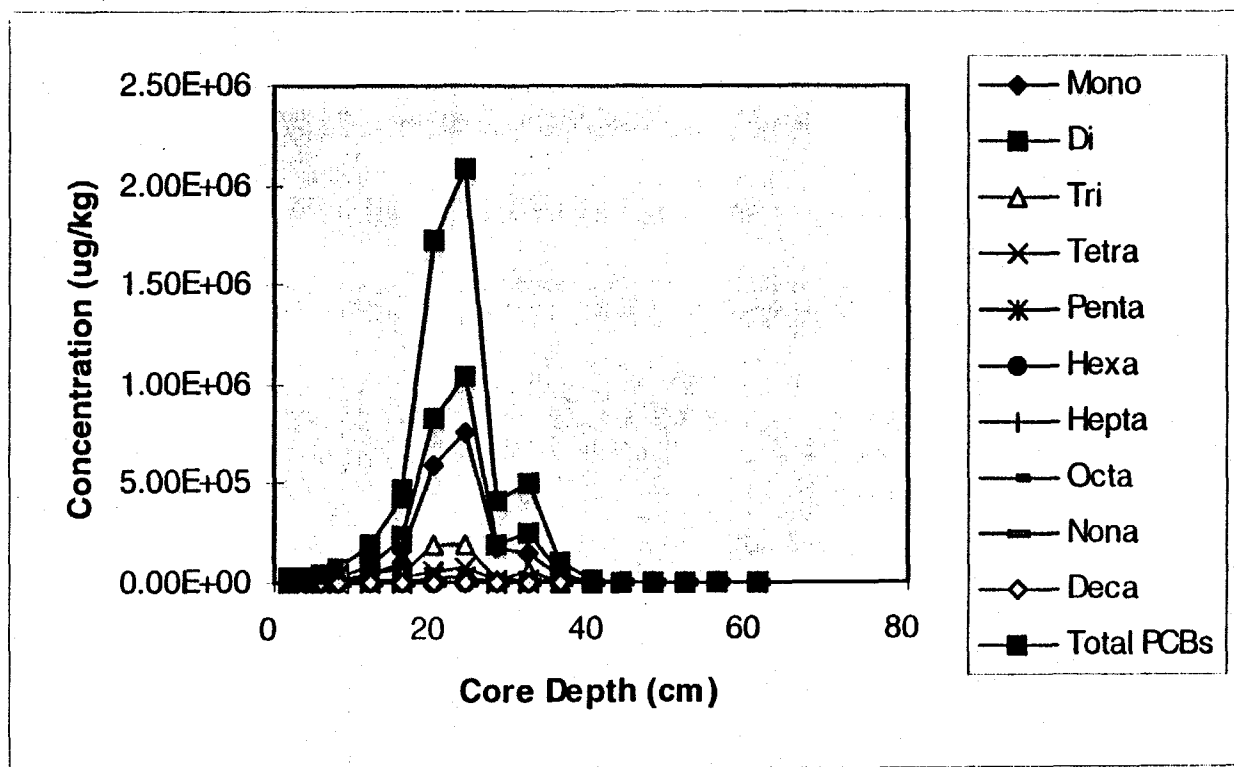
STATIONS Table

Station	TAMS ID	TAMS Type	Lower Depth (cm)	Upper Depth (cm)
HR-019	HR-019-0002	P	0	2
HR-019	HR-019-0204	P	2	4
HR-019	HR-019-0406	P	4	6

PCBS Table

TAMS ID	TAMS Type	Parameter	Units	Value2
HR-019-0002	P	Deca	ug/Kg DW	0
HR-019-0002	P	Di	ug/Kg DW	6653
HR-019-0002	P	Hepta	ug/Kg DW	122
HR-019-0204	P	Penta	ug/Kg DW	1857
HR-019-0204	P	Tetra	ug/Kg DW	5067
HR-019-0204	P	Total PCBs	ug/Kg DW	32208

EXAMPLE DATABASE QUERIES: SEDIMENT (cont)



EXAMPLE DATABASE QUERIES: WATER COLUMN DATA



How does the concentration
BZ#4 and BZ#10 change
moving down the river in
September of 1993?

EXAMPLE DATABASE QUERIES: WATER COLUMN DATA (cont)

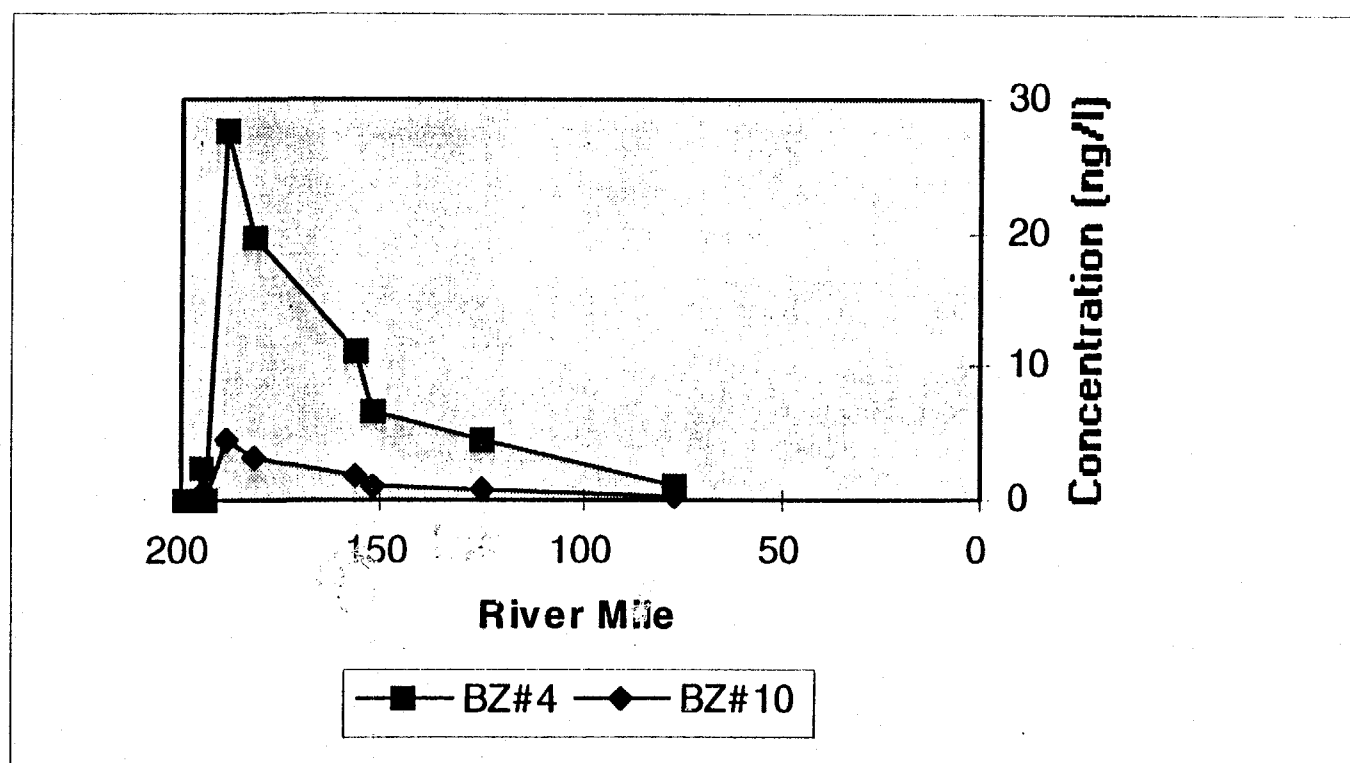
STATONS Table

Station	TAMS ID	TAMS Type	River Mile
0001	TW-006-0001		199.5
0002	TW-006-0002		197.6
0003	TW-006-0003	M	195.5
0004	TW-006-0004		194.6

PCBW Table

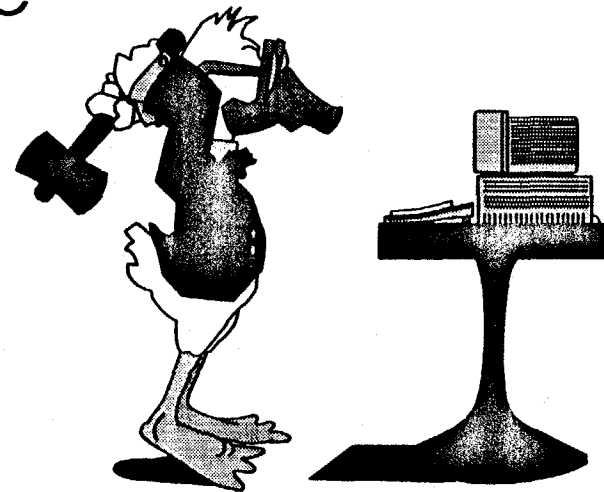
TAMS ID	TAMS Type	Parameter	Units	Value2	Qualifier
TW-006-0003	M	BZ#10	ng/L	0.0	U
TW-006-0003	M	BZ#4	ng/L	0.0	U
TW-006-0004		BZ#10	ng/L	0.4	J
TW-006-0004		BZ#4	ng/L	2.5	J
TW-006-0005		BZ#10	ng/L	4.4	J
TW-006-0005		BZ#4	ng/L	27.7	J
TW-006-0006		BZ#10	ng/L	3.1	
TW-006-0006		BZ#4	ng/L	19.5	
TW-006-0008		BZ#10	ng/L	1.8	J
TW-006-0008		BZ#4	ng/L	11.2	J

EXAMPLE DATABASE QUERIES: WATER COLUMN DATA (cont)



EXAMPLE DATABASE QUERIES: BIOTA DATA

How does the spectrum of congeners found in a Spot fish sample from station 2 compare with one from station 4?



EXAMPLE DATABASE QUERIES: BIOTA DATA (cont)

PCBFISH Table

TAMS ID	TAMS Type	Species	Parameter	Units	Value2	Qualifier
EC-F02-0001		SPOT	BZ#1	ug/Kg WW	96.5	
EC-F02-0001		SPOT	BZ#10	ug/Kg WW	32.6	J
EC-F02-0001		SPOT	BZ#100NT	ug/Kg WW	0	U
EC-F02-0002		SPOT	BZ#12	ug/Kg WW	0	U
EC-F02-0002		SPOT	BZ#123	ug/Kg WW	1.06	J
EC-F02-0003		SPOT	BZ#157	ug/Kg WW	3.64	J
EC-F02-0003		SPOT	BZ#158	ug/Kg WW	30.8	J
EC-F02-0003		SPOT	BZ#16	ug/Kg WW	8.06	J
EC-F04-0001		SPOT	BZ#123	ug/Kg WW	7.25	J
EC-F04-0001		SPOT	BZ#126	ug/Kg WW	0	U
EC-F04-0001		SPOT	BZ#128	ug/Kg WW	86.5	
EC-F04-0002		SPOT	BZ#156	ug/Kg WW	28.1	J
EC-F04-0002		SPOT	BZ#157	ug/Kg WW	0	U
EC-F04-0002		SPOT	BZ#158	ug/Kg WW	27.3	J
EC-F04-0003		SPOT	BZ#176	ug/Kg WW	0	U
EC-F04-0003		SPOT	BZ#177	ug/Kg WW	12.1	
EC-F04-0003		SPOT	BZ#178	ug/Kg WW	0	U
EC-F04-0003		SPOT	BZ#179	ug/Kg WW	4.68	J
EC-F04-0003		SPOT	BZ#18	ug/Kg WW	44.9	

EXAMPLE DATABASE QUERIES: BIOTA DATA (cont)

