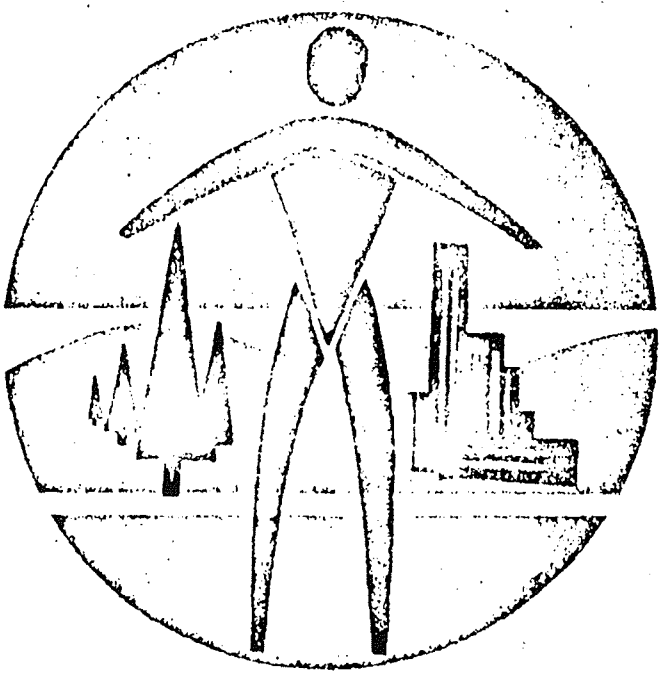
MONITORING OF PCB'S IN FISH TAKEN FROM THE HUDSON RIVER



October 1975

DSW 028875

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

MONITORING OF PCB'S IN FISH TAKEN FROM THE HUDSON RIVER

by

Bureau of Environmental Protection
Division of Fish and Wildlife

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I. Background and Purpose

The Division of Fish and Wildlife initiated analyses of fish flesh for DDT in the early 1960's. This work was conducted in response to data suggesting that the chlorinated hydrocarbons may adversely affect fish and wildlife resources by interferring with reproduction. Results of this investigation led to state restrictions on use of DDT in 1972. During this time period, definitive research indicated that DDT analyses could be contaminated with a similar compound, polychlorinated biphenyl. In order to preclude any error in future work, both DDT and PCB's were extracted and analyzed thereby giving separate values. Therefore, from 1970 to August 1975 PCB's were evaluated in all fish flesh analyses as a peripheral activity to DDT sampling.

The recent disclosure of high PCB levels in fish detected by EPA's field sampling surveys has precipitated a shift in the Department's monitoring scheme leading to the present statewide activities. Prior to any long term definitive monitoring programs, several meetings were held both intra-Department (Fish and Wildlife, Pure Waters, Solid Waste) and inter-agency (New York State Department of Environmental Conservation, New York State Department of Health, New York State Department of Agriculture and Markets, Environmental Protection Agency, Food and Drug Administration, New Jersey Department of Health and Vermont Department of Health) to define the proper objectives and activities, define techniques for sampling and

analysis and share existing data. A subsequent (9/11/75) meeting with external agencies further discussed the implementation of the findings to date.

The statewide sampling program, as developed in the meeting of August 1975, included stations in most large waterways where PCB contamination could occur and, if possible, where earlier samples had been taken. In addition, several Adirondack streams were included so as to ascertain general ambient conditions. Appendix A indicates the waterways and stations sampled. A review of this material will show a higher incidence of stations in the Hudson River as compared to other waterways. This is due to the inordinately high concentrations of the contaminant in fish from this location and therefore a need to sample intensively.

The objectives for this program were to:

(1) determine the level and extent of PCB contamination in the fish inhabiting or migrating through a waterway

(2) isolate, by means of sampling, portions of waterways so as to subjectively identify polluted reaches.

The data generated was tabulated and submitted to both the Division of Pure Waters and the Deputy Commissioner for Programs and Development. In this manner, the analytical data would be available for inter-program use. Appendix B contains this information as well as historical data.

II. Sample Collection (Hudson River)

A. Procedures

A statewide schedule for sampling was developed on August 19, 1975 which included the Hudson River. The regional staff were instructed as to the specific species and sizes of the fish, general location of the stations and deadline for collections (Appendix C). In addition, specific instructions were supplied relative to preserving and handling all species collected. All materials were subsequently transported to Albany or Rome for Storage. From those locations specific samples were delivered to the laboratories conducting analyses.

Analytical techniques used by each laboratory were reviewed in a meeting held on 8/19/75. At this time, chemists representing New York State Department of Environmental Conservation, New York State Department of Health, New York State Department of Agriculture and Markets, Environmental Protection Agency and Food and Drug Administration had the opportunity to comment on methods and suggest alterations where needed. The information desired from this gathering was utilized in developing the present analysis techniques and reporting system. Specific methods are appended (Appendix D).

B. Sample Identification and Routing

As collections were completed, at specific stations, regional staff contacted the Bureau of Environmental Protection (BEP) of the Division of Fish and Wildlife to indicate species, numbers and projected arrival time at a designated storage site. Individual fish were jaw tagged

and placed in plastic bags (polyethylene) for shipment. A collection sheet and transfer document (continuity of evidence*) was included with the sample and a copy forwarded directly from the region to the Bureau office.

All fish collected for PCB analysis, except in certain instances, were tagged by monel jaw tags upon capture. Each tag contains an individual number which became unique to the fish upon which it was placed. The Bureau of Environmental Protection coordinated compositing of fish samples and distribution of the fish samples to the participating laboratories.

For fish being distributed to Department of Health or Department of Agriculture and Markets Laboratories, a sample identification, called the "Albany Ident.", was assigned for sample tracking purposes. The coding is as follows for all but one stations:

1 - The first one or two numerals represent the sample station number as given in Appendix A.

2 - The alphabetic designation indicates class of fish, i.e.

P = predator species
F = forage species
R = recreational species
C = commercial species

3 - The last numeral indicates the size grouping of the sample as follows:

1 = small
2 = medium
3 = large
J or 4 = jumbo

* Continuity of evidence forms provided for second round of sampling only.

The individual laboratory doing the analysis was permitted to assign its own laboratory identification ("Lab. Ident.") which accompanied their report of PCB analyses results.

C. Surveys Conducted

1. DDT program samples of various species were collected from the Hudson River for DDT analysis (PCB's also run) 7/70, 9/72, 4/73, and 5/75. These fish were taken at several locations during each collection period and forwarded to the Rome Laboratory for analysis. This data is presented in Appendix B-2.

2. PCB Program (8/75) - The program development on 8/75 located 12 sampling stations in the Hudson River (above Corinth, above Glens Falls, Fort Edward-below General Electric facilities, 5 miles below Fort Edward, Stillwater, Hoosick, Waterford, Coxsackie, Roeliff-Jansen Kill, Mainstem at Wappingers Creek, Mainstem at Esopus Creek, Mainstem at Rondout Creek). Samples collected were processed according to the instructions forwarded (Appendix C) and delivered to a storage facility.

3. PCB Re-survey of Upper Hudson - In order to reaffirm the data collected and arrive at a more supportable conclusion, several stations were re-sampled during September and October 1975. These included:

A. Fort Edward below General Electric facilities

B. Five miles below Fort Edward

Furthermore, two additional stations were selected and sampled in the Upper Hudson:

A. Champlain Canal (Lock 8)

B. Stillwater

This data is summarized in Appendix B-1.

4. Miscellaneous Samples - In those cases where specific species collected earlier indicated unique trends, an attempt was made to re-collect specific species so as to broaden the sample base. This was the case for striped bass and shad in the lower Hudson. In both instances, fish were collected by either Department of Environmental Conservation staff or the public and submitted for analysis.

All materials collected were identified and transported to a storage station therein awaiting analysis by one of the three participating laboratories.

Reports on the techniques, location and other specifics relating to each regions activities on fish sampling are included (Appendix E). These discussions reflect the implementation of the sampling instructions prepared by the Bureau of Environmental Protection. The reports reflect collections of fish for the period thru October 15, 1975.

D. PCB Data Quality Assurance

New York State Department of Environmental Conservation and New York State Department of Health, in cooperation with United States Environmental Protection Agency Region 2, established a data quality assurance program for PCB analyses in water, sediment and fish flesh to determine the comparability of methodologies and techniques used for sampling

and analyses by various state and federal laboratories. The Division of Pure Waters, Bureau of Monitoring and Surveillance, was assigned primary responsibility for this effort. Mr. James Daly, New York State Department of Health Environmental Health Center, Quality Control Officer and Mr. Gerard McKenna, United States Environmental Protection Agency Quality Assurance Coordinator were principal operatives in this effort for their respective agencies. (Appendix F, Tables 1-4)

III. Results Obtained from Monitoring Surveys

All information regarding the fish flesh sampling stations addressed by this Division's monitoring surveys described herein, is summarized in Appendix B of this report. Laboratory analytical procedures and quality assurance efforts are described in the report and testimony of Mr. James Daly, Quality Control Officer, New York State Department of Health, Environmental Health Labs. All analytical results reported herein were obtained from the following laboratories as noted:

A. N.Y.S.D.E.C. Rome Laboratory

B. N.Y.S.D.H. Griffin Laboratory

C. N.Y.S.D.A.M. Food Laboratory (Albany)

Several lower Hudson fish flesh samples are still in the process of analyses and will be incorporated into this report when available.

Reference material in the form of maps, graphs and tabulations are also provided in the Appendix A as an aid in understanding the geographic and physical setting of the Upper Hudson River system.

The following paragraphs reflect a summary of the data collected and submitted in Appendix B-1. Discussion is generally oriented by station commencing with Corinth and progressing south.

Station 1 Corinth - PCB's were found at trace levels in all species analyzed. (Appendix B-1, Table 1)

Station 2 Above Glens Falls - PCB's were found at trace levels in all species analyzed. (Appendix B-1, Table 2)

Station 3 At Fort Edward in the area of Rogers Island - PCB levels in all species analyzed were very high, in all instances exceeding 5ppm. Species included walleye, yellow perch, rock bass, white sucker and alewife. (Appendix B-1, Tables 306)

Station 4 Five miles below Fort Edward - PCB levels in all species analyzed were very high, in all instances exceeding 5 ppm. Species of fish analyzed include smallmouth bass, walleye, yellow perch, white sucker and brown bullhead. (Appendix B-1, Tables 7-9)

Station 4A Stillwater, above Locks - Station was added in second round of fish sampling. PCB levels in all fish analyzed were very high. In all instances, analyses of tissues indicated that levels exceeded 5 ppm. A single individual (eel, #4J2975) had a total PCB level of 559.25. Species of fish analyzed include largemouth bass, American

eel, brown bullhead and white sucker. (Appendix B-1, Table 10)

Station 5 Waterford, below Lock 1 - This station reflects some influence of the Mohawk River as well as the Hudson River. Therefore, the data from this station must be interpreted with the realization that an additional external parameter has been included. (Appendix B 1, Table 11). PCB levels in all fish analyzed were high, in all instances exceeding 5 ppm. Species of fish analyzed include smallmouth bass, walleye and white sucker.

Station 5A Mouth of Roeliff-Jansen Kill - Station was added in second round of fish sampling. Primary emphasis was placed on collection of striped bass. Analysis is in process, however, first results indicate high levels of PCB's (Appendix B-1, Tables 22 and 23.

Station 6 Catskill, mouth of Tributary 193 - Original station was indicated at Coxsackie, however, station was relocated. Only analysis for Aroclor 1242/1016 was conducted. In almost all cases, Aroclor 1242/1016 levels were high, the exception being a composite of two yellow perch which yielded a total of 4.18 ppm. of PCB's (Appendix B-1, Table 12)

Station 7 This station includes collections from seven (Mainstem at Rondout Creek, Wappingers Creek, Esopus Creek, Kingston-Rhinecliff Bridge, Tappan

Zee Bridge, West Point and George Washington Bridge) locations taken over a period of time. Analysis was conducted on a variety of recreational, commercial and forage fish species. In most instances, total PCB concentrations exceed Food and Drug actionable levels but concentrations vary depending on species and location. (Appendix B-1, Tables 13 thru 17 and 23 thru 25.

Station 8 Rondout Creek at Bloomington - This station is above the tidal effects of the Hudson River. Aroclor 1254 was found at low concentrations; in addition Aroclor 1242/1016 was absent. A slight decrease from 1970 PCB levels is noted for largemouth bass. (Appendix B-1, Table 21 and Appendix B-2, Table 2)

Station 9 Mohawk River, below Schenectady - Some PCB contamination is present in all species tested. However, the levels were generally well below Food and Drug actionable levels. Species sampled include smallmouth bass, largemouth bass, blueback herring, white sucker, and black crappie. (Appendix B-1, Table 19)

Station 10 Mohawk River, above dam at Little Falls - A source of PCB contamination is indicated above this station. Most fish at this station had PCB levels that exceeded the Food and Drug actionable level. (Appendix B-1, Table 20)

Station 32 Walloomsac and Hoosic Rivers. These rivers were sampled since an electronics plant operates in the watershed within Vermont. Fish analyzed indicate levels of PCB's approaching or somewhat exceeding Food and Drug actionable levels in all cases. (Appendix B-1, Table 18)

Station 32A Champlain Canal (Lock 8) - Fish were sampled in the lock with the use of rotenone. Analysis indicate that levels of PCB's are generally below 5 ppm except for a single rock bass (6R7314) at 12.18 ppm. It is possible that this fish is a migrant from the Hudson River. (Appendix B-1, Table 26)

Station 34B Champlain Feeder Canal. Wildlife samples were taken to address any movement of PCB's from fish to wildlife. The species submitted include muskrat, a vegetarian and raccoon, an omnivore. Tissues of these animals reflect trace levels, however, the sample is obviously poor. Additional analyses are being conducted. (Appendix B-1, Table 27)

IV. Conclusion

1. The data derived from the fish flesh analyses clearly indicates that specific waterways or portions of waterways contain levels of PCB's above the level recommended as "actionable" by the Federal Food and Drug Administration. One such waterway is the Hudson River at and below the Fort Edward Station. An examination of the existing data (Appendix B) will show that total PCB levels substantially exceed the Food and Drug Administration's recommended standard and levels found in similar species sampled from other watersheds.

2. A comparison of the data derived from fish analyses of species taken from the Hudson River at various stations indicates a notable difference in PCB concentration. The two uppermost stations on the River (Corinth and Glens Falls) indicate only trace concentrations of PCB's as aroclor 1242/1016 and trace aroclor 1254. However, lower stations (Fort Edward, five miles below Fort Edward and Stillwater) indicate very high levels of the contaminant in all species sampled. This difference between two stations, above Glens Falls and below Fort Edward, indicates that PCB's are entering the aquatic environment between the stations and that fish, a "sink" for PCB's, are accumulating high levels of the contaminant.

APPENDIX A

Map of Stations

APPENDIX

Sampling Station Locations From Which Fish Were Analyzed

Station No.	Watershed	Waterway	Location	Region
1	Upper Hudson River	Hudson River	Above Corinth	5S
2			Above Glens Falls	5S
3			At Fort Edward-in Rogers Island area	5S
4			5 miles below Fort Edward	5S
4A			Stillwater	5S
5			Waterford-below Lock 1	5S
5A	Lower Hudson River		Vicinity of Rocliff-Jansen hill	4
6			Coxsackie-Catskill, mouth of Tributary 193	4
7			Lower Hudson a) Mouth of Rondout Creek b) Mouth of Wappingers Falls c) Mouth of Esopus Creek d) Kingston-Rhinecliff Bridge e) Tappan Zee Bridge f) West Point g) George Washington Bridge area h) Highland-Poughkeepsie area	3
8		Rondout Creek	Bloomington	3
9	Mohawk River	Mohawk River	Below Schenectady	4
10			Little Falls	6
32	Upper Hudson River	Walloomsac River & Hoosic River	Hoosick Above Johnsonville	4 4
34A	Upper Hudson River	Champlain Canal	Lock 8	5S
34B		Champlain Feeder Canal	Above Hudson Falls Landfill	5S

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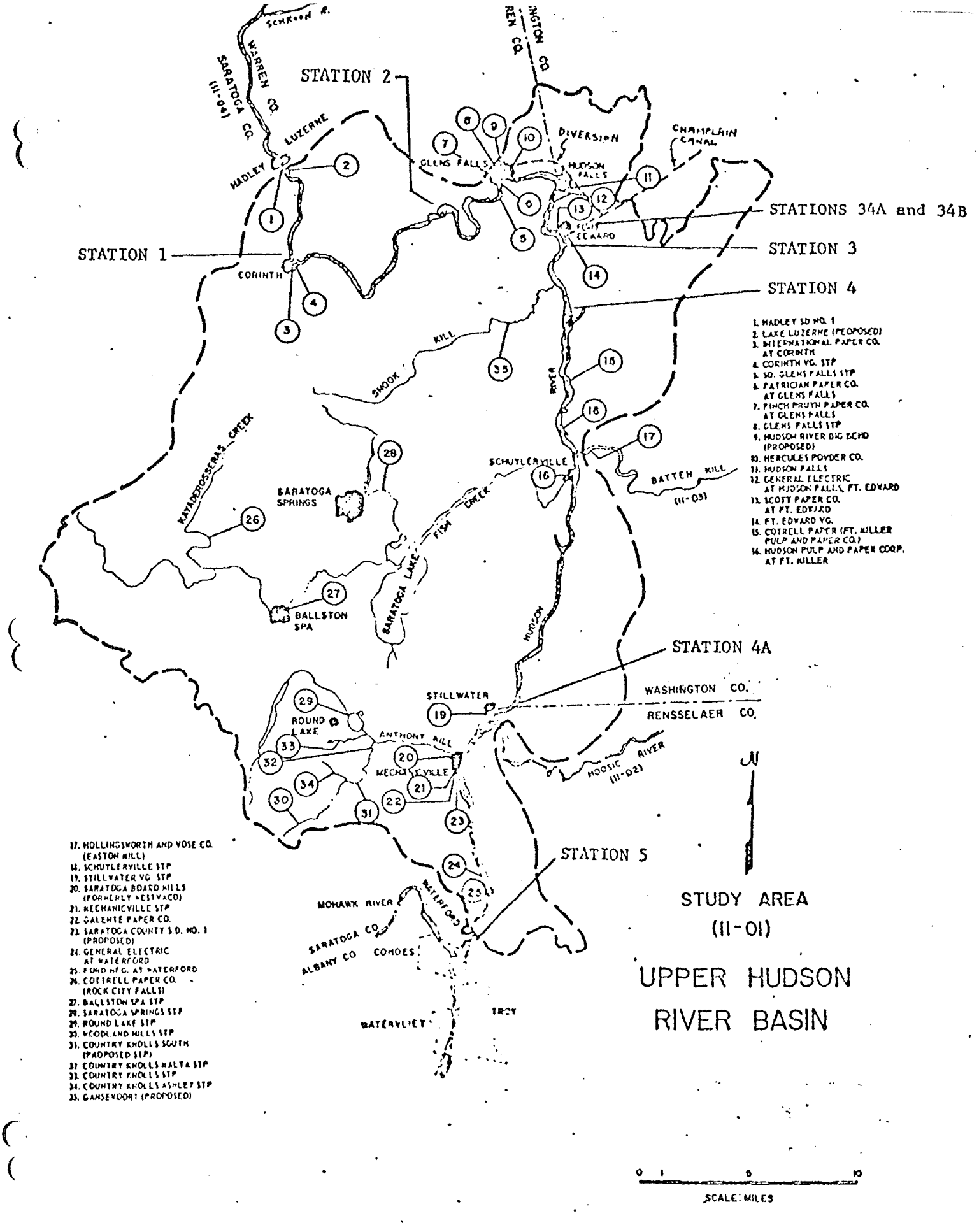

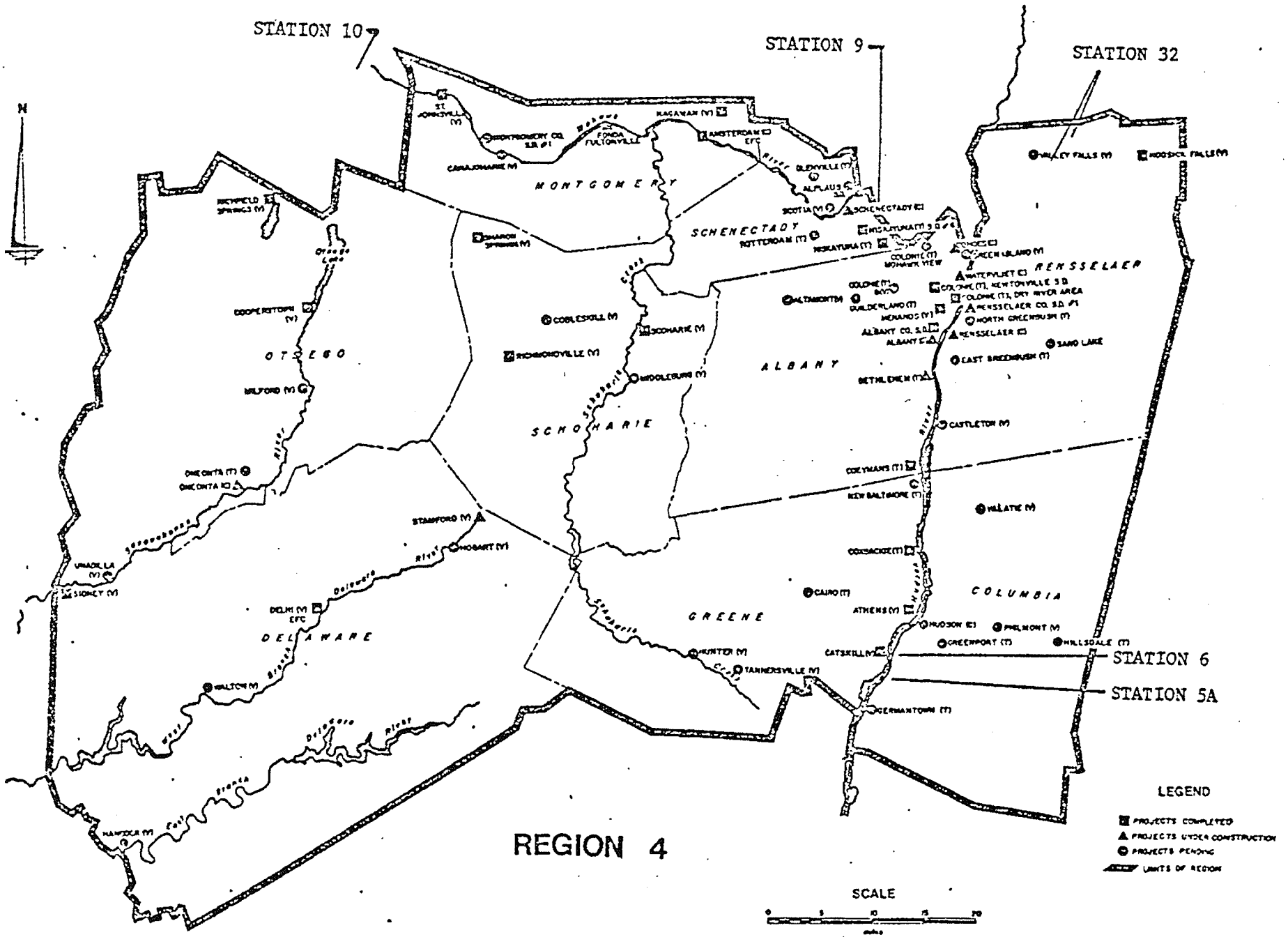

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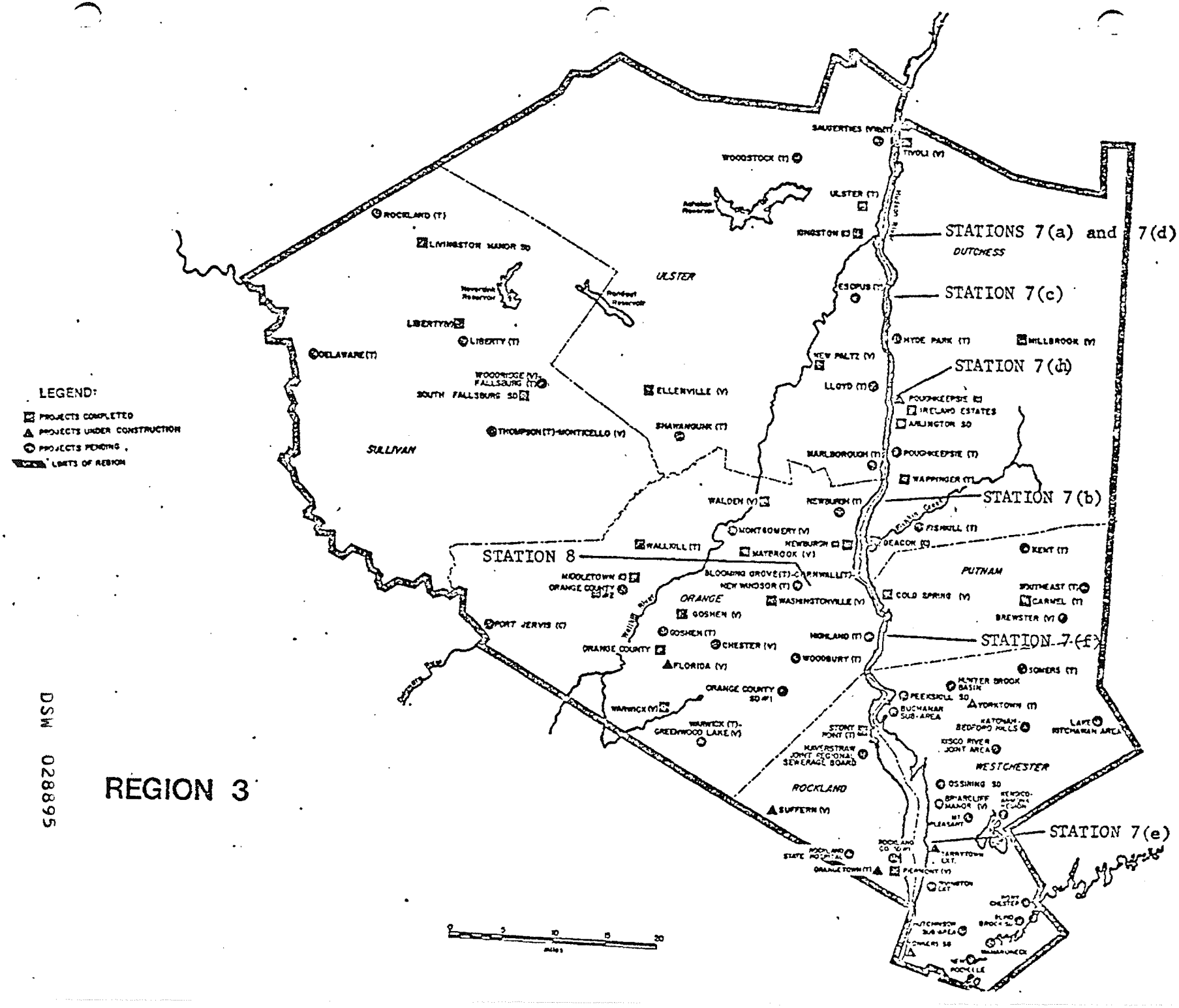
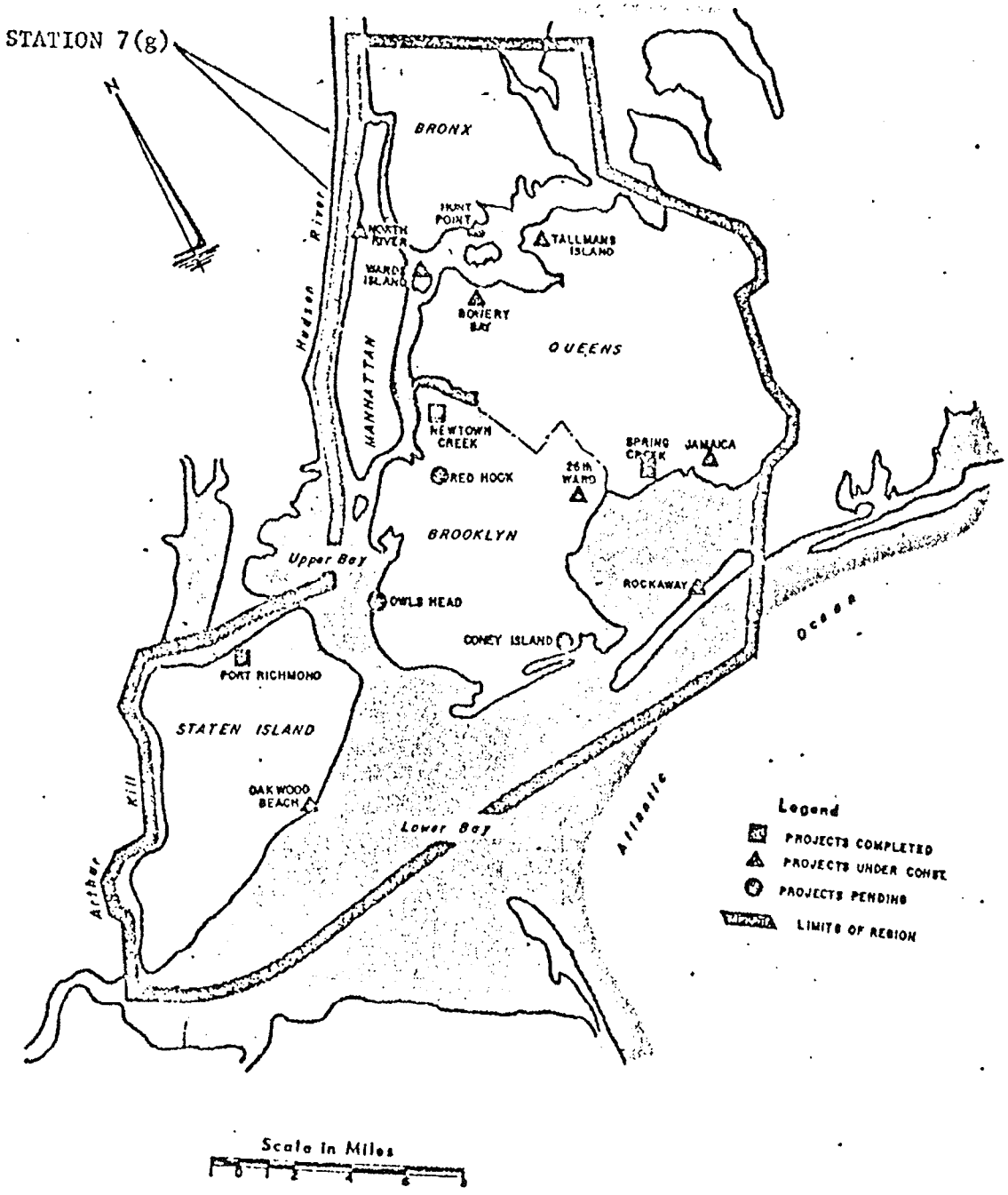


REGION 2

NEW YORK CITY



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APPENDIX B

Results of Polychlorinated Biphenyl Analysis

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Appendix B Results of Polychlorinated biphenyl analysis of fish flesh in the Hudson River and its tributaries

The results attached incorporated all the data currently available relating to species, collection dates, identification, lengths, weights, PCB concentrations, DDT concentrations, oil content and any other remarks. All values for lengths and weights have been converted to decimal form by the Albany office of the Bureau of Environmental Protection.

The lengths and weights reported for fish analyzed by the Departments of Health and Agriculture and Markets are those reported by the regional personnel collecting the fish and converted to decimal form.

The lengths and weights reported for fish analyzed by the Rome Pollution Laboratory are those reported by the laboratory. The laboratory measurements do not necessarily correspond with the measurements of length and weight obtained by regional personnel collecting the fish. This is generally caused by shrinkage due to freezing. These measurements were reported so that some consistency of reporting could be maintained.

APPENDIX B-1

1975 PCB ANALYSIS RESULTS

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Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 1

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DCB	% Oil	Remarks
Smallmouth bass (Micropterus dolmieui	8/20/75 8/21/75	9/2/75	Above Corinth	5s Hud-Comp 5			9.1 9.2	0.35 0.37	0	Trace	Trace			Composite of 2
				5s Hud Comp 4			11.0 11.4	0.64 0.70	0	Trace	Trace			Composite of 2
				5s Hud Comp 1			11.0 11.0 10.6	0.62 0.66 0.64	0	Trace	Trace			Composite of 3
				5s Hud Comp 3			6.7 7.1 7.3	0.12 0.17 0.17	0	Trace	Trace			Composite of 3
				5s Hud Comp 6			7.5 7.7	0.20 0.22	0	Trace	Trace			Composite of 2
				5s Hud Comp 2			10.0 10.0 10.0 10.6	0.44 0.45 0.48 0.55	0	Trace	Trace			Composite of 4
White sucker (Catostomus commersoni)	8/20/75 8/21/75	9/2/75	Above Corinth	5s Hud 17 5s Hud 18			14.6 18.5	1.47 3.02	0 0	Trace Trace	Trace Trace			
Yellow perch (Perca flavescens)	8/20/75 8/21/75	9/2/75	Above Corinth	5s Hud Comp 7			6.7 6.9 7.1 7.1 7.1	0.16 0.14 0.14 0.15 0.16	0	Trace	Trace			Composite of 5

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Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 2

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DCB	% Oil	Remarks
Smallmouth bass (Micropterus dolomieui)	7/24-25/75	8/11/75	Above Glens Falls	3-Hud-75-up			11.0	0.54	0	Trace	Trace			
				4-Hud-75-up			10.6	0.46	0	Trace	Trace			
				5-Hud-75-up			9.4	0.35	0	Trace	Trace			
				6-Hud-75-up			9.4	0.31	0	Trace	Trace			
				8-Hud-75-up			9.0	0.30	0	Trace	Trace			Composite of 3
				9-Hud-75-up			8.7	0.21						
				7-Hud-75-up			8.3	0.26						
				10-Hud-75-up			7.5	0.16	0	Trace	Trace			Composite of 3
				11-Hud-75-up			6.7	0.13						
				12-Hud-75-up			6.3	0.10						
Walleye (Stizostedion vitreum	7/24-25/75	8/11/75	Above Glens Falls	2-Hud-75-up			15.4	1.03	0	Trace	Trace			
				1-Hud-75-up			15.0	1.05	0	Trace	Trace			
Yellow perch (Perca flavescens)	7/24-25/75	8/11/75	Above Glens Falls	16-Hud-75-up			11.8	0.73	0	Trace	Trace			
				15-Hud-75-up			11.4	0.67	0	Trace	Trace			
				13-Hud-75-up			11.0	0.57	0	Trace	Trace			
				17-Hud-75-up			10.6	0.60	0	Trace	Trace			
				14-Hud-75-up			10.6	0.55	0	Trace	Trace			
				26-Hud-75-up			10.2	0.61	0	Trace	Trace			
				19-Hud-75-up			9.8	0.55	0	Trace	Trace			
				21-Hud-75-up			9.8	0.45	0	Trace	Trace			
				22-Hud-75-up			9.0	0.42	0	Trace	Trace			
				18-Hud-75-up			7.9	0.63	0	Trace	Trace			
White sucker (Catostomus commersoni)	7/24-25/75	8/13/75	Above Glens Falls	41-Hud-75-up					0	Trace	Trace			
		9/2/75	Above Glens Falls	42-Hud-75-up					0	Trace	Trace			

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Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 3

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
Rock bass (Ambloplites rupestris)	7/24-25/75	8/13/75	Fort Edward below G.E.	56 Hud-75-DN 57 Hud-75-DN					27.35	*				Composite of 2
Alewife (Alosa pseudoharengus)	7/24-25/75	8/13/75	Fort Edward below G.E.	55 Hud-75-DN					20.35	*				

* Standard sample not run for this PCB therefore quantification not possible and total PCB's can not be calculated.

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Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 4

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DCB	% Oil	Remarks
Walleye (Stizostedion vitreum)	9/18/75	10/1/75	At Fort Edward below G.E.	4-Hud-RI-Comp		6R8286	6.4	0.12	104.21	28.29	132.50	2.81	4.25	Composite of 6 whole fish
						6R8285	6.6	0.12						
						6R8288	6.7	0.12						
						6R8289	6.8	0.12						
						6R8283	6.9	0.16						
						6R8284	7.2	0.16						
				3-Hud-RI-Comp		6R8280	7.1	0.16	81.12	41.80	122.92	7.05	5.52	Composite of 8 whole fish
						6R8275	7.2	0.16						
						6R8282	7.5	0.19						
						6R8278	7.6	0.19						
						6R8276	7.8	0.19						
						6R8279	7.8	0.19						
						6R8277	8.0	0.22						
						6R8281	8.3	0.22						
				3-Hud-RI-Comp		6R8291	10.7	0.47	9.88	8.31	18.19	0.96	1.80	Composite of 4 fish fillets
						6R8293	11.3	0.53						
						6R8292	11.3	0.56						
						6R8290	11.7	0.66						
Yellow perch (Perca flavescens)	9/18/75	10/1/75	At Fort Edward below G.E.	6-Hud-RI-Comp		6R675	6.8	0.16	61.10	18.24	79.34	2.20	1.57	Composite of 10
						6R8298	6.8	0.19						
						6R8299	6.8	0.19						
						6R682	6.9	0.22						
						6R678	7.1	0.22						
						6R8295	7.2	0.19						
						6R8297	7.4	0.22						
						6R688	7.4	0.22						
						6R8296	7.7	0.22						
						6R8294	7.8	0.25						

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Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 5

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
Yellow Perch (Perca flavescens)	9/18/75	10/1/75	At Fort Edward	8-Hud-RI-Comp			4.7 4.8 4.8 4.8 4.9 5.0 5.1 5.4 5.5 5.8		236.42	62.88	299.30	7.67	5.70	Composite of 10 whole fish; not tagged
				7-Hud-RI-Comp			3.0 3.1 3.2 3.5 3.5 3.5 3.6 3.7 3.7 3.8 3.8 3.8 3.8 3.9 4.2 4.3 4.3 4.4 4.4 4.7		128.33	24.27	152.60	3.84	3.98	Composite of 20 whole fish; not tagged

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Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 6

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
White sucker (Catostomus commersoni)	9/18/75	9/30/75	At Fort Edward	1 Hud-RI-Comp		6R8265	11.6		82.88	48.57	131.45	5.64		Composite of 4
						6R8267	13.1							
						6R8266	13.2							
						6R8268	14.2							
				2 Hud-RI-Comp		6R8274	7.8		8.83	2.72	11.55	0.41		Composite of 5
						6R8269	8.1							
						6R8272	8.1							
						6R8271	8.5							
						6R8273	8.6							

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Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 7

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242/1016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
Smallmouth bass (Micropterus dolomieui	7/28-29/75	8/11/75	5 mi. below Fort Edward	23-Hud-75-DN			11.0	0.74	100.27	22.64	122.91			
Walleye (Stizostedion vitreum)	7/28-29/75	8/11/75	5 mi. below Fort Edward	24-Hud-75-DN			13.4	0.87	157.27	20.74	178.01			
White sucker (Catostomus commersoni)	7/28-29/75	8/13/75	5 mi. below Fort Edward	51-Hud-75-DN					51.39	*				
				48-Hud-75-DN					47.57	*				
				50-Hud-75-DN					22.05	*				
				54-Hud-75-DN					20.80	*				
	7/28-29/75	9/2/75	5 mi. below Fort Edward	52-Hud-75-DN					29.74	8.86	38.60			
				49-Hud-75-DN					28.03	8.13	36.16			

DSW 028906

* Standard sample not run for this PCB therefore quantification not possible and total PCB's can not be calculated.

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 8

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242/1016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
Yellow perch (Perca flavescens)	9/17/75	9/26/75	5 miles below Fort Edward	1 Hud-R-Comp-9-18		6R7801	6.5	0.16	84.31	18.95	103.26	2.37	3.52	Composite of 6 whole fish
						6R7802	6.5	0.16						
						6R7804	6.5	0.16						
						6R7807	6.6	0.16						
						6R7800	6.7	0.16						
						6R7808	6.8	0.19						
				2-Hud R Comp 9-18		6R7806	7.5	0.25	35.54	15.01	50.55	1.71	3.53	Composite of 3
						6R7805	7.6	0.25						
						6R7809	7.7	0.28						
				8 Hud-R Comp-9-18			3.2		88.18	34.21	122.39	3.90	4.52	Composite of 20 whole fish, not tagged
							3.2							
							3.3							
							3.3							
							3.4							
							3.4							
							3.4							
							3.4							
							3.5							
							3.5							
							3.5							
							3.7							
							3.7							
							3.7							
							3.8							
							3.8							
							3.9							
							4.0							
							4.2							
							4.2							
Walleye (Stizostedion vitreum)	9/16/75	9/29/75	5 miles below Fort Edward	6R699		6R699	9.9	0.41	5.19	5.70	10.89	0.35	1.14	
	9/17/75	9/29/75		6R697		6R697	11.5	0.62	7.13	5.56	12.69	0.41	1.49	

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 9

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
Brown bullhead (Ictalurus nebulosus)	9/16/75	9/26/75	5 miles below Ft. Edward	3 Hud R Comp 9-18		6R665	10.0	0.44	73.24	36.38	109.62	4.23		Composite of 3
						6R687	10.0	0.66						
						6R662	10.6	0.63						
				4 Hud R Comp 9-18		6R669	11.3	0.78	85.30	38.52	123.82	3.82		Composite of 2
						6R698	11.4	0.78						
White sucker (Catostomus commersoni)	9/16/75	9/29/75	5 miles below Ft. Edward	7 Hud R Comp 9-18		6R696	10.2	0.59	36.03	12.86	48.89	1.35	1.88	Composite of 4
						6R680	10.7	0.53						
						6R663	10.9	0.59						
						6R677	11.0	0.62						
				6 Hud R Comp 9-18		6R694	13.0	1.25	78.00	23.79	101.79	3.47	2.92	Composite of 2
						6R683	13.8	1.38						
				5 Hud R Comp 9-18		6R691	14.0	1.44	57.54	41.10	98.64	2.99	5.31	Composite of 2
						6R661	14.5	1.44						

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 10

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
Largemouth bass (Micropterus salmoides)	9/17/75	10/1/75	Stillwater	1 SWH-Comp		4J2977	12.4	1.41	24.85	15.97	40.82		7.32	Composite of 2
						4J2985	12.9	1.53						
				2 SWH-Comp		4J2972	5.7	0.13	14.31	9.84	24.15		4.09	Composite of 4 whole fish
						4J2979	5.9	0.16						
						4J2971	6.0	0.09						
						4J2965	6.2	0.16						
				3 SWH-Comp		4J2974	3.4	0.03	8.99	6.99	15.98		2.42	Composite of 4 whole fish
						4J2984	4.2	0.06						
						4J2958	5.2	0.09						
						4J2957	5.6	0.12						
	9/17/75	10/2/75	Stillwater	4J2970		4J2970	9.6	0.56	12.40	4.44	16.84	0.56	3.93	
				4J2956		4J2956	7.7	0.34	14.91	5.98	20.89	0.73		
American eel (Anguilla rostrata)	9/17/75	10/2/75	Stillwater	4J3000		4J3000	17.0	0.31	11.28	11.07	22.35		5.74	
				4J2975		4J2975	32.0	3.12	403.38	155.87	559.25	18.68	30.04	Very Oilly
Brown bullhead (Ictalurus nebulosus)	9/17/75	10/1/75	Stillwater	4J2961		4J2961	9.0	0.34	4.66	7.99	12.65		3.25	
White sucker (Catostomus commersoni)	9/17/75	10/2/75	Stillwater	5 SWH-Comp 1		4J2969	7.0	0.16	10.34	5.94	16.28	0.53	1.87	Composite of 4
						4J2954	7.2	0.19						
						4J2990	7.6	0.19						
						4J2983	7.8	0.25						
						4J2964	13.3	1.00	154.28	35.92	190.20	5.69	3.71	Composite of 2
	9/17/75	10/3/75	Stillwater	4 SWH-Comp		4J2980	15.0	1.63						

DSW 028909

Hudson River PCB Analysis Results
(Analysis by Department of Agriculture [illegible] Markets)

TABLE 11

Species	Date Collected	Date Analysis Reported	Location	Lab. Identification	Albany Identification	Fish No.	Length (Inches)	Weight (Grams)	PCB as Aroclor 1254/1016	PCB as Aroclor 1260	Total PCB's	PCB's % Lipid	Remarks
Smallmouth bass (Micropterus dolomieui)	8/26/75 8/27/75	9/5/75	Waterford	10691	5S (1)	6R1410	8.7		27.0	14.5	41.5		Composite of 6
						6R1437	9.9						
						6R1411	10.1						
						6R1433	10.1						
						6R1436	10.5						
						6R1421	10.7						
	8/26/75	9/5/75	Waterford	10692	5S (2)	6R1420	11.5		36.0	17.5	53.5		Composite of 4
						6R1419	12.9						
						6R1418	13.3						
						6R1417	14.0						
White sucker (Catostomus commersoni)	8/26/75 8/27/75	9/5/75	Waterford	10693	5S (3)	6R1430	8.8		20.3	7.9	28.2		Composite of 6
						6R1424	11.0						
						6R1429	11.7						
						6R1425	11.8						
						6R1426	12.1						
						6R1405	12.5						
	8/26/75 8/27/75	9/5/75	Waterford	10694	5S (4)	6R1432	15.5		36.0	12.9	48.9		Composite of 5
						6R1438	15.7						
						6R1409	16.5						
						6R1423	16.5						
						6R1431	16.5						
Walleye (Stizostedion vitreum)	8/26/75	9/5/75	Waterford	10695	5S (5)	6R1416	16.1		23.3	9.1	32.4		Composite of 2
						6R1415	18.5						

DSW 028910

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 12

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
Smallmouth bass (Micropterus dolomieui)	8/1/75	8/11/75	Catskill Trib. 193	26-Hud-4-75			11.4	1.01	13.76	*				
Chain pickerel (Esox niger)	8/1/75	8/11/75	Catskill Trib. 193	25-Hud-4-75			17.7	1.76	8.68	*				
Yellow perch (Perca flavescens)	8/1/75	8/11/75	Catskill Trib. 193	28-Hud-4-75			7.9	0.24	4.18	*				
				29-Hud-4-75			7.5	0.19						Composite of 2
White perch (Morone americana)	8/1/75	8/11/75	Catskill Trib. 193	27-Hud-4-75			10.2	0.61	8.47	*				
				38-Hud-4-75			11.0	0.34						
				39-Hud-4-75			8.3	0.32	30.67	*				Composite of 3
				40-Hud-4-75			7.9	0.32						
				37-Hud-4-75			8.7	0.38						
				36-Hud-4-75			8.3	0.33	23.74	*				Composite of 3
				35-Hud-4-75			7.5	0.28						
				33-Hud-4-75			7.1	0.20	14.20	*				Composite of 2
				34-Hud-4-75			6.7	0.19						
				32-Hud-4-75			6.3	0.14						
				30-Hud-4-75			5.9	0.13	12.23	*				Composite of 3
				31-Hud-4-75			5.5	0.11						

*Standard sample not run for this PCB therefore quantification not possible and total PCB's can not be calculated.

DSW 028911

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 13

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
Striped bass (Morone saxatilus)	8/7/75	9/2/75	Mouth of Rondout Creek	2D219		2D219	10.4	0.44	0	4.08	4.08	0.49		
				2D218		2D218	20.4	3.23	0	7.01	7.01	1.37		
Largemouth bass	8/7/75	9/2/75	Mouth of Rondout Creek	2D241		2D241	11.6	0.96	0	1.73	1.73	0.38		
				2D238		2D238	12.2	1.06	0	4.87	4.87	0.40		
				2D242		2D242	13.7	1.41	0	7.65	7.65	0.89		
						2D237	15.7	2.38	0	3.71	3.71	0.87		
						2D236	15.7	2.50	0	3.37	3.37	0.79		
						2D240	17.7	3.67	0	8.52	8.52	1.13		
White perch (Morone americana)	8/7/75	9/12/75	Mouth of Rondout Creek	Hud-R-Comp 1A		2D223	8.8	0.31	0	7.45	7.45	1.70	7.28	Composite of 4
						2D233	9.0	0.31						
						2D230	9.3	0.37						
						2D220	9.5	0.43						
				Hud-R-Comp 2A		2D226	7.4	0.23	0	8.12	8.12	1.60	8.22	Composite of 4
						2D228	7.4	0.19						
						2D231	7.5	0.22						
						2D234	7.8	0.24						
Yellow perch (Perca flavescens)	5/22/75	9/15/75	Mouth of Rondout Creek	Hud-R-Comp 4A		2C8498	8.6	0.242	0	5.28	5.28	1.08		Composite of 5
						2C8496	8.7	0.324						
						2D212	8.8	0.291						
						2D210	8.9	0.242						
						2D211	9.0	0.326						

DSW 028912

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 14

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DCB	% Oil	Remarks
argemouth bass (Micropterus salmoides)	8/6/75	8/22/75	Mouth of Wappingers Creek	2C8402		2C8402	12.5		19.73	4.01	23.74			
				2C8417		2C8417	14.1		10.73	3.35	14.08			
				2C8408		2C8408	19.0		17.99	5.19	23.18			
ite perch (Morone americana)	8/6/75	8/22/75	Mouth of Wappingers Creek			2C8449	6.0							
						2C8426	6.3							
						2C8423	6.4		15.74	4.14	19.88			Composite of 6
						2C8439	6.6							
						2C8409	7.0							
						2C8429	7.0							
erican eel (Anguilla rostrata)	8/6/75	8/22/75	Mouth of Wappingers Creek			2C8472	11.3							
						2C8487	11.4		13.36	3.00	16.36			Composite of 3
						2C8469	11.7							
						2C8470	14.3							
						2C8486	14.4		41.69	10.42	52.11			Composite of 3
						2C8484	15.2							
				2C8483		2C8483	17.0		123.61	53.64	177.25		>27.0	
				2C8451		2C8451	26.9		14.11	4.84	18.95			
iped bass (Morone saxatilus)	8/8/75	9/12/75	Mouth of Esopus Creek	2D24		2D24	14.2	0.94	0	6.62	6.62	0.86	4.95	
te perch (Morone americana)	8/8/75	9/12/75	Mouth of Esopus Creek	Hud R-Comp 3A		2D42	6.5	0.15						
						2D43	6.5	0.17	0	9.65	9.65	1.59		Composite of 4
						2D44	6.6	0.15						
						2D47	6.6	0.17						

DSW 028913

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 15

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
American shad (Alosa sapidissima)	5/22/73	9/18/75	Kingston-Rhinecliff Bridge	2C8363		2C8363	19.5	2.18	Trace	2.52	2.52	0.57		
				2C8369		2C8369	20.0	2.82	Trace	6.91	6.91	1.50		
				2C8370		2C8370	20.0	3.04	Trace	5.29	5.29	1.49		
				2C8353		2C8353	20.0	3.17	Trace	2.98	2.98	0.39		
				2C8366		2C8366	20.8	2.88	Trace	3.83	3.83	0.90		
				2C8364		2C8364	21.0	3.23	Trace	3.23	3.23	0.77		
				2C8356		2C8356	21.2	3.39	Trace	39.56	39.56	4.41		
				2C8354		2C8354	21.5	4.07	Trace	38.14	38.14	4.24		
				2C8365		2C8365	22.0	4.20	Trace	7.78	7.78	1.60		
				2C8355		2C8355	24.0	4.82	Trace	19.35	19.35	2.99		
	5/22/73	9/23/75	Kingston-Rhinecliff Bridge	2C8371		2C8371	20.0	3.30	22.91	Trace	22.91			
				2C8372		2C8372	21.5	3.37	58.13	9.22	67.35			
	5/22/73	9/12/75	Kingston-Rhinecliff Bridge	2C8367		2C8367	21.0	3.19	Trace	6.40	6.40	1.32		
	5/22/73	10/1/75	Kingston-Rhinecliff Bridge				21.0	3.10	23.40	9.68	33.08	3.52	0.65	Oil dark and thick

DSW 028914

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 16

ecies	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
riped bass	May 1975	7/24/75	Tappan Zee	206			22.8	5.98	*	37.80		4.39	13.96	
more			Bridge	259			24.4	7.08	*	6.75		1.52	7.12	
Natilus)				256			24.8	6.80	*	7.93		1.69	5.36	
				254			32.6	14.74	*	3.25		0.98	5.98	
				269			37.4	20.24	*	6.53		2.07	9.41	
				1 NT			37.8	21.12	*	3.86		1.39	9.61	

* Standard sample not run for this PCB therefore quantification not possible and total PCB's can not be calculated.

DSM 028915

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 17

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DCB	% Oil	Remarks
lueback herring (Alosa aestivalis)	4/27/75	9/24/75	1 mile below George Washington Bridge	Hud-R-HE Comp 1					0	5.13	5.13	0.85	13.11	Composite of 2 fillets obtained from anglers
erican shad (Alosa sapidossima)	4/27/75	9/24/75	1 mile above George Washington Bridge	Hud-SH Comp 1					0	1.88	1,88	0.30	19.83	Composite of 5 fillets obtained from anglers
			1 mile above Kingston-Rhinecliff Bridge	Hud-SH Comp 2					0	1.56	1.56	0.59	3.93	Composite of 3 fillets obtained from anglers
ueback herring (Alosa aestivalis)	4/27/75	10/2/75	1 mile below George Washington Bridge.						0.32	0.52	0.84	0.7	1.64	Roe

DSM 028916

STLCOPCB4012878

Walloomas/Hoosic River PCB Analysis Results
(Analysis by Department of Health)

TABLE 18

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242/1016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DCB	% Oil	Remarks
Largemouth bass (Micropterus salmoides)	9/2/75	9/11/75	Hoosic River above Johnsonville	32-P-2	32-P-2	7B1171	11.2	0.81	2.8	2.2	5.0			Composite of 2
						4K0753	13.3	1.56						
				32-P-3	32-P-3	7B1188	14.5	1.69						
						7B1181	16.2	1.81						
						7B1182	16.5	3.19	2.5	3.5	6.0			Composite of 3
Yellow perch (Perca flavescens)	9/2/75	9/11/75	Hoosic River above Johnsonville	32-R-1	32-R-1	4K4680	4.1	0.03						
						4K0759	5.7	0.10						
						4K4694	6.6	0.12	2.0	3.4	5.4			Composite of 4
						4K0785	7.8	0.19						
White sucker (Catostomus commersoni)	9/2/75	9/11/75	Hoosic River above Johnsonville	32-F-2	32-F-2	7B1167	12.3	1.00						
						7B1194	13.7	0.81	0.7	0.6	1.3			Composite of 3
						No Tag	14.3	0.81						
			Walloomsac River in Walloomsac	32-F-1	32-F-1	7B1197	10.6	0.39						
						7B1177	10.9	0.38	2.9	2.9	5.8			Composite of 3
						7B1198	13.1	0.70						
				32-F-3	32-F-3	7B1193	15.0	1.20	1.3	0.6	1.9			

DSM 028917

Mohawk River PCB Analysis Results
(Analysis by Department of Agriculture and Markets)

TABLE 19

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
Smallmouth bass (Micropterus dolomieui)	9/3/75	9/9/75	Below Schenectady	10933	9F-1	710628	5.2		0.7	1.5	2.2			Composite of 3
						710630	7.8							
						710198	8.6							
Blueback herring (Alosa aestivalis)	9/3/75	9/9/75	Below Schenectady	10937	9F-1	710642	4.8		2.1	1.6	3.7			Composite of 6
						710633	5.0							
						710634	5.1							
						710637	5.1							
						710639	5.1							
						710641	5.2							
White sucker (Catostomus commersoni)	9/3/75	9/9/75	Below Schenectady	10936	9F-2	710646	12.8		0.8	1.9	2.7			Composite of 5
						710643	13.1							
						710644	13.5							
						710647	13.5							
						710648	14.1							
Black crappie (Pomoxis nigromaculatus)	9/3/75	9/9/75	Below Schenectady	10935	9R-1	710651	6.8		1.6	1.4	3.0			Composite of 5
						710659	7.4							
						710660	7.5							
						710662	7.5							
						710658	8.1							
				10934	9R-2	710653	9.7		0.5	0.8	1.3			Composite of 4
						710654	9.9							
						710652	10.0							
						710651	10.5							
Largemouth bass (Micropterus salmoides)	9/3/75	9/10/75	Below Schenectady	11050	9P-2	5H587	9.6		0.7	2.1	2.8			Composite of 4
						5H586	9.9							
						5H590	10.6							
						5H588	11.0							
				11051	9P-3	5H591	13.6		1.2	4.7	5.9			Composite of 4
						5H592	13.9							
						5H593	14.4							
						5H595	14.8							

DSW 028918

Mohawk River PCB Analysis Results
(Analysis by Department of Agriculture and Markets)

TABLE 20

...ies	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
...lleye (Stizostedion vitreum)	8/29/75	9/8/75	Little Falls	10802	10P-2	4X1038	15.5	1.31	4.9	9.0	13.9			Composite of 5
						4R3007	15.9	1.50						
						4R3463	16.3	1.56						
						5B245	16.4	1.81						
						4X458	16.6	1.50						
				10801	10P-3	5B313	17.4	1.81	4.0	9.5	13.5			Composite of 5
						5B89	17.8	1.88						
						4R3059	19.8	2.88						
						5D661	22.3	4.25						
						5B237	22.8	4.19						
...allmouth bass (Micropterus dolomieui)	8/29/75	9/8/75	Little Falls	10800	10R-2	6WC753	10.9	0.69	3.9	9.5	13.4			Composite of 2
						6B0501	12.3	1.00						
...ite sucker (Catostomus commersoni)	8/29/75	9/8/75	Little Falls	10803	10F-1	6WC378	8.3	0.19	0	4.2	4.2			Composite of 6
						7X1053	8.3	0.25						
						6ST833	8.6	0.25						
						6MR271	8.6	0.25						
						6B0745	8.9	0.25						
						6B0497	9.4	0.31						
				10804	10F-2	6WC726	10.6	0.56	0	1.1	1.1			Composite of 5
						6MR461	10.8	0.56						
						7X1954	11.2	0.50						
						6WC768	11.6	0.69						
						6MR156	11.8	0.62						
own bullhead (Ictalurus nebulosus)	8/29/75	9/8/75	Little Falls	10805	10F-3	4R3262	10.9	0.44	2.7	11.3	14.0			Composite of 5
						4X907	11.2	0.44						
						4R3615	12.8	1.19						
						4R3298	12.9	1.00						
						6MR260	13.2	1.31						

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Rondout Creek PCB Analysis Results
(Analysis by Department of Agriculture and Markets)

TABLE 21

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ PCB	% Oil	Remarks
Largemouth bass (Micropterus salmoides)	8/18/75	9/5/75	Bloomington	10698	8P-1	2D178	7.0		0	1.2	1.2			Composite of 5
						2D177	7.1							
						2D181	7.1							
						2D180	7.7							
						2D179	8.0							
				10697	8P-3	2D175	18.7		0	1.9	1.9			Composite of 2
						2D174	20.0							
White suckers (Catostomus commersoni)	8/18/75	9/5/75	Bloomington	10700	8F-3	2D192	14.8		0	1.6	1.6			Composite of 5
						2D186	14.9							
						2D189	15.0							
						2D191	16.5							
						2D190	18.6							
Carp (Cyprinus carpio)	8/18/75	9/5/75	Bloomington	10696	8C-3	2D194	22.7		0	1.5	1.5			Composite of 3
						2D193	24.0							
						2D195	25.9							

DSW 028920

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 22

ecies	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242/1016	PPM as Aroclor 1254	Total PCB's*	PPM DDT/ DDE	% Oil	Remarks
lueback* herring	5/21/75	10/17/75	Mouth of Roeliff-Jansen Kill	RJK-HER-1			10.2	0.44	1.05	0	1.05			Whole fish
			" "	RJK-HER-3			10.2	0.37	1.85	0	1.85			Whole fish
losa aestivalis)	5/2/75	10/22/75	" "	RJK-HER-2			10.6	0.41	0	0.96	0.96	0	8.17	Whole fish
				RJK-HER-4			11.0	0.42	0	4.69	4.69	0.61	0.69	Whole fish

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[1] blueback herring donated by Charles Emmerick.

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 23

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
erican shad Alosa sapidissima)	4/27/75	10/20/75	1 mile below Geo. Washington Bridge	HUD-SR-comp-1							*			Roe
triped bass Morone saxatilus)	10/11/75	10/27/75	1.0 mi. So. of Roeliff Jansen Kill	2D119		2D119	26.0	7.40	23.14	27.68	50.82			½ of fish
				2D120		2D120	20.9	3.78	48.92	40.84	89.76			½ of fish
				2D121		2D121	21.1	2.97	9.25	8.07	17.32			½ of fish
	10/11/75	10/28/75		2D122		2D122	16.2	2.40	9.67	6.79	16.46			
				2D123		2D123	18.2	3.68	13.15	11.51	24.66			
				2D129		2D129	16.2	2.04	28.94	23.26	52.20			
	10/11/75	10/29/75		HR-SB-3		2D124	17.9	2.14	8.16	5.38	13.54			Composite of 2
						2D127	17.3	1.98						
				HR-SB-2		2D113	8.1	0.33	8.21	2.87	11.08			Composite of 4
						2D114	8.3	0.29						
						2D115	8.4	0.18						
						2D110	6.4	0.12						
gemouth bass Micropterus salmoides)	10/11/75	10/29/75	1.0 mi. So. of Roeliff - Jansen Kill	2D133		2D133	13.5	1.61	5.88	3.85	9.73			

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*Peaks evident on chromatograph but do not match PCBs or DDT

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 24

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
American shad (Alosa sapidissima)	Spring 1975	10/15/75	Poughkeepsie	HRS-1					9.00	0	9.00			2 fillets contributed by Dave Seymour
	Spring 1975	10/15/75	Highland	HRS-2					0.96	0.60	1.56			1 fillet contributed by Sherwin Allen
	Spring 1975	10/15/75	Highland	HRS-3					0.74	*	0.74			Shad roe contributed by Sherwin Allen

One anomalous peak noted in area where Aroclor 1254 is found.

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STLCOPCB4012885

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 25

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ PCB	% Oil	Remarks
Striped bass (Morone saxatilus)	10/14/75	10/29/75	Tappan Zee Bridge	SB-Comp-2-HR		2D140	5.6		0	1.66	1.66			Composite of 15 whole fish
						2D141	5.6							
						2D142	6.0							
						2D143	3.5							
						2D144	5.0							
						2D145	4.5							
						2D146	4.2							
						2D147	4.0							
						2D148	4.2							
						2D149	4.2							
						2C8506	4.0							
						2C8520	3.5							
						2C8518	3.3							
						2CS521	3.3							
						2C8524	3.0							
	5/75	10/29/75	West Point	SB-Comp-4-HR		Not tagged			0	7.54	7.54			Fillets only-Donated by Mr. Rathjen
	10/14/75	10/29/75	Tappan Zee Bridge	SB-Comp-1-HR		2D134	7.5		2.19	1.96	4.15			Composite of 6 whole fish
						2D137	6.9							
						2D135	7.0							
						2D136	6.7							
						2D139	6.5							
						2D138	6.3							

Champlain Canal PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 26

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242/1016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
ck bass (Micropterus salmoides)	10/7/75	10/27/75	Lock 8	6R7314		6R7314	6.6	0.25	4.40	7.78	12.18			whole fish
eshwater drum (Aplodinotus grunniens)	10/7/75	10/23/75	Lock 8	6R1319		6R1319	11.6	0.72	0	0.38	0.38	N.D.	4.23	
				CC-Comp.1		6R7321	5.0	0.06	0	Trace	Trace	Trace	7.43	Composite of 2 whole fish
						6R7320	5.0	0.06						
	10/7/75	10/27/75	Lock 8	6R7318		6R7318	17.5	3.18	0	2.33	2.33	0.38		
llow Perch (Perca flavescens)	10/7/75	10/29/75	Lock 8	6R7323		6R7323	3.0 4.0 4.2 4.9	0.13	0	0.92	0.92			Composite of 4 whole fish
ewife (Alosa pseudoharengus)	10/7/75	10/27/75	Lock 8	6R7325		6R7325	1.9-3.1	0.41	0	1.60	1.60	0.48		Composite of 100 whole fish
ite sucker (Catostomus commersoni)	10/7/75	10/23/75	Lock 8	6R7316		6R7316	7.9	0.22	0	Trace	Trace	Trace	6.26	Whole fish
				6R7317		6R7317	9.5	0.31	0	0.92	0.92	Trace	4.55	Whole fish
				CC-Comp-3		6R7312	6.1	0.09						
						6R7315	6.2	0.09	0	0.68	0.68	Trace	3.44	Composite of 3 whole fish
						6R7313	6.2	0.13						
unpkinseed (Lepomis gibbosus)	10/7/75	10/23/75	Lock 8	6R7322		6R7322	2.9 3.1 3.2 3.9 4.0	0.16	0	2.00	2.00	Trace	4.38	Composite of 5 whole fish

DSW 028925

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

TABLE 27

ies	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242/1016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
krat datta thothieus)	10/3-6/75	10/14/75	Champlain Feeder Canal in Hudson Falls above G.E. landfill	MU Comp 1	5-W-3	6R6196			Trace	Trace	Trace			Composite of 3
					5-W-4	6R6197								
					5-W-8	6R6191								
			Within 1 mile below Ft. Edward	MU Comp 2	5-W-6	6R6193			Trace	Trace	Trace			Composite of 2
					5-W-7	6R6192								
coon ocyon otor)	10/3-6/75	10/14/75	Within 1 mile below Ft. Edward	RA Comp 1	5-W-1	6R6198			Trace	Trace	Trace			Composite of 2
					5-W-9	6R6194								

DSW 028926

APPENDIX B-2

PCB ANALYSIS RESULTS PRIOR TO 1975

DSW 028927

Table 1

HUDSON RIVER PCB ANALYSIS RESULTS

Species	Month and/or Year Collected	Month and/or Year Analyzed	Location	Approximate Age	Length (in.)	Weight (lb.)	PPM as Aroclor 1254	Remarks
Largemouth bass	9/72	1972	Mouth of Wappingers Creek		16.2	2.5	5.59	
					15.9	2.7	5.24	
					14.2	1.9	5.15	
					13.8	1.5	1.24	
					10.0	0.5	0.66	
	9/72	1972	Mouth of Rondout Creek		16.5	2.6	6.59	
					14.0	1.5	6.04	
					14.0	1.4	2.80	
					13.7	1.4	1.23	
					13.4	1.3	4.85	
					10.5	0.7	3.00	
					6.7 - 8.0	0.20 - 0.20	3.46	Composite of 2 fis
	7/70	1972	Cornwall		14.5	1.6	11.04	
					14.2	1.4	11.77	
					13.8	1.4	10.86	
					13.4	1.3	14.62	
					13.1	1.2	21.60	
					12.8	1.0	0.96	
	7/70	1972	Mouth of Esopus Creek		14.7	1.4	53.81	
Smallmouth bass	7/70	1972	Mouth of Rondout Creek		14.9	1.4	17.58	
	9/72	1972			17.5	2.6	2.69	
					12.4	0.7	2.84	
					10.9	0.6	2.56	
	?	1972	Warrensburg		?	?	0.18	
Striped bass	7/70	1972	Mouth of Esopus Creek		17.3	1.8	10.48	
	9/72	1972	Mouth of Rondout Creek		13.2	0.8	1.67	
					10.2	0.4	2.11	

Table 1

HUDSON RIVER PCB ANALYSIS RESULTS (continued)

Species	Month and/or Year Collected	Analyzed	Location	Approximate Age	Length (in.)	Weight (lb.)	PPM as Aroclor 1254	Remarks
	4/73	1974	Tappan Zee bridge		36.5	23.5	15.61	13 of 22 (81.8%) exceed 5.0 ppm
					31.2	19.5	4.25	
					31.0	18.5	4.06	
					31.0	13.8	3.70	
					29.6	21.2	12.01	
					29.3	17.0	7.68	
					27.2	14.4	12.40	
					27.0	9.3	13.17	
					26.7	12.0	9.80	
					26.7	4.9	49.63	
					26.1	14.2	25.12	
					25.3	10.2	28.82	
					23.6	9.0	24.59	
					23.3	6.3	11.48	
					23.0	8.0	8.75	
					22.4	8.3	14.27	
					22.2	7.0	20.03	
					22.1	7.2	15.29	
					21.5	5.3	9.54	
					21.5	3.5	13.87	
					19.9	2.0	3.70	
					19.4	2.5	16.53	
	5/75	7/75			37.8	21.1	3.86	4 of 6 (66.7%) exceed 5.0 ppm
					37.4	20.2	6.53	
					32.6	14.7	3.25	
					24.8	6.8	7.93	
					24.4	7.1	6.75	
					22.8	6.0	37.80	
Sturgeon	7/70	1972	Mouth of Rondout Creek		33.3	6.0	5.73	
	7/72	1972	?		?	0.39	7.03	
					?	0.33	7.03	Composite, whole
					?	0.20	7.03	

HUDSON RIVER PCB ANALYSIS RESULTS (continued)

Table 1

Species	Month and/or Year Collected	Analyzed	Location	Approximate Age	Length (in.)	Weight (lb.)	PPM as Aroclor 1254	Remarks
Northern pike	9/72	1972	Mouth of Rondout Creek		35.5	9.2	17.78	
Yellow perch	9/72	1972	Mouth of Rondout Creek		4.0 - 7.7	0.08 - 0.17	0.75	Composite of 10 fi
					6.7 - 7.2	0.10 - 0.20	0.92	Composite of 3 fis
White perch	9/72	1972	Mouth of Wappingers Creek		10.0	0.56	11.61	7 of 15 (46.6%) exceed 5.0 ppm excluding composite fish
					9.3	0.50	9.00	
					9.2	0.46	12.07	
					9.2	0.48	8.30	
					8.9	0.45	11.33	
					8.3	0.55	5.67	
					8.0	0.25	2.76	
					7.5	0.26	2.41	
					7.4	0.25	0.44	
					7.2	0.27	15.81	
					7.2	0.26	3.70	
					7.2	0.24	3.76	
					7.0	0.25	2.52	
					6.5	0.5	2.01	
					6.3	0.16	2.34	
					5.5 - 8.9	0.10 - 0.40	5.95	composite of 5 fish
					6.9 - 7.3	0.20 - 0.25	5.33	composite of 5 fish
			Mouth of Rondout Creek		8.7	0.30	3.80	3 of 14 (21.4%) exceed 5.0 ppm
					8.4	0.31	6.69	
					8.3	0.29	1.08	
					8.2	0.25	3.37	
					8.1	0.25	1.34	
					7.7	0.23	7.22	
					7.5	0.20	1.69	
					7.4	0.24	0.38	
					7.4	0.22	4.50	
					7.4	0.21	10.01	
					7.4	0.20	2.45	
					7.2	0.16	0.68	

Table 1

HUDSON RIVER PCB ANALYSIS RESULTS (continued)

Species	Month and/or Year Collected	Analyzed	Location	Approximate Age	Length (in.)	Weight (lb.)	PPM as Aroclor 1254	Remarks
					6.9	0.13	4.58	
					6.5	0.12	0.46	
Black Crappie	7/70	1972	Mouth of Wappingers Creek		8.3	0.30	1.42	
	9/72	1972	Mouth of Rondout Creek		7.5 - 8.0	0.21 - 0.24	0.46	Composite of 2 fi
Pumpkinseed	9/72	1972	Mouth of Wappingers Creek		5.0 - 5.9	0.05 - 0.15	0.64	Composite of 10 fi
					4.5 - 4.9	0.05 - 0.10	0.34	Composite of 10 fi
					6.2	0.15	ND	
Bluegill	9/72	1972	Mouth of Wappingers Creek		5.01 - 6.4	0.10 - 0.20	0.52	Composite of 4 fis
Red-breast Sunfish	9/72	1972	Mouth of Wappingers Creek		6.0 - 6.7	0.15 - 0.20	0.75	Composite of 12 fi

Table 2

RONDOUT CREEK OR RIVER PCB ANALYSIS RESULTS

Species	Month and/or Year Collected	Analyzed	Location	Approximate Age	Length (in.)	Weight (lb.)	PPM as Aroclor 1254	Remarks
Smallmouth bass	1970	1972		V+	14.9	1.4	17.58	
Smallmouth bass	1970	1972		IV+	13.2	1.2	10.33	
Largemouth bass	1970	1972		IV+ or V+	13.6	.64	9.52	
Largemouth bass	1970	1972		III+	13.4	1.40	5.70	
Largemouth bass	1970	1972		III+	10.8	0.66	2.60	
Largemouth bass	1970	1972		III+	10.6	0.69	3.33	
Largemouth bass	1970	1972		III+	10.2	0.64	6.61	
Largemouth bass	1970	1972		III+	10.1	0.69	3.27	
Largemouth bass	1970	1972		III+	9.9	0.47	4.31	

MISCELLANEOUS STREAMS - PCB ANALYSIS RESULTS

Table 3

Species	Month and/or Year Collected	Analyzed	Location	Approximate Age	Length (in.)	Weight (lb.)	PPM as Aroclor 1254	Remarks
Largemouth bass		1972	Hoosic River		18.0	4.0	3.13	
		1972			16.9	2.44	4.39	
		1972			15.8	2.00	0.57	
Smallmouth bass		1972	Hoosic River		17.9	4.27	2.35	
		1972			16.2	2.82	2.62	
Smallmouth bass		1972	Mohawk River		13.5	1.40	3.94	
		1972			11.25	-	4.03	
		1972			10.0	0.53	2.73	
Largemouth bass		1972	Ramapo River		15.8	2.0	0.57	

APPENDIX C

Sampling Instructions to Regions

DSW 028934

PROCEDURE 8/18/75

The following list indicates those locations where sampling should be conducted in order to isolate the incidence of PCB contamination in waters within New York State. These locations were selected since the waters in that vicinity were either suspected of receiving industrial/commercial wastes or indicated contamination in earlier (1972) sampling. At all stations fish, water and sediments will be sampled and analyzed for the presence of the contaminant. Field collections will start as soon as possible and be completed by 9/15/75.

A. Fish

1. Freshwater Fish. In each sampling instance two trophic levels (predators and pan/rough fish) will be addressed so as to compare bio magnification and assess impact on each energy level.

Predator species will include:

Smallmouth bass, largemouth bass, walleye

Panfish/roughfish will include:

Bullhead, carp, goldfish, sucker

In order to maintain continuity and permit data interpretation, the following procedures must be followed as closely as possible.

At each station Division of Fish and Wildlife field personnel will choose a representative predator and pan/rough fish (as designated above) for collection. Each species will be sampled so as to create three separate composites:

A. Small or sub-legal fish

B. Medium or minimally legal fish

C. Large fish

The specific sizes for each category are listed below. If possible the fish should be taken as specified. However, some situations will require a deviation. Where this is the case please attempt to keep the sample as uniform (size of individuals) as possible considering the constraints of the situation.

Species	Small		Medium		Large	
	Length*	Minimum No.	Length*	No.	Length	Maxi
Smallmouth bass	6 ± 1	6	11 ± 1	5	15 ± 1	5
Largemouth bass	6 ± 1	6	11 ± 1	5	15 ± 1	5
Walleye	8 ± 1	6	12 ± 1	5	20 ± 1	5
Bullhead	5 ± 1	6	9 ± 1	5	12 ± 1	5
Carp	6 ± 1	6	14 ± 1	5	24 ± 1	5
Goldfish	5 ± 1	6	8 ± 1	5	11 ± 1	5
Sucker	7 ± 1	6	11 ± 1	5	18 ± 1	5
Striped bass	12 ± 1	5	17 ± 1	5	30 ± 2	5
	Weight**		Weight**		Weight**	
Salmon (coho)	1-2	5	4-6	5	8-12	5
(chinook)	3-5	5	8-12	5	15-20	5
Rainbow or Steelheads	1-2	5	3-5	5	5-8	5
Lake trout	1-2	5	4-6	5	8-12	5

* Length in inches;
** Weight in pounds

At these stations where a commercial, or recreational salmonid fishery exists samples of these species are requested. These fish should be collected in the sizes and numbers specified above.

All fish collected should be identified, tagged, wrapped in polyethylene plastic bags (no more than 6 fish per bag) and refrigerated or placed in a cooler as soon after taking as possible. (Temperatures must be maintained below 45°F if fish are not able to be frozen at once). If fish are to be collected for several days, specimens must be frozen as soon as possible so as to keep until sampling is completed. Transport frozen fish or cooled fresh fish to the Rome Laboratory. Fish must arrive cold, preferably frozen. Prior to delivery call Earl Harris at the Laboratory 315 337-0910 to be assured that fish can be received and placed in the freezer.

2. Marine Fisheries. Commercially important species will be collected by the Division of Marine and Coastal Resources. Size grouping for fish will follow that of the freshwater fishes. The species and locations for collection are noted below:

Species	Locations
Bluefish	One site to be determined
Porgies	One site to be determined
Striped bass	One site to be determined
Blue crab, Hard clams	Peconic Bay, Western Long Island Sound, Great South Bay, New York Harbor

Five specimens of each size group of fish and five crabs and clams will be collected. Preservation of samples will follow that described under freshwater fish but samples will be forwarded to Jack Foehrenbach (telephone number 516 751-7900) for analysis.

C. Water

The Division of Pure Waters will collect twenty-five two-liter samples in glass bottles. A sample will be taken at each freshwater sampling station indicated on the statewide sampling station sheet. All samples collected will be grab samples and no preservatives will be added to the samples. The samples will not be refrigerated or frozen prior to analysis. Polyurethane plug filters will be used for field concentration. These filters will be stored at the DEC Rome Laboratories for subsequent analyses.

D. Sediment

The Division of Pure Waters will collect twenty-five 16 ounce sediment samples, one from each freshwater sampling station indicated on the statewide sampling station sheet. Samples will be taken from the top 5 cm. of depth with a Peterson dredge or a KB corer and placed in 32 ounce wide mouth glass bottles. No preservatives will be added to sediment samples. These samples will be cooled in the field then frozen prior to storage. Samples will be stored at DEC Rome Laboratories for subsequent analyses.

NYSDH Environmental Health Center will initiate development of sediment PCB analyses procedures in anticipation of requests for sediment analyses. Bottom samples will be collected from Hudson Falls and Waterford areas this week (8/14/75-8/15/75) to initiate this.

DSW 028936

Additional Notes on Procedure
9/15/75

Procedures: A statewide fish sampling program, to be executed over a very short period of time, required mobilization of all Regional fish management staff and equipment and close coordination of collections, transport, storage, processing, analysis and reporting. Coordination was provided by the Bureau of Environmental Protection in Albany.

Sampling Plan

All Regional fisheries managers were instructed to attempt to collect fish in two traphic levels, predators and prey (or coarse fish), and in three size categories, small, medium and large for each species. A "jumbo" size category was established later for extra large fish.

Details of the plan and a map showing general locations of fish collected are given in Appendices 1 and 2, respectively.

Fish Collections and Distributions

Except as indicated below all descriptions in this section refer to upstate fish collections. Long Island operations were separate.

Because of deadline requirements instructions for fish collections had to be issued prior to resolution of the problem of where processing and analyses would be executed. Early fish collections were sent to the Rome Laboratory for storage and processing and analysis operations began at that location immediately.

Consideration was given to 24 hour/day operation at the Rome Laboratory. This entailed the necessity for locating additional staff and equipment, especially grinders, freeze driers, extractors and gas chromatographs. Space and available electrical capacities and change potentials were also problems to be resolved.

Also search for assistance in fish processing and analyses at sister laboratories at the Departments of Agriculture and Markets and Health at Albany and Voorheesville was begun.

The latter plan proved more feasible and was adopted. However, this entailed new problems of transport, storage and scheduling to blend capture and shipments with limited freezer and lab processing capacities. Space in the freezer at the Wildlife Resources Laboratory at Delmar was recruited to use as a depot storage base. Also a courier was recruited from the Bureau of Wildlife to log in and shuttle lots of fish between freezers and to meet half way shipments made from distant areas of the State.

Tentative distribution schedules were drawn based on laboratory capacities and anticipated availability of fish collections from specific locations. These schedules were adjusted as the collections materialized and according to the degree of success achieved in meeting prescribed species and size class quotas.

DSW 028937

In general, and with minor exceptions, the Rome Laboratory concentrated on the Hudson River, Great Lakes and St. Lawrence Waterway fish.

The ocean finfish and shellfish were collected, handled, processed and analyzed by the Department's laboratory at Stony Brook. Fish and shellfish were collected from the perimeter and embayments of Long Island and are representative of those waters. All species are migratory to some degree.

Assistance also was provided by the FDA Laboratory at Buffalo for analyses of fish collected at Albany and Fulton Fish Markets.

As fish were delivered to the Health and Agriculture and Markets laboratories, instructions were given as to which fish were to be blended together into composite samples and which were to be done individually. Variable success in achieving species and size quotas at the various stations made it impossible to hold to the preferred lengths for any species as specified in the sampling plan.

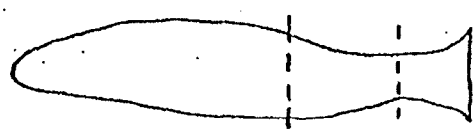
Analysis Procedures and Techniques

The use of four laboratories, two in different agencies, and each varying in equipment availability, required inter-laboratory communications to insure uniformity of results insofar as possible. This was achieved by visitation and telephone contacts between the chemists in charge of the operation at each of the laboratories. Instructions were given to insure uniformity in the portions of fish used in the analyses. They are:

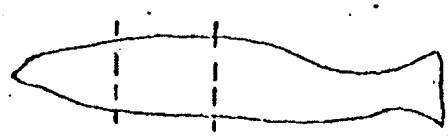
Small - all flesh

Medium - one filet

Large - one filet in the caudal peduncle region



Jumbos - one filet in the anterior region



Control and uniformity samples were prepared and distributed to each laboratory for analyses. Three-sample lots were prepared by the Health Department and comparative results from the four laboratories are given in the Daly's Report.

APPENDIX D

Analytical Techniques

and

Original Laboratory Results

Report of the Department of Agriculture and Markets on Polychlorinated Biphenyl (PCB) Analysis of Fish Flesh
The Hudson River and its Tributaries

The Department of Agriculture and Markets laboratory was asked to participate in the statewide PCB monitoring program as developed by the Department of Environmental Conservation. Fish collected by DEC staff from various locations were tagged, packaged and transported to this facility for analysis. Prior to any activity on specific fish, directions were supplied by the coordinating office (Bureau of Environmental Protection - DEC) indicating individuals to be composited, sequence of analysis and priority. In order to maintain a control on the samples, a Department of Agriculture and Markets identification number was used in addition to the Albany identification number (a tracking number used by the Bureau of Environmental Protection). These numbers appear on the appended report and indicate specific data relative to each sample. After receipt of the fish and compositing instructions, the tissues were analyzed according to the appended procedures (Appendix 1). The data relating to the Hudson River or its tributaries is presented as Appendix 2.

Dr. Elmer George, Jr.
Director NYS Food Laboratory
Department of Agriculture & Markets

Antoinette Chotkowski

ANTOINETTE CHOTKOWSKI
Notary Public, State of New York
Residing in Schenectady County No. 47 5588660
Commission Expires March 30, 1976

DSW 028940

Analysis of Fish for the Department of Environmental Conservation

Date Rec'd	Lab #	ENCON #	Fish	Source		PCB (ppm)
8/28/75	10691	5S (1)	Sm mouth Bass	Hudson Riv vic Wtfd	1242	27
					1254	14.5
						41.5
"	10692	5S (2)	" " "	" " " "	1242	36
					1254	17.5
						53.5
"	10693	5S (3)	Wh Sucker	" " " "	1242	20.3
					1254	7.9
						28.2
"	10694	5S (4)	" "	" " " "	1242	36.0
					1254	12.9
						48.9
"	10695	5S (5)	Walleye	" " " "	1242	23.3
					1254	9.1
						32.4
8/29	10696	8C-3	Carp	Roundout Cr/Blmgtn	1242	none
					1254	1.5
"	10697	8P-3	Lg mouth Bass	" " "	1242	none
					1254	1.9
"	10698	8P-1	" " "	" " "	1242	none
					1254	1.2
"	10700	8F-3	Wh Sucker	" " "	1242	none
					1254	1.6
9/2	10800	10R-2	Sm mouth Bass	Reg 6 Mohawk Riv (Little Falls)	1242	3.9
					1254	9.5
						13.4
"	10801	10P-3	Walleye	" "	1242	4.0
					1254	9.5
						13.5
"	10802	10P-2	"	" "	1242	4.9
					1254	9.0
						13.9
"	10803	10F-1	Wh Sucker	" "	1242	none
					1254	4.2
"	10804	10F-2	" "	" "	1242	none
					1254	1.1
"	10805	10F-3	Brn Bullhd	" "	1242	2.7
					1254	11.3
						14.0

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9/5	10933	9P-1	Sm Bass	Reg 4 Mohawk Riv below Schtdy	1242 1254	0.7 1.5 2.2
"	10934	9R-2	Crappie	" " "	1242 1254	0.5 0.8 1.3
"	10935	9-R-1	"	" " "	1242 1254	1.6 1.4 3.0
"	10936	9F-2	Wh Sucker	" " "	1242 1254	0.8 1.9 2.7
"	10937	9F-1	Herring	" " "	1242 1254	2.1 1.6 3.7
9/9	11050	9-P-2	Lm Bass	Mohawk River below Schenectady	1242 1254	0.7 2.1 2.8
"	11051	9-P-3	" "	" " "	1242 1254	1.2 4.7 5.9

[illegible] - Laboratory Bldg, #7
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Polychlorinated Biphenyls in Fish

Reagents and Equipment

(a) Reagents - see PAM I 120-123
(b) Equipment - see PAM I 110-116
(c) Varian Aerograph 1800 Gas Chromotograph - EC detector with tritium source. 6' x 2 mm i.d. glass column with 4.4% SE 30 on 60/80 Gas Chrom Q. Column temp. 183°C, Injector temp. 205°C, Detector temp. 205°C, Carrier gas N_2 30 ml/min.

Sample Preparation

(a) Small fish under 15" - Remove and discard head and viscera; grind with tails - three times thru grinder.
(b) Medium fish above 15" - Remove and discard head and viscera; cut lengthwise along backbone and grind one-half of the fish - three times thru grinder.
(c) Extremely large fish - Cut off caudal section at anal opening, cut lengthwise along backbone and grind one-half of the section - three times thru grinder.

Extraction PAM I 212.13a

Weigh 50 grams of prepared sample into a high speed blendor jar and add 200 ml acetonitrile. Blend at high speed for 2 min. and filter through a funnel containing a loose plug of glass wool into a 250 ml graduated cylinder and record volume (F).

Transfer measured filtrate to a 1 L separatory funnel. Carefully measure 100 ml hexane into the same graduate and pour into the separatory funnel. Shake vigorously 1-2 min. Add 10 ml saturated NaCl soln and about 600 ml H_2O and mix thoroughly for 45 sec. Let layers separate, discard the aqueous layer and gently wash the solvent layer with two 100 ml portions of H_2O. Discard washings, transfer solvent layer to a 100 ml glass stoppered graduate and record volume (P). Calculate the grams (G) of sample to be placed on Florisil column as follows:

$$G = S \times (F/T) \times (P/100) \qquad (1)$$

S = grams of sample extracted
F = volume of acetonitrile extract filtrate
T = total volume (ml H_2O in sample + ml acetonitrile added - correction in ml for volume concentration) Contraction volume of 5 ml is used for 80-95 ml H_2O/200 ml acetonitrile. In this equation the water content of fish my be assumed to be 80%.
P = ml of hexane extract recovered

Column Chromatography PAM I 211.14d

Prepare 22 mm i.d. column with the amount of activated Florisil dictated by recovery studies. Top Florisil with about 1/2" anhydrous Na_2SO_4. Prewet column with 40 ml hexane. Place Kuderina-Danish concentrator with graduated collection vessel under column to receive eluate.

To the 100 ml glass stoppered graduate containing the hexane from the partitioning step, add 15 gm anhydrous Na_2SO_4 and shake. Do not let extract remain with Na_2SO_4. Transfer solution to Florisil column. Rinse graduate 3 times with 5 ml hexane and add to column. When solution has sunk into column, rinse sides of column twice with 5 ml hexane. Elute column at about 5 ml/min with 200 ml 6% [illegible]yl ether/hexane eluant. Remove K-D apparatus and add porcelain boiling chips. Place glass trap on top and concentrate the eluant to 10 ml volume on the steam

bath. This is the assay solution.

Gas Chromatography

Inject a 5 ul aliquot of the assay solution into the Gas Chromatograph and compare the retention times of the subsequent peaks with those of a suitable standard whose peak heights are within ± 10% of the injected sample. Quantitate the peaks on the basis of their peak heights.

Calculation

Results should be reported in terms of parts per million PCB's in the product.

Let A = sum of heights of standard's peaks in millimeters
B = sum of heights of assay solutions peaks in millimeters
C = nanograms of standard represented by peak heights A

Then (B/A) x C = nanograms of PCB represented by the peak heights in the assay solution (2)

From equation (1), G = grams of sample placed on Florisil column which is also the grams of sample represented by the 10 ml assay solution.

Let Y = ul of assay solution injected
Z = G/10, gms of sample per ml assay solution or mg sample per ul of assay solution.

Then Y x Z = milligrams of sample represented in the amount of assay solution injected (3)

Combining equations (2) and (3) with the definition of PPM:

$$\frac{(B/A) \times C}{Y \times Z} = \text{ppm PCB in the product}$$

John J. Maxstadt
Associate Chemist
9/10/75

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DSW 028944

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DEPARTMENT OF HEALTH
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NEW SCOTLAND AVENUE

DONALD J. DEAN, D.V.M.
DIRECTOR

October 21, 1975

Report of the Department of Health on Polychlorinated Biphenyl (PCB) Analysis of Fish Flesh
The Walloomsac/Hoosic Rivers

The Department of Health was asked to participate in the statewide PCB monitoring program as developed by the Department of Environmental Conservation (DEC). Fish collected by DEC staff from various locations were tagged, packaged, and transported to the Griffin Laboratory for analysis. Prior to any activity on specific fish, directions indicating individuals to be composited, sequences of analysis and priority were supplied by the coordinating offices (Bureau of Environmental Protection - DEC). All samples were given an identification number assigned by DEC and appears below on the report of analysis for those fish from the Walloomsac/Hoosic Rivers. After receipt of the fish and compositing instructions, the tissues were analyzed according to the appended procedure (Appendix 1). The data relating to the Walloomsac/Hoosic Rivers follows:

Walloomsac and Hoosic River — mg/g wet weight

Sample No.	No. Fish	Name of Fish	1016	1254	Total
32-F-3	1	Sucker	1.3	0.6	1.9
32-F-2	3	Sucker	0.7	0.6	1.3
32-R-1	4	Y. Perch	2.0	3.4	5.4
32-P-3	3	L.M. Bass	2.5	3.5	6.0

BB:jp

DSW 028945

Appendix 1. Analysis Procedures and Techniques - Department of Health, Griffin Laboratory.

Clean up procedure for tissue in PCB analysis

Soxhlet extraction

1. Weight 5 g of tissue which have been filleted, ground and composited.
2. Mix well with 15 g of anhydrous Na_2SO_4 in a 50 ml beaker.
3. Transfer to an extraction thimble, (25 X 80 mm, single thickness).
4. Add 80 ml of hexane - acetone (2/1) mixture and some glass beads (about 50) to the bottom flask.
5. Set the flask on the heating mantle with the soxhlet extractor and condenser in place.
6. Turn on the water and the power-stat. (setting at 50). Reflux for 12 hours.
7. At the end of refluxing, let the solution evaporate to 5 ml.
8. Add 25 ml of CrO_3 mixture (prepared by dissolving 9 g of CrO_3 in 6 ml of water and adding 50 ml of glacial acetic acid). Heat at 90-100 C for 45 minutes with stirring.
9. Pour the oxidation product into a 1/2 liter separatory funnel. Add 100 ml of water.
10. Add 25 ml of petroleum ether. Shake vigorously for two minutes and allow for phase separation. After removing the aqueous phase, transfer the ox. phase into a 125 ml flask.
11. Repeat the extraction (step 10) three more times with 15 ml of petroleum ether.
12. Combine the petroleum ether layer in the same separatory funnel, rinse the 125 ml flask 3 X 5 ml petroleum ether. Discard the aqueous phase.
13. Filter the petroleum ether solution through anhydrous Na_2SO_4 to remove any moisture. Collect the filtrate in a Kaduma-Danish evaporator.
14. Evaporate to 2.5 ml.
15. Transfer the extract to a vial for gas chromatography analysis.

16. The vial is loaded into the gas chromatograph sampler carrousel. The column is 2% Apiezon L on Gas-Chrome Q, 6 ft. column, temperature 185 C, flow rate 45 ml per minute. The integrator and computer have been calibrated with a mixture of 1221 plus 1016 plus 1254 (1:1:1) using BBHC as an external standard.

17. The area of the first peak retention time 0.77 minutes is used to estimate 1221. The next 2 peaks (1.80 and 1.55 minutes) are used to estimate 1221 plus 1016. Peaks with retention 2.04, 3.17 and 3.98 are used to quantitate 1016; with peak retention time 6.48 used to estimate 1016 plus 1254; and peaks with retention time 5.97, 7.61, 8.53, 10.95, 11.63, 13.89, 16.01 and 18.40 minutes are used to quantitate 1254. The mean of the estimate given by each peak is used to determine the total quantity of 1016 or 1254.

18. Calibration is effected by computing unique peaks relative to a mass of 5.0 ug/g of fish and whereas combined peaks are calibrated with respect to a mass of 10 ug/g of fish. The unique peaks give a better estimate of the quantity present than the combined peaks which are used only as a check on the analysis.

19. Results are expressed as ug/g wet weight of fish as Aroclor 1016 and as Aroclor 1254. The total PCB present is determined by adding these two estimates.

Report of the Rome Pollution Laboratory on Polychlorinated Biphenyl (PCB) Analysis of Fish Flesh from the Hudson River

The Rome Pollution Laboratory, which is administered by the Department of Environmental Conservation's (DEC) Bureau of Environmental Protection (BEP), analyzed fish samples from several stations on the Hudson River. These samples were collected by DEC staff in Regions 3, 4 and 5S and were transported to the Rome Pollution Laboratory where they were stored at 0°F. In most instances, the fish had been measured, weighed and tagged by the regional personnel and placed in polyethylene bags.

Prior to analysis, analysis priority and compositing instructions were received from the central office of BEP. The fish were then thawed, decapitated and eviscerated, except in certain instances as noted by "whole fish" on the attached data sheets, and then analyzed according to the attached procedure (Appendix I). The results of the analyses were telephoned to the BEP central office and are given on Appendix II. Calculation sheets and chromatograms relating to these analyses are available at the Rome Pollution Laboratory for inspection.

Earl J. Harris
Associate Analytical Chemist

DSW 028948

Appendix I Analysis Procedures and Techniques - Department of Environmental Conservation - Rome Laboratory.

I. Extract oil on soxhlet*

II. Alkaline Hydrolysis

1. Weight ca. 1 g. sample
2. Add 10 ml 95% ETOH
3. Add 1 ml KOH 300g/200 ml H_2O
4. Heat in waterbath 5 min. @ 77°C
5. Shake/ stopper/ return to waterbath. Shake 2x more in remainder of 30 min.
6. Allow to cool
7. Add 10 ml H_2O
8. Add 10.00 ml benzene
9. Shake 10 minutes on mechanical shaker
10. Remove AQ. lower layer
11. Add Na_2SO_4 anhyd. to dry benzene fraction

III. Dehydrochlorination

1. Take 5 ml of benzene fraction
2. Add 5 ml benzene
3. Add boiling chip
4. Add .25 ml DBU soln. (5% w/v in benzene) Aldrich 13,900-9 1,5 diazobicyclo (5,4,0) undec-5-ene
5. Place in boiling water bath until benzene is boiled off
6. Rotate tube while cooling to remove traces of benzene

IV. 1. Add 5 ml chromic acid reagent to tube (5 g. CrO_3 + 3 ml H_2O + 60 ml CH_3COOH.)
2. Stopper and place in water bath 75 - 80°C for 10 min.
3. Cool in cold water
4. Add 20 ml H_2O/swirl to mix
5. Add 15.00 ml hexane
6. Shake 1 minute or 5 minutes on mechanical shaker
7. Withdraw lower AQ layer
8. Add 20 ml H_2O

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9. Shake 20 sec.

10. Withdraw AQ layer

11. Add 20 ml H_2O

12. Shake 20 sec.

13. Withdraw AQ layer completely

14. Add $Na_2 SO_4$ to dry hexane fraction

V. Chromatograph on E.C.G.C.

* Fish samples are ground three times in a Hobart Food Chopper and thoroughly mixed in a Hobart Planetary Mixer. An accurately weighed sample of approximately 50 grams is then lyophilized. This freeze-dried material is then extracted in a Soxhlit Apparatus with hexane.

APPENDIX 2

Results of PCB Analyses on Hudson River Fishes

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DCB	% Oil	Remarks
Smallmouth bass (Micropterus dolmieui	8/20/75 8/21/75	9/2/75	Above Corinth	5s Hud-Comp 5			9.1 9.2	0.35 0.37	0	Trace	Trace			Composite of 2
				5s Hud Comp 4			11.0 11.4	0.64 0.70	0	Trace	Trace			Composite of 2
				5s Hud Comp 1			11.0 11.0 10.6	0.62 0.66 0.64	0	Trace	Trace			Composite of 3
				5s Hud Comp 3			6.7 7.1 7.3	0.12 0.17 0.17	0	Trace	Trace			Composite of 3
				5s Hud Comp 6			7.5 7.7	0.20 0.22	0	Trace	Trace			Composite of 2
				5s Hud Comp 2			10.0 10.0 10.0 10.6	0.44 0.45 0.48 0.55	0	Trace	Trace			Composite of 4
White sucker (Catostomus commersoni)	8/20/75 8/21/75	9/2/75	Above Corinth	5s Hud 17 5s Hud 18			14.6 18.5	1.47 3.02	0 0	Trace Trace	Trace Trace			
Yellow perch (Perca flavescens)	8/20/75 8/21/75	9/2/75	Above Corinth	5s Hud Comp 7			6.7 6.9 7.1 7.1 7.1	0.16 0.14 0.14 0.15 0.16	0	Trace	Trace			Composite of 5

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Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DCB	% Oil	Remarks
Smallmouth bass (Micropterus dolomieui)	7/24-25/75	8/11/75	Above Glens Falls	3-Hud-75-up			11.0	0.54	0	Trace	Trace			
				4-Hud-75-up			10.6	0.46	0	Trace	Trace			
				5-Hud-75-up			9.4	0.35	0	Trace	Trace			
				6-Hud-75-up			9.4	0.31	0	Trace	Trace			
				8-Hud-75-up			9.0	0.30	0	Trace	Trace			Composite of 3
				9-Hud-75-up			8.7	0.21						
				7-Hud-75-up			8.3	0.26						
				10-Hud-75-up			7.5	0.16	0	Trace	Trace			Composite of 3
				11-Hud-75-up			6.7	0.13						
				12-Hud-75-up			6.3	0.10						
Walleye (Stizostedion vitreum	7/24-25/75	8/11/75	Above Glens Falls	2-Hud-75-up			15.4	1.03	0	Trace	Trace			
				1-Hud-75-up			15.0	1.05	0	Trace	Trace			
Yellow perch (Perca flavescens)	7/24-25/75	8/11/75	Above Glens Falls	16-Hud-75-up			11.8	0.73	0	Trace	Trace			
				15-Hud-75-up			11.4	0.67	0	Trace	Trace			
				13-Hud-75-up			11.0	0.57	0	Trace	Trace			
				17-Hud-75-up			10.6	0.60	0	Trace	Trace			
				14-Hud-75-up			10.6	0.55	0	Trace	Trace			
				26-Hud-75-up			10.2	0.61	0	Trace	Trace			
				19-Hud-75-up			9.8	0.55	0	Trace	Trace			
				21-Hud-75-up			9.8	0.45	0	Trace	Trace			
				22-Hud-75-up			9.0	0.42	0	Trace	Trace			
				18-Hud-75-up			7.9	0.63	0	Trace	Trace			
White sucker (Catostomus commersoni)	7/24-25/75	8/13/75	Above Glens Falls	41-Hud-75-up					0	Trace	Trace			
		9/2/75	Above Glens Falls	42-Hud-75-up					0	Trace	Trace			

DSW 028953

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DCB	% Oil	Remarks
Walleye (Stizostedion vitreum)	9/18/75	10/1/75	At Fort Edward below G.E.	4-Hud-RI-Comp		6R8286	6.4	0.12	104.21	28.29	132.50	2.81	4.25	Composite of 6 whole fish
						6R8285	6.6	0.12						
						6R8288	6.7	0.12						
						6R8289	6.8	0.12						
						6R8283	6.9	0.16						
						6R8284	7.2	0.16						
				3-Hud-RI-Comp		6R8280	7.1	0.16	81.12	41.80	122.92	7.05	5.52	Composite of 8 whole fish
						6R8275	7.2	0.16						
						6R8282	7.5	0.19						
						6R8278	7.6	0.19						
						6R8276	7.8	0.19						
						6R8279	7.8	0.19						
						6R8277	8.0	0.22						
						6R8281	8.3	0.22						
				5-Hud-RI-Comp		6R8291	10.7	0.47	9.88	8.31	18.19	0.96	1.80	Composite of 4 fish fillets
						6R8293	11.3	0.53						
						6R8292	11.3	0.56						
						6R8290	11.7	0.66						
Yellow perch (Perca flavescens)	9/18/75	10/1/75	At Fort Edward below G.E.	6-Hud-RI-Comp		6R675	6.8	0.16	61.10	18.24	79.34	2.20	1.57	Composite of 10
						6R8293	6.8	0.19						
						6R8299	6.8	0.19						
						6R682	6.9	0.22						
						6R678	7.1	0.22						
						6R8295	7.2	0.19						
						6R8297	7.4	0.22						
						6R688	7.4	0.22						
						6R8296	7.7	0.22						
						6R8294	7.8	0.25						

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//1016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DCB	% Oil	Remarks
Rock bass (Ambloplites rupestris)	7/24-25/75	8/13/75	Fort Edward below G.E.	56 Hud-75-DN 57 Hud-75-DN					27.35					Composite of 2
Alewife (Alosa pseudoharengus)	7/24-25/75	8/13/75	Fort Edward below G.E.	55 Hud-75-DN					20.35					

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242/1016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ PCB	% Oil	Remarks
Yellow Perch (Perca flavescens)	9/18/75	10/1/75	At Fort Edward	8-Hud-RI-Comp			4.7 4.8 4.8 4.8 4.9 5.0 5.1 5.4 5.5 5.8		236.42	62.88	299.30	7.67	5.70	Composite of 10 whole fish; not tagged
				7-Hud-RI-Comp			3.0 3.1 3.2 3.5 3.5 3.5 3.6 3.7 3.7 3.8 3.8 3.8 3.8 3.9 4.2 4.3 4.3 4.4 4.4 4.7		128.33	24.27	152.60	3.84	3.98	Composite of 20 whole fish; not tagged

DSM 028956

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DCP	% Oil	Remarks
White sucker (Catostomus commersoni)	9/18/75	9/30/75	At Fort Edward	1 Hud-RI-Comp		6R8265	11.6		82.88	48.57	131.45	5.64		Composite of 4
						6R8267	13.1							
						6R8266	13.2							
						6R8268	14.2							
				2 Hud-RI-Comp		6R8274	7.8		8.83	2.72	11.55	0.41		Composite of 5
						6R8269	8.1							
						6R8272	8.1							
						6R8271	8.5							
						6R8273	8.6							

DSM 028957

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242/1016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DCB	% Oil	Remarks
Smallmouth bass (Micropterus dolomieui	7/28-29/75	8/11/75	5 mi. below Fort Edward	23-Hud-75-DN			11.0	0.74	100.27	22.64	122.91			
Walleye, (Stizostedion vitreum)	7/28-29/75	8/11/75	5 mi. below Fort Edward	24-Hud-75-DN			13.4	0.87	157.27	20.74	178.01			
White sucker (Catostomus commersoni)	7/28-29/75	8/13/75	5 mi. below Fort Edward	51-Hud-75-DN					51.39					
				48-Hud-75-DN					47.57					
				50-Hud-75-DN					22.05					
				54-Hud-75-DN					20.80					
	7/28-29/75	9/2/75	5 mi. below Fort Edward	52-Hud-75-DN					29.74	8.86	38.60			
				49-Hud-75-DN					28.03	8.13	36.16			

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DCB	% Oil	Remarks
Yellow perch (Perca flavescens)	9/17/75	9/26/75	5 miles below Fort Edward	1 Hud-R-Comp-9-18		6R7801	6.5	0.16	84.31	18.95	103.26	2.37	3.52	Composite of 6 whole fish
						6R7802	6.5	0.16						
						6R7804	6.5	0.16						
						6R7807	6.6	0.16						
						6R7800	6.7	0.16						
						6R7808	6.8	0.19						
				2-Hud R Comp 9-18		6R7806	7.5	0.25	35.54	15.01	50.55	1.71	3.53	Composite of 3
						6R7805	7.6	0.25						
						6R7809	7.7	0.28						
				8 Hud-R Comp-9-18			3.2		88.18	34.21	122.39	3.90	4.52	Composite of 20 whole fish, not tagged
							3.2							
							3.3							
							3.3							
							3.4							
							3.4							
							3.4							
							3.4							
							3.5							
							3.5							
							3.5							
							3.7							
							3.7							
							3.7							
							3.8							
							3.8							
							3.9							
							4.0							
							4.2							
							4.2							
Walleye (Stizostedion vitreum)	9/16/75	9/29/75	5 miles below Fort Edward	6R699		6R699	9.9	0.41	5.19	5.70	10.89	0.35	1.14	
	9/17/75	9/29/75		6R697		6R697	11.5	0.62	7.13	5.56	12.69	0.41	1.49	

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DCB	% Oil	Remarks
Brown bullhead (Ictalurus nebulosus)	9/16/75	9/26/75	5 miles below Ft. Edward	3 Hud R Comp 9-18		6R665	10.0	0.44	73.24	36.38	109.62	4.23		Composite of 3
						6R687	10.0	0.66						
						6R662	10.6	0.63						
				4 Hud R Comp 9-18		6R669	11.3	0.78	85.30	38.52	123.82	3.82		Composite of 2
						6R698	11.4	0.78						
White sucker (Catostomus commersoni)	9/16/75	9/29/75	5 miles below Ft. Edward	7 Hud R Comp 9-18		6R696	10.2	0.59	36.03	12.86	48.89	1.35	1.88	Composite of 4
						6R680	10.7	0.53						
						6R663	10.9	0.59						
						6R677	11.0	0.62						
				6 Hud R Comp 9-18		6R694	13.0	1.25	78.00	23.79	101.79	3.47	2.92	Composite of 2
						6R683	13.8	1.38						
				5 Hud R Comp 9-18		6R691	14.0	1.44	57.54	41.10	98.64	2.99	5.31	Composite of 2
						6R661	14.5	1.44						

DSW 028960

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
Largemouth bass (Micropterus salmoides)	9/17/75	10/1/75	Stillwater	1 SWH-Comp		4J2977	12.4	1.41	24.85	15.97	40.82		7.32	Composite of 2
						4J2985	12.9	1.53						
				2 SWH-Comp		4J2972	5.7	0.13	14.31	9.84	24.15		4.09	Composite of 4 whole fish
						4J2979	5.9	0.16						
						4J2971	6.0	0.09						
						4J2965	6.2	0.16						
				3 SWH-Comp		4J2974	3.4	0.03	8.99	6.99	15.98		2.42	Composite of 4 whole fish
						4J2984	4.2	0.06						
						4J2958	5.2	0.09						
						4J2957	5.6	0.12						
	9/17/75	10/2/75	Stillwater	4J2970		4J2970	9.6	0.56	12.40	4.44	16.84	0.56	3.53	
				4J2956		4J2956	7.7	0.34	14.91	5.98	20.89	0.73		
American eel (Anguilla rostrata)	9/17/75	10/2/75	Stillwater	4J3000		4J3000	17.0	0.31	11.28	11.07	22.35		5.74	
				4J2975		4J2975	32.0	3.12	403.38	155.87	559.25	18.68	30.04	Very Oily
Brown bullhead (Ictalurus nebulosus)	9/17/75	10/1/75	Stillwater	4J2961		4J2961	9.0	0.34	4.66	7.99	12.65		3.25	
White sucker (Catostomus commersoni)	9/17/75	10/2/75	Stillwater	5 SWH-Comp	1	4J2969	7.0	0.16	10.34	5.94	16.28	0.53	1.87	Composite of 4
						4J2954	7.2	0.19						
						4J2990	7.6	0.19						
						4J2983	7.8	0.25						
						4J2964	13.3	1.00	154.28	35.92	190.20	5.69	3.71	Composite of 2
	9/17/75	10/3/75	Stillwater	4 SWH-Comp		4J2980	15.0	1.63						

DSM 028961

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242/1016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
Smallmouth bass (Micropterus dolomieui)	8/1/75	8/11/75	Catskill Trib. 193	26-Hud-4-75			11.4	1.01	13.76					
Chain pickerel (Esox niger)	8/1/75	8/11/75	Catskill Trib. 193	25-Hud-4-75			17.7	1.76	8.68					
Yellow perch (Perca flavescens)	8/1/75	8/11/75	Catskill Trib. 193	28-Hud-4-75			7.9	0.24	4.18					
				29-Hud-4-75			7.5	0.19						Composite of 2
White perch (Morone americana)	8/1/75	8/11/75	Catskill Trib. 193	27-Hud-4-75			10.2	0.61	8.47					
				38-Hud-4-75			11.0	0.34						
				39-Hud-4-75			8.3	0.32	30.67					Composite of 3
				40-Hud-4-75			7.9	0.32						
				37-Hud-4-75			8.7	0.38						
				36-Hud-4-75			8.3	0.33	23.74					Composite of 3
				35-Hud-4-75			7.5	0.28						
				33-Hud-4-75			7.1	0.20	14.20					Composite of 2
				34-Hud-4-75			6.7	0.19						
				32-Hud-4-75			6.3	0.14						
				30-Hud-4-75			5.9	0.13	12.23					Composite of 3
				31-Hud-4-75			5.5	0.11						

DSW 028962

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DCB	% Oil	Remarks
Striped bass (Morone saxatilus)	8/7/75	9/2/75	Mouth of Rondout Creek	2D219		2D219	10.4	0.44	0	4.08	4.08	0.49		
				2D218		2D218	20.4	3.23	0	7.01	7.01	1.37		
Largemouth bass	8/7/75	9/2/75	Mouth of Rondout Creek	2D241		2D241	11.6	0.96	0	1.73	1.73	0.38		
				2D238		2D238	12.2	1.06	0	4.87	4.87	0.40		
				2D242		2D242	13.7	1.41	0	7.65	7.65	0.89		
						2D237	15.7	2.38	0	3.71	3.71	0.87		
						2D236	15.7	2.50	0	3.37	3.37	0.79		
						2D240	17.7	3.67	0	8.52	8.52	1.13		
White perch (Morone americana)	8/7/75	9/12/75	Mouth of Rondout Creek	Hud-R-Comp 1A		2D223	8.8	0.31	0	7.45	7.45	1.70	7.28	Composite of 4
						2D233	9.0	0.31						
						2D230	9.3	0.37						
						2D220	9.5	0.43						
				Hud-R-Comp 2A		2D226	7.4	0.23	0	8.12	8.12	1.60	8.22	Composite of 4
						2D228	7.4	0.19						
						2D231	7.5	0.22						
						2D234	7.8	0.24						
Yellow perch (Perca flavescens)	5/22/75	9/15/75	Mouth of Rondout Creek	Hud-R-Comp 4A		2C8498	8.6	0.242	0	5.28	5.28	1.08		Composite of 5
						2C8496	8.7	0.324						
						2D212	8.8	0.291						
						2D210	8.9	0.242						
						2D211	9.0	0.326						

DSW 028963

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DCB	% Oil	Remarks
Largemouth bass (Micropterus salmoides)	8/6/75	8/22/75	Mouth of Wappingers Creek	2C8402		2C8402	12.5		19.73	4.01	23.74			
				2C8417		2C8417	14.1		10.73	3.35	14.08			
				2C8408		2C8408	19.0		17.99	5.19	23.18			
White perch (Morone americana)	8/6/75	8/22/75	Mouth of Wappingers Creek			2C8449	6.0		15.74	4.14	19.88			Composite of 6
						2C8426	6.3							
						2C8423	6.4							
						2C8439	6.6							
						2C8409	7.0							
						2C8429	7.0							
American eel (Anguilla rostrata)	8/6/75	8/22/75	Mouth of Wappingers Creek			2C8472	11.3		13.36	3.00	16.36			Composite of 3
						2C8487	11.4							
						2C3469	11.7							
						2C8470	14.3		41.69	10.42	52.11			Composite of 3
						2C8486	14.4							
						2C8484	15.2							
				2C8483		2C8483	17.0		123.61	53.64	177.25		>27.0	
				2C8451		2C8451	26.9		14.11	4.84	18.95			
Striped bass (Morone saxatilus)	8/8/75	9/12/75	Mouth of Esopus Creek	2D24		2D24	14.2	0.94	0	6.62	6.62	0.86	4.95	
White perch (Morone americana)	8/8/75	9/12/75	Mouth of Esopus Creek	Hud R-Comp 3A		2D42	6.5	0.15	0	9.65	9.65	1.39		Composite of 4
						2D43	6.5	0.17						
						2D44	6.6	0.15						
						2D47	6.6	0.17						

DSW 028964

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

Species	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DCB	% Oil	Remarks
American shad (Alosa sapidissima)	5/22/73	9/18/75	Kingston-Rhinecliff Bridge	2C8363		2C8363	19.5	2.18	Trace	2.52	2.52	0.57		
				2C8369		2C8369	20.0	2.82	Trace	6.91	6.91	1.50		
				2C8370		2C8370	20.0	3.04	Trace	5.29	5.29	1.49		
				2C8353		2C8353	20.0	3.17	Trace	2.98	2.98	0.39		
				2C8366		2C8366	20.8	2.88	Trace	3.83	3.83	0.90		
				2C8364		2C8364	21.0	3.23	Trace	3.23	3.23	0.77		
				2C8356		2C8356	21.2	3.39	Trace	39.56	39.56	4.41		
				2C8354		2C8354	21.5	4.07	Trace	38.14	38.14	4.24		
				2C8365		2C8365	22.0	4.20	Trace	7.78	7.78	1.60		
				2C8355		2C8355	24.0	4.82	Trace	19.35	19.35	2.99		
	5/22/73	9/23/75	Kingston-Rhinecliff Bridge	2C8371		2C8371	20.0	3.30	22.91	Trace	22.91			
				2C8372		2C8372	21.5	3.37	58.13	9.22	67.35			
	5/22/73	9/12/75	Kingston-Rhinecliff Bridge	2C8367		2C8367	21.0	3.19	Trace	6.40	6.40	1.32		
	5/22/73	10/1/75	Kingston-Rhinecliff Bridge				21.0	3.10	23.40	9.68	33.08	3.52	0.65	Oil dark and thic

DSW 028965

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

...ries	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242/1016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
...iped bass	May 1975	7/24/75	Tappan Zee Bridge	206			22.8	5.98		37.80		4.39	13.96	
...zone				259			24.4	7.08		6.75		1.52	7.12	
...miles)				256			24.8	6.80		7.93		1.69	5.36	
				254			32.6	14.74		3.25		0.98	5.93	
				269			37.4	20.24		6.53		2.07	9.41	
				1 NT			37.8	21.12		3.86		1.39	9.61	

Hudson River PCB Analysis Results
(Analysis by Rome Pollution Laboratory)

ies	Date Collected	Date Analysis Reported	Location	Lab. Ident.	Albany Ident.	Tag No.	Length (Inches)	Weight (Pounds)	PPM as Aroclor 1242//016	PPM as Aroclor 1254	Total PCB's	PPM DDT/ DDE	% Oil	Remarks
eback herring sa estivalis)	4/27/75	9/24/75	1 mile below George Washington Bridge	Hud-R-HE Comp 1					0	5.13	5.13	0.85	13.11	Composite of 2 fi ets obtained from anglers
ican shad sa dossima)	4/27/75	9/24/75	1 mile above George Washington Bridge	Hud-SH Comp 1					0	1.88	1.88	0.30	19.83	Composite of 5 fillets obtained from anglers
			1 mile above Kingston-Rhinecliff Bridge	Hud-SH Comp 2					0	1.56	1.56	0.59	3.93	Composite of 3 fillets obtained from anglers
back herring sa tivalis)	4/27/75	10/2/75	1 mile below George Washington Bridge.						0.32	0.52	0.84	0.7	1.64	Roe

DSM 028967

APPENDIX E

Regional Reports on Sampling

John Spagnoli

FISH COLLECTIONS TAKEN IN THE HUDSON RIVER FOR PCB ANALYSIS BY REGION 4 FISHERIES STAFF

Fish collections were taken for PCB analysis by Region 4 staff at three locations in the Hudson River. Dates of collection and sampling method; identification; processing and transportation of samples are discussed below. In all cases, fish samples were taken under the direction of the Regional Fisheries Manager.

Catskill

Fish listed in Appendix 1 were collected on August 1, 1975 with 230 V-DC boat electro-fishing gear near Catskill, N.Y. at the location shown on the Appendix 2 map. Fish collected were placed in plastic bags (no more than 6 fish per bag) and a tag listing species, date and location of collection was affixed to each bag. The samples were placed in a cooler with ice and transported to the Stamford, N.Y. Region 4 office and stored in a freezer. On August 4, 1975, the samples were picked up by a representative from the DEC laboratory facility at Rome, N.Y. and transported from Stamford to the Rome laboratory.

Coxsackie

Fish listed in Appendix 3 were collected on September 5, 1975 with 230 V-DC boat electro-fishing gear near Coxsackie, N.Y. at the location shown on the Appendix 4 map. Each fish collected for PCB analysis was weighed, measured and tagged with a numbered tag. Fish were then placed in plastic bags (no more than 6 fish per bag) and a tag listing the species, date and location of collection was affixed to each bag. The samples were then placed in a cooler with ice and transported to the Stamford, N.Y. Region 4 office and stored in a freezer. On September 8, 1975 the samples were transported from Stamford to the DEC office facility at Delmar, New York where the fish were received by Dr. Stone.

Stillwater

Fish listed in Appendix 5 were collected on September 17, 1975 with 230 V-DC boat electro-fishing gear near Stillwater, N.Y. at the location shown on the Appendix 6 map. Each fish collected for PCB analysis was weighed, measured and tagged with a numbered tag. Fish were then placed in plastic bags (no more than 6 fish per bag) and a tag listing the species, date and location of collection was affixed to each bag. The samples were then placed in a cooler with ice and transported to the Stamford, N.Y. Region 4 office where the fish were stored in a freezer over night. On September 18, 1975, fish listed in Part I of Appendix 5 were tranported to the DEC Central Office in Albany, N.Y. where the fish were received by Larry Skinner.

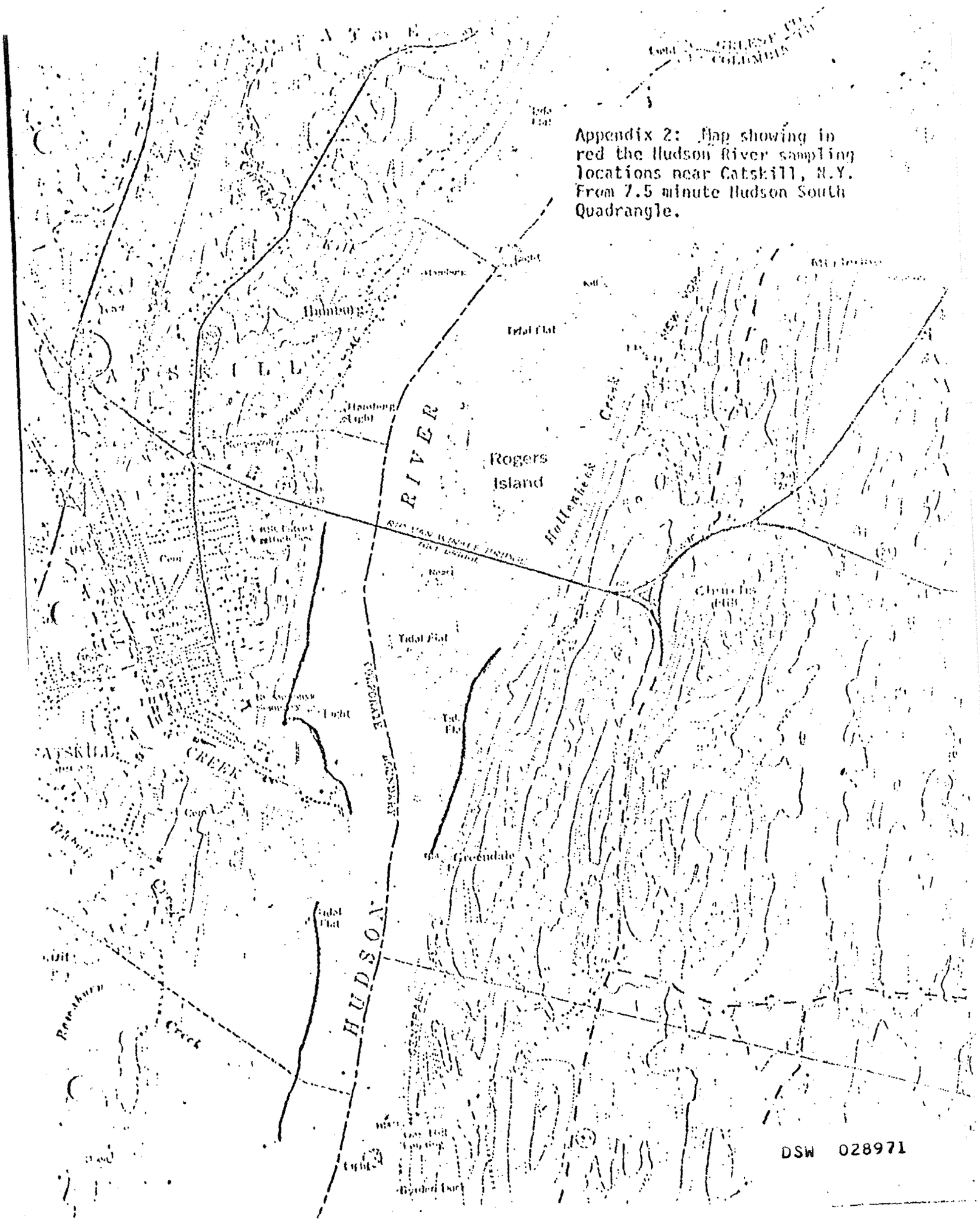
9/29/75

Russell D. Fieldhouse
Regional Fisheries Manager

DSW 028969

Appendix T. Fish collected for PCB analysis in the Hudson River near Catskill, N.Y.

Species	Length (Inches)	Weight (Pounds)
Largemouth bass	11.6"	1# 1 oz.
Smallmouth bass	7.3	5 oz.
Chain pickerel	19.3	1# 14 oz.
Striped bass	8.5	4.5 oz.
" "	8.4	3.5 oz.
White perch	11.1	10 oz.
" "	10.3	7 oz.
" "	8.7	6 oz.
" "	8.4	5 oz.
" "	8.3	5 oz.
" "	7.9	4 oz.
" "	7.5	4 oz.
" "	7.1	3 oz.
" "	6.8	3 oz.
" "	6.5	3 oz.
" "	6.0	2 oz.
" "	5.6	2 oz.
Yellow perch	7.5	3.5 oz.
" "	7.7	3.5 oz.
White sucker	16.1	1# 9 oz.
" "	14.7	1# 4 oz.
" "	13.1	1#



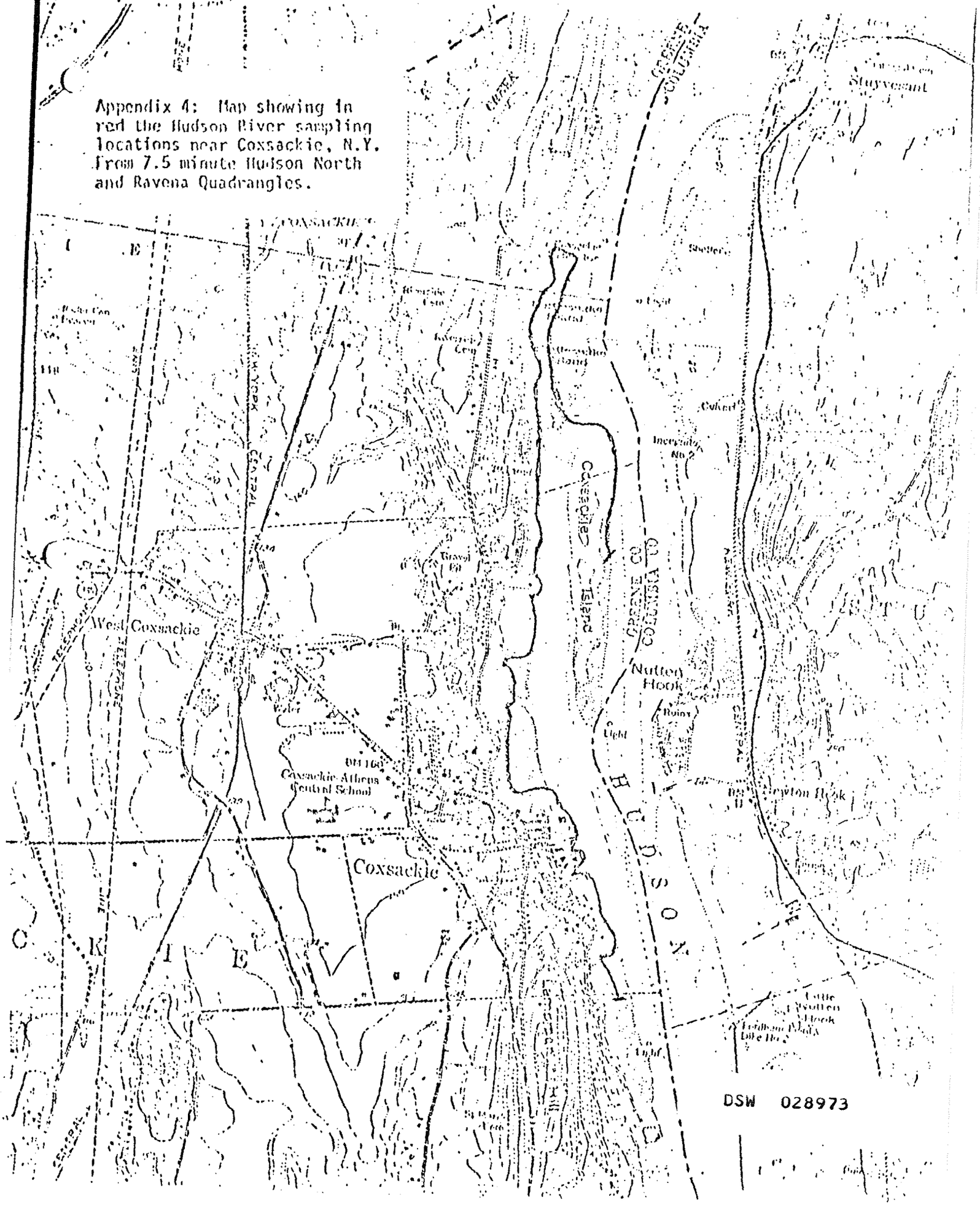
Appendix 2: Map showing in red the Hudson River sampling locations near Catskill, N.Y. From 7.5 minute Hudson South Quadrangle.

DSW 028971

Appendix 3. Fish collected for PCB analysis in the Hudson River near Coxsackie, N.Y.

Species	Tag No.	Length (Inches)	Weight (Pounds)
Largemouth bass	4K 4685	15.6"	2# 7 oz.
" "	4677	15.1	2# 2 oz.
" "	4678	14.9	2# 3 oz.
" "	4670	14.2	2# 2 oz.
" "	4681	13.7	1# 7 oz.
" "	4672	13.5	1# 4 oz.
" "	4689	11.0	12 oz.
" "	4698	6.2	2 oz.
Striped Bass	4K 4692	11.1	8 oz.
" "	4695	8.5	3 oz.
" "	4675	7.8	3 oz.
" "	4671	6.4	2 oz.
" "	4669	5.7	1 oz.
American eel	4K 4667	25.5	1# 14 oz.
" "	4686	21.5	15 oz.
" "	4699	19.0	9 oz.
" "	4657	16.5	6 oz.
White perch	4K 4683	9.5	7 oz.
" "	4696	8.5	4 oz.
White sucker	4K 4679	16.9	1# 12 oz.
" "	4662	15.7	1# 11 oz.
" "	4661	14.8	1# 5 oz.
" "	4666	14.3	1# 3 oz.
" "	4655	13.8	1# 0 oz.

DSW 028972



Appendix 4: Map showing in red the Hudson River sampling locations near Coxsackie, N.Y. From 7.5 minute Hudson North and Ravena Quadrangles.

DSW 028973

Appendix 5. Fish collected for PCB analysis in the Hudson River near Stillwater, N.Y.

PART I

Species	Tag No.	Length (Inches)	Weight (Pounds)
Largemouth bass	4J 2977	12.4"	1# 6 1/2 oz.
" "	2985	12.9	1# 8 1/2 oz.
" "	2956	7.7	5 1/2 oz.
" "	2970	9.6	9 oz.
" "	2965	6.2	2 1/2 oz.
" "	2957	5.6	2 oz.
" "	2979	5.9	2 1/2 oz.
" "	2972	5.7	2 oz.
" "	2974	3.4	1/2 oz.
" "	2971	6.0	1 1/2 oz.
" "	2958	5.2	1 1/2 oz.
" "	2984	4.2	1 oz.
American eel	4J 2975	32"	3# 2 oz.
" "	3000	17	5 oz.
Brown bullhead	4J 2961	9.0"	5 1/2 oz.
" "	2993	6.4	2 oz.
" "	2963	3.8	1/2 oz.
" "	2952	3.5	1/2 oz.
White sucker	4J 2980	15.0	1# 10 oz.
" "	2964	13.3	1# 0 oz.
" "	2983	7.8	4 oz.
" "	2990	7.6	3 oz.
" "	2954	7.2	3 oz.
" "	2969	7.0	2 1/2 oz.
" "	2951	3.9	1/2 oz.

PART II

Northern pike	4J 2966	13.7	8 1/2 oz.
Black crappie	4J 2999	8.3	6 oz.
" "	2962	8.0	4 oz.

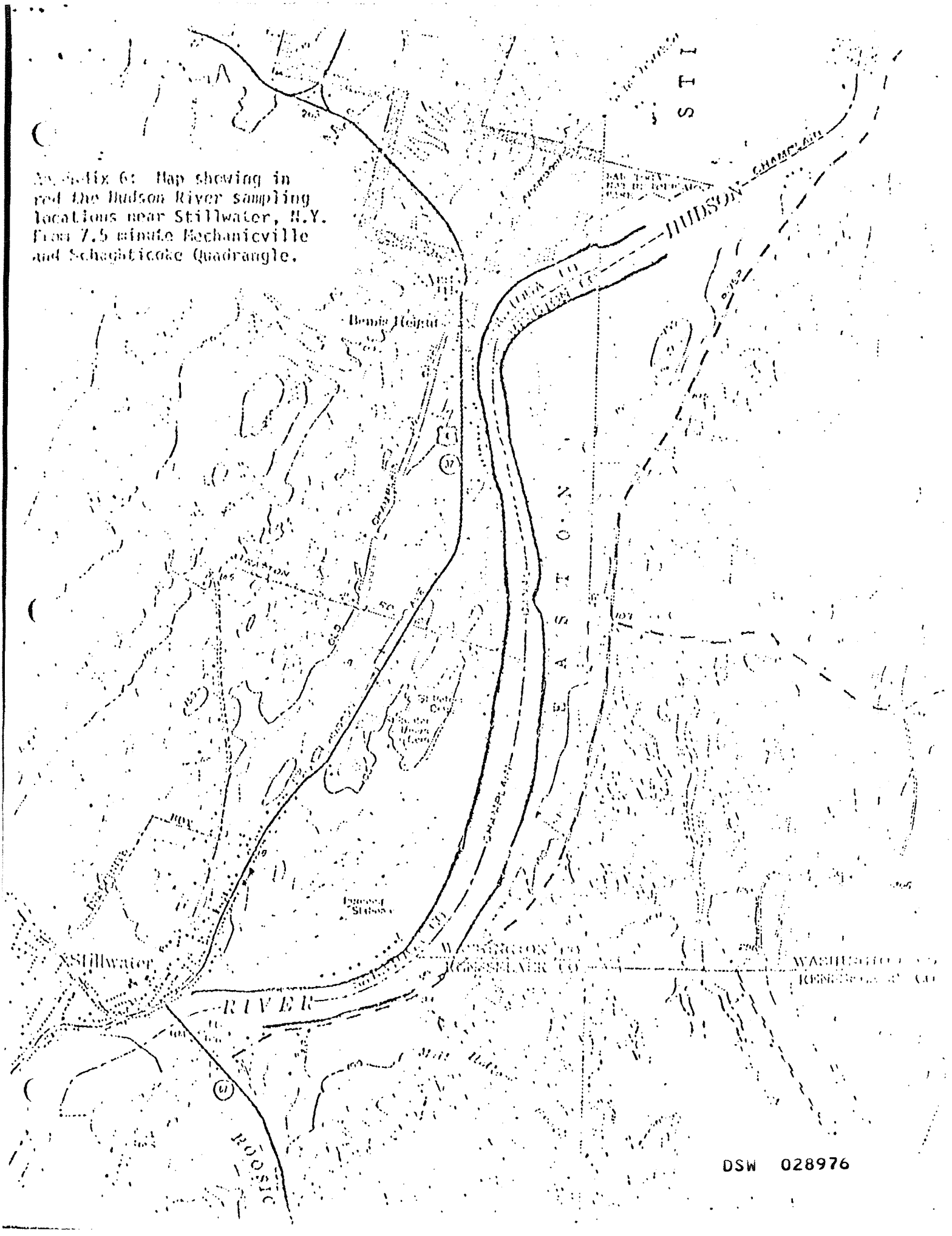
DSW 028974

Appendix 5. Fish collected for PCB analysis in the Hudson River near Stillwater, N.Y.

PART II Con't.

Species	Tag No.	Length (Inches)	Weight (Pounds)
Carp	4J 2976	18.8"	3# 11 oz.
"	2994	19.7	4# 0 oz.
"	2953	9.5	13 1/2 oz.
"	2991	9.4	12 oz.
"	2973	8.1	7 oz.
"	2992	8.7	11 oz.
"	2996	9.6	12 oz.
"	2982	5.2	2 oz.
"	2997	7.4	5 1/2 oz.
"	2988	9.6	11 1/2 oz.
"	2955	6.5	4 oz.
"	2960	5.5	2 1/2 oz.

DSW 028975


Appendix 6: Map showing in red the Hudson River sampling locations near Stillwater, N.Y. From 7.5 minute Mechanicville and Schaghticoke Quadrangle.
HUDSON
CHAMPLAIN
Bemis Heights
Stillwater
RIVER
WASHINGTON CO
RENSSELAER CO
DSW 028976

New York State Department of Environmental Conservation

MEMORANDUM

TO: John Spagnoli
FROM: Michael Gann
SUBJECT: Hudson River fish collections for PCB analysis in Region 3.

DATE: September 29, 1975

I. General Information.

Under the direction of Regional Fisheries Manager, William H. Kelly, collections of fish were taken from the Hudson River at various locations for PCB analysis. The field collection crew was under the direct supervision of Michael Gann, Conservation Biologist, Region 3.

Specific locations of collecting stations are shown as shaded areas on xerox copies of appropriate USGS 7 1/2 minute quadrangles. Gear used in these collections included a 230 volt AC boat electroshocker, and a 150' X 1 1/2" mesh gill net. Upon capture, fish were placed in plastic tubs and transported live to the fisheries laboratory at the Region 3 office in New Paltz. After total length data was obtained, the fish were tagged with individual serialized metal jaw tags, wrapped in either aluminum foil or plastic bags and frozen. Collections were transported, in coolers, from the Region 3 office to Albany, Delmar or the Rome fish lab, with applicable data sheets attached to each shipment. Various fisheries personnel were responsible for delivering the collections, under the direction of William Kelly on arrangements made with Mr. Spagnoli.

II. Collection Station Information.

Mouth of Wappingers Creek
1. Date of collection : August 6, 1975
2. Method of collection : 230 VAC boat shocker
3. Method of packaging : Aluminum foil.

Vanderburgh Cove
1. Date of collection : August 6, 1975
2. Method of collection : 150' X 1 1/2" mesh gill net
3. Method of packaging : Aluminum foil.

Mouth of Rondout Creek (below Eddyville dam)
1. Date of collection : August 7, 1975
2. Method of collection : 230 VAC boat shocker
3. Method of packaging : Plastic bags.

DSW 028977

Rondout Creek at Bloomington (above Eddyville dam)
1. Date of collection : August 18, 1975
2. Method of collection : 230 VAC boat shocker
3. Method of packaging : Plastic bags.

Mouth of Esopus Creek (below falls at Saugerties)
1. Date of collection : August 8, 1975
2. Method of collection : 230 VAC boat shocker
3. Method of packaging : Plastic bags.

Hudson River at N. Tivoli Bay
1. Date of collection : August 8, 1975
2. Method of collection : 230 VAC boat shocker
3. Method of packaging : Plastic bags.

Mouth of Moodna Creek
1. Date of collection : August 11, 1975
2. Method of collection : 230 VAC boat shocker
3. Method of packaging : Plastic bags.

III. Miscellaneous Collections.

On August 8, 1975 a total of 35 blue claw crabs were collected by means of direct contact with crab fishermen. George Haug, seasonal technician, collected these samples from the following sites: (1) railroad bridges at Iona Island, (2) railroad bridge at Annsville Creek, (3) U.S. route 9 bridge at Annsville Creek and, (4) piers at Verplanck. These crabs were labeled as a total collection, placed in plastic bags and frozen at the Region 3 Fisheries Lab.

Hudson River Sloop Restoration, Inc., headquartered in Poughkeepsie, donated a collection of fish from the Hudson, which were picked up at their office on September 8, 1975 by Michael Gann. These fish were frozen and packaged in plastic bags. They were transported to the Region 3 fisheries lab, where paper tags were written and placed in each individual package of fish.

Senior Fish and Wildlife Technician, Robert Bard, submitted an Atlantic sturgeon, found dead off Popolopen Creek, on August 14, 1975. The fish was transported by Mr. Bard to the Regional Fisheries Lab, tagged, wrapped in a plastic bag, and frozen.

Commercial fisherman, Mr. Emil Tschudin, submitted a sample of American shad, shad roe and herring, taken from the Hudson, in the vicinity of the Mid-Hudson Bridge, on

May 18, 1975. The sample was brought in by Mr. Tschudin on August 20, 1975. A paper tag was attached to the entire collection and it was frozen.

IV. Attachments.

1. Copies of raw data sheets on all Hudson River fish collections for PCB analysis, indicating location, date of collection, species, length and tag number.

2. Xerox copies of appropriate USGS 7 1/2' quad maps showing specific sampling areas. Sample locations are indicated by dark outline and cross-hatching. A label appears on each map indicating the title of the map, name of sample station and date of collection.

Submitted

Michael C. Gann

Michael C. Gann
Conservation Biologist
Region 3

MCG:db

Attach.

DSW 028979

BLUE CLAW CRABS — HUDSON R.

STATE OF NEW YORK - - - INTERDEPARTMENTAL MERCURY ANALYSIS REPORT

Report of Mercury Content In PCB's _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

G NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
		Hudson R (Cold Spring)	8/12/75	blue claw crab						#9	
		Hudson R (Poughkeepsie Bridge)	8/11/75	"						#7	
		Hudson R (Wappingers Creek)	8/11/75	"						#10	
		Hudson R (Marlboro Pt.)	8/11/75	"						#11	
	DSW 028980										

**Data from additional analysis as follows.

TOTAL 35

CARP

HUDSON RIVER

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL ~~MERCURY~~ ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

G NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
4423		Mouth of Coppingers Creek	8/6/75	Carp	-	20.2	-				
04				Carp	-	22.4	-				
05				Carp	-	25.3	-				
06				Carp	-	23.8	-				
07				Carp	-	22.0	-				

DSM 028981

**Data from additional analysis as follows.

TOTAL - 5

STLCOPCB4012943

WHITE SUCKER

HUDSON RIVER

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL ~~MERCURY~~ ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

G NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
2401		mouth of Wappingers Creek	8/6/75	W. Sucker	-	16.5	-				
13				W. Sucker	-	14.7	-				

DSM 028982

**Data from additional analysis as follows.

TOTAL - 2

STLCOPCB4012944

Redbreast Sunfish

HUDSON RIVER

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL MERCURY ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

G NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
24/19		Mouth of Wappingers Creek	8/6/75	RBS	-	6.4	-				
37				RBS	-	6.4	-				
44				RBS	-	5.9	-				
46				RBS	-	7.0	-				
48				RBS	-	5.5	-				
50				RBS	-	6.4	-				
55				RBS	-	6.1	-				
57				RBS	-	6.4	-				
65				RBS	-	4.8	-				
52				RBS	-	6.5	-				

DSW 028983

**Data from additional analysis as follows.

TOTAL - 11

POMPKINSEED SUNFISH

HUDSON RIVER

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL ~~MERCURY~~ ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

AG NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
8421		Mouth of Wappinger Creek	8/6/75	PKS	—	5.8	-				
47				PKS	—	5.9	-				
54				PKS	-	6.7	-				
59				PKS	-	5.7	-				
60				PKS	-	6.5	-				
61				PKS	-	5.1	-				
63				PKS	-	6.1	-				
66				PKS	-	4.8	-				
68				PKS	-	5.1	-				

DSM 028984

**Data from additional analysis as follows.

TOTAL - 9

STLCOPCB4012946

BLUEGILL SUNFISH

HUDSON RIVER

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL MERCURY ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

SG NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
8418		Mouth of Wappingers Creek.	8/6/75	BGS	—	6.1	—				
43				BGS	—	6.7	—				
56				BGS	—	7.0	—				
64				BGS	—	5.6	—				

DSW 028985

**Data from additional analysis as follows.

TOTAL - 4

STLCOPCB4012947

YELLOW PERCH

HUDSON RIVER

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL MERCURY ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

G NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
5424		Mouth of Wappingers Creek	8/6/75	YP	—	8.8	—				

**Data from additional analysis as follows.

TOTAL — 1

AMERICAN EEL

HUDSON RIVER

PCB

STATE OF NEW YORK - INTERDEPARTMENTAL ~~MERCURY~~ ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

TAG NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
C8451		Mouth of Wappingers Creek	8/6/75	Eel	-	26.9	-				
69				Eel	-	11.7	-				
70				Eel	-	14.3	-				
72				Eel	-	11.3	-				
76				Eel	-	13.1	-				
79				Eel	-	12.0	-				
82				Eel	-	10.0	-				
83				Eel	-	17.0	-				
84				Eel	-	15.2	-				
85				Eel	-	12.6	-				
86				Eel	-	14.4	-				
87				Eel	-	11.4	-				

DSM 028987

____ **Data from additional analysis as follows.

TOTAL - 12

STLCOPCB4012949

WHITE PERCH

HUDSON RIVER

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL ~~MERCURY~~ ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

IG NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
8409		Mouth of Wappingers Creek	8/6/75	W.P.	-	7.0	-				
12				W.P.	-	7.4	-				
23				W.P.	-	6.4	-				
26				W.P.	-	6.3	-				
29				W.P	-	7.0	-				
30				W.P.	-	7.4	-				
35				W.P	-	7.3					
36				W.P.	-	5.7	-				
37				W.P.	-	4.9	-				
38				W.P.	-	5.4	-				
39				W.P.	-	6.6	-				
42				W.P	-	7.4	-				
49				W.P.	-	6.0	-				
67				W.P.	-	5.1	-				

DSW 028988

**Data from additional analysis as follows.

TOTAL - 14

STLCOPCB4012950

GOLDFISH

HUDSON RIVER

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL MERCURY-ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

G NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
410		Mouth of Wappingers Creek	8/6/75	GF	-	10.4	-				
11				GF	-	10.5	-				
14				GF	-	12.0	-				
16				GF	-	9.9	-				
20				GF	-	11.5	-				
22				GF	-	11.5	-				
25				GF	-	10.5	-				
28				GF	-	10.1	-				
32				GF	-	11.4	-				
33				GF	-	10.8	-				
34				GF	-	11.6	-				
45				GF	-	10.0	-				

DSW 0289B9

**Data from additional analysis as follows.

TOTAL - 13

STLCOPCB4012951

LARGEMOUTH BASS

HUDSON R.

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL ~~MERCURY~~ ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

TAG NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
C8417		Mouth of Wappingers Creek	8/6/75	LMB	-	14.1	-				
02			8/6/75	LMB	-	12.5	-				
08				LMB	-	19.0	-				
15				LMB	-	9.2	-				
40				LMB	-	7.8	-				
41				LMB	-	8.5	-				
62				LMB	-	6.0	-				
55				LMB	-	7.8	-				
58				LMB	-	6.3	-				

DSM 028990

**Data from additional analysis as follows.

TOTAL - 9

GOLDFISH

Hudson River - Vanderburg Cove

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL ~~MERCURY~~ ANALYSIS REPORT

Report of ~~Mercury~~ PCB Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
71		Hudson River Vanderburg Cove	8/6/75	Goldfish	-	9.9	-				
73		" "	"	~~American~~ Goldfish	-	10.2	-				
74		" "	"	"	-	10.6	-				
75		" "	"	"	-	10.5	-				
77		" "	"	"	-	9.8	-				
78		" "	"	"	-	11.4	-				
80		" "	"	"	-	10.8	-				
81		" "	"	"	-	11.0	-				

DSM 028991

**Data from additional analysis as follows.

TOTAL - 8

STLCOPCB4012953

WHITE SUCKER

HUDSON RIVER

STATE OF NEW YORK - - - INTERDEPARTMENTAL ~~MERCURY~~ PCB ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

G NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
[illegible]		Rondout Creek at Eddyville	8/7/75	White Sucker		15.9					
2500				"		16.2					
2499				"		16.0					
2498				"		16.1					
2497				"		16.7					
2496				"		16.2					
[illegible]				"		15.5					
2203				"		16.0					
2204				"		14.8					
2205				"		16.5					
2206				"		16.2					
2207				"		12.2					

DSM 028992

**Data from additional analysis as follows.

TOTAL - 12

STLCOPCB4012954

WHITE PERCH

HUDSON RIVER

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL MERCURY ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

NG NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
220		Rondout Creek at Eddyville	8/7/75	white perch		9.5					
221				"		8.0					
222				"		8.7					
223				"		8.8					
224				"		8.1					
225				"		8.0					
226				"		7.4					
227				"		8.5					
228				"		7.4					
229				"		8.4					
230				"		9.3					
231				"		7.5					
232				"		8.5					
233				"		9.0					
234				"		7.8					
235				"		8.0					

DSW 028993

**Data from additional analysis as follows.

TOTAL - 160

STLCOPCB4012955

STRIPED BASS

HUDSON RIVER

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL MERCURY ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
219		Rondout Creek at Eddyville	8/7/15	striped bass		11.2					
217				"		20.8					

DSM 0289944

**Data from additional analysis as follows.

TOTAL - 2

STLCOPCB4012956

YELLOW PERCH

HUDSON RIVER

STATE OF NEW YORK - - - INTERDEPARTMENTAL ~~MERCURY~~ PCB ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

G NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
494		Rondout Creek at Eddyville	8/7/75	Yellow perch		7.4					
495				"		7.3					
496				"		8.7					
497				"		7.9					
498				"		8.6					
499				"		8.2					
207				"		7.8					
208				"		8.1					
210				"		8.9					
211				"		9.0					
212				"		8.8					
213				"		8.0					
214				"		7.7					
215				"		7.7					
216				"		7.9					
217				"		8.5					

DSM 028995

**Data from additional analysis as follows.

152 " 7.5

TOTAL - 17

EDBREAST SUNFISH
MPKINSEED SUNFISH
UEGILL SUNFISH

HUDSON RIVER

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL MERCURY ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
45		Roaring Creek at Eddyville	8/7/75	Red breasted Sunfish		7.1					
46				Pumpkinseed Sunfish		6.9					
39				Bluegill Sunfish		7.1					
01				"		6.0					

DSM 028996

**Data from additional analysis as follows.

TOTAL - 4

STLCOPCB4012958

SMALLMOUTH BASS

HUDSON RIVER

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL MERCURY ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
13		Rondout Creek at Eddyville	8/7/75	Smallmouth Bass		9.3					

DSW 028997

**Data from additional analysis as follows.

TOTAL - 3

LARGEMOUTH BASS

HUDSON RIVER

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL MERCURY ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

IG NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
1236		Rondout Creek at Eddyville	8/7/75	largemouth bass		16.2					
1237				"		16.1					
1239				"		12.4					
1240				"		18.2					
1241				"		12.2					
1243				"		14.2					
1244				"		7.9					

DSW 028998

**Data from additional analysis as follows.

TOTAL - 7

NYSDEC Region 3. New Paltz

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL ~~MERCURY~~ ANALYSIS REPORT

Report of ~~Mercury~~ PCB Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

FRG NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Mg. PPM	**	REMARKS	DATE SUBMITTED
2D186		Rondout Creek at Bloomington	8/18/75	White Suckers		14.9					
" 187		"	"	"		14.7					
" 188		"	"	"		14.7					
" 189		"	"	"		15.0					
" 190		"	"	"		18.6					
" 191		"	"	"		16.5					
" 192		"	"	"		14.8					
2D193		"	"	Carp		24.0					
" 194		"	"	"		22.7					
" 195		"	"	"		25.9					

DSM 028999

**Data from additional analysis as follows.

STLCOPCB4012961

NYSDEC Region 3 New Paltz

PCB

STATE OF NEW YORK - - INTERDEPARTMENTAL ~~MEMO~~ ANALYSIS REPORT

Report of ~~Mercury~~ PCB Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See Instructions on Reverse)

TAG NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
2D174	MSD 029000	Rondout Creek at Bloomington	8/18/75	Large mouth Bass		20.0					
" 175		"	"	"		18.7					
" 176		"	"	"		10.4					
" 177		"	"	"		7.1					
" 178		"	"	"		7.0					
" 179		"	"	"		8.0					
" 180		"	"	"		7.7					
" 181		"	"	"		7.1					
2D182		"	"	Smallmouth		6.4					
" 183		"	"	"		6.2					
2D184		"	"	Black crappie		10.8					
2D185		"	"	Rock Bass		7.2					

_____ **Data from additional analysis as follows.

Hudson River mth of Esopus Creek

STATE OF NEW YORK - - - INTERDEPARTMENTAL ~~MERCURY~~ PCB ANALYSIS REPORT

Report of ~~Mercury~~ PCB Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	Inches LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
50		Hudson River mth of Esopus Cr.	8/8/75	CARP		23.1					
51		"	"	White Perch		8.1					
49		"	"	" "		7.2					
1		"	"	" "		7.1					
48		"	"	" "		5.6					
47		"	"	" "		6.6					
46		"	"	" "		7.4					
45		"	"	" "		8.1					
44		"	"	" "		6.6					
43		"	"	" "		6.5					
42		"	"	" "		6.5					
41		"	"	" "		5.5					
40		"	"	" "		7.7					

DSW 029001

**Data from additional analysis as follows.

(WP) TOTAL 12

STLCOPCB4012963

Hudson River mth of Esopus Creek

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL ~~MERCURY~~ ANALYSIS REPORT

Report of ~~Mercury~~ PCB Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
39		Hudson R. mth of Esopus Cr	8/8/75	Yellow Perch		7.9					
38		"	"	Yellow Perch		8.0					
37		"	"	"		7.4					
36		"	"	"		7.5					
35		"	"	"		7.2					
34		"	"	"		7.2					
33		"	"	"		7.3					
32		"	"	"		7.6					
31		"	"	"		7.2					
30		"	"	"		7.8					
29		"	"	"		7.7					
28		"	"	"		7.3					
27		"	"	"		8.9					

DSW 029002

**Data from additional analysis as follows.

TOTAL -13

Hudson River mi. n. of Esopus Creek

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL ~~MERCURY~~ ANALYSIS REPORT

Report of ~~Mercury~~ PCB Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

G NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
26		Hudson River mth of Esopus Cr	8/8/75	White Suckers	-	16.9					
25		"	"	"		18.9					
24		"	8/8/75	Striped Bass	-	14.2					
23		"	"	"	-	7.8					
22		"	"	"		8.3					
21		"	"	"		6.2					
---	---	---	---	---	---	---	---	---	---	---	---
		"	"	~~Striped Bass~~							

DSW 029003

**Data from additional analysis as follows.

STLCOPCB4012965

HUDSON R. at N. TIVOLI BAY

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL ~~MERCURY~~ ANALYSIS REPORT

Report of ~~Mercury~~ Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
-20		Hudson R. at N. Tivoli Bay	8/8/75	Carp	—	21.7	—				
-17		Hudson R. at N. Tivoli Bay	8/8/75	LMB	—	9.6	—				
-18		Hudson R. at N. Tivoli Bay		WP		6.3					
-19		"		WP		6.0					
-16		"		WP		5.8					
-15		Hudson R. at N. Tivoli Bay		Goldfish		11.5					

DSW 029004

**Data from additional analysis as follows.

STLCOPCB4012966

Moodna Ck (Newburgh)

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL MERCURY ANALYSIS REPORT

Report of ~~Mercury~~ PCB Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

AG NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
D13		Hudson R Mouth Moodna Ck	8/11/75	carp		20.0					
		"									
D14		"	"	white sucker		15.8					
D12		"		"		18.3					
D11				"		17.1					
D10				"		17.2					
D9				"		19.2					
D8				largemouth bass		12.7					
D7				"		12.0					
D6				"		11.6					
D5				"		8.8					
D4						9.1					
		"									
D3		"		white perch		6.8					
D2				"		7.5					

DSW 029005

**Data from additional analysis as follows.

Agency

STLCOPCB4012967

Moodna Ck (Newburgh)

PCB

STATE OF NEW YORK - - - INTERDEPARTMENTAL ~~MERCURY~~ ANALYSIS REPORT

Report of ~~Mercury~~ PCB Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

G NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
154		Hudson R. North of Moodna Ck	8/11/75	white perch		5.8					
153		"		"		6.8					
155				"		6.3					
156				"		6.5					
157				"		5.9					
158				"		5.8					
159				"		7.6					
160				striped bass		6.3					
161				"		5.0					
163				pumpkinseed sunfish		5.9					
164				"		5.5					
165				"		5.4					
166				"		5.4					

DSM 029006

**Data from additional analysis as follows.

R. Canal

STLCOPCB4012968

Moodna Ck (Newburgh)

STATE OF NEW YORK - - - INTERDEPARTMENTAL ~~MERCURY~~ PCB ANALYSIS REPORT

Report of Mercury Content In ______________ Laboratory Making Analysis ______________

Analytical Method ______________ Analyzed By ______________ Report Date ______________

(See instructions on Reverse)

AG NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES		SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
167		Hudson R. North of Moodna Cr	8/11/75	gold fish			11.2					
168		"		"			9.9					
169		"		"			10.3					
170		"		"			9.5					

DSW 029007

**Data from additional analysis as follows.

Rejected C.

STLCOPCB4012969

Hudson K. PCB 0 -76

STATE OF NEW YORK - - - INTERDEPARTMENTAL ~~MEMO~~ ANALYSIS REPORT

Report of ~~Mercury~~ PCB Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See Instructions on Reverse)

TAG NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	mg. PPM	**	REMARKS	DATE SUBMITTED
		1.0 mi ab GW Br	4/27/75	(5) Shad	-	-	-				9/2/75
		"	4/27/75	(1) Shad roe	-	-	-				"
		1.0 mi bel G.W. Br	4/27/75	(1) St. Bass roe	-	-	-				"
		1.0 mi bel G.W. Br	4/27/75	(1) Anglerfish	-	~28"	-				"
		1.0 mi bel G.W. Br	4/27/75	(2) B.B. herring	-	-	-				"
		1.0 mi bel G.W. Br	4/27/75	Herring roe	-	-	-				"
		1.0 mi bel G.W. Br	4/27/75	(2) Shad roe	-	-	-				"
		1.0 mi above Kingston - Rhinecliff Br	4/27/75	Shad	-	-	-				"
	DSW 020008										
		* George Washington Bridge									

**Data from additional analysis as follows.

Specimens donated by H.R. Sloop Restoration, Inc.

HUDSON RIVER.

PCB

Region 3

STATE OF NEW YORK - - - INTERDEPARTMENTAL MERCURY ANALYSIS REPORT

Report of Mercury Content In _____ Laboratory Making Analysis _____

Analytical Method _____ Analyzed By _____ Report Date _____

(See instructions on Reverse)

FAC NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIES	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
2008		Hudson River	8/14/x	Atlantic Sturgeon		25.0					
		Near Poughkeepsie									
		Creek									
		~~Mill Br~~									
		(Beam Mkt Br)									

DSM 029009

**Data from additional analysis as follows.

STATE OF NEW YORK - - - INTERDEPARTMENTAL ~~MERCURY~~ PCB ANALYSIS REPORT

Report of ~~Mercury~~ PCB Content In ________ Laboratory Making Analysis ________

Analytical Method ________ Analyzed By ________ Report Date ________

(See instructions on Reverse)

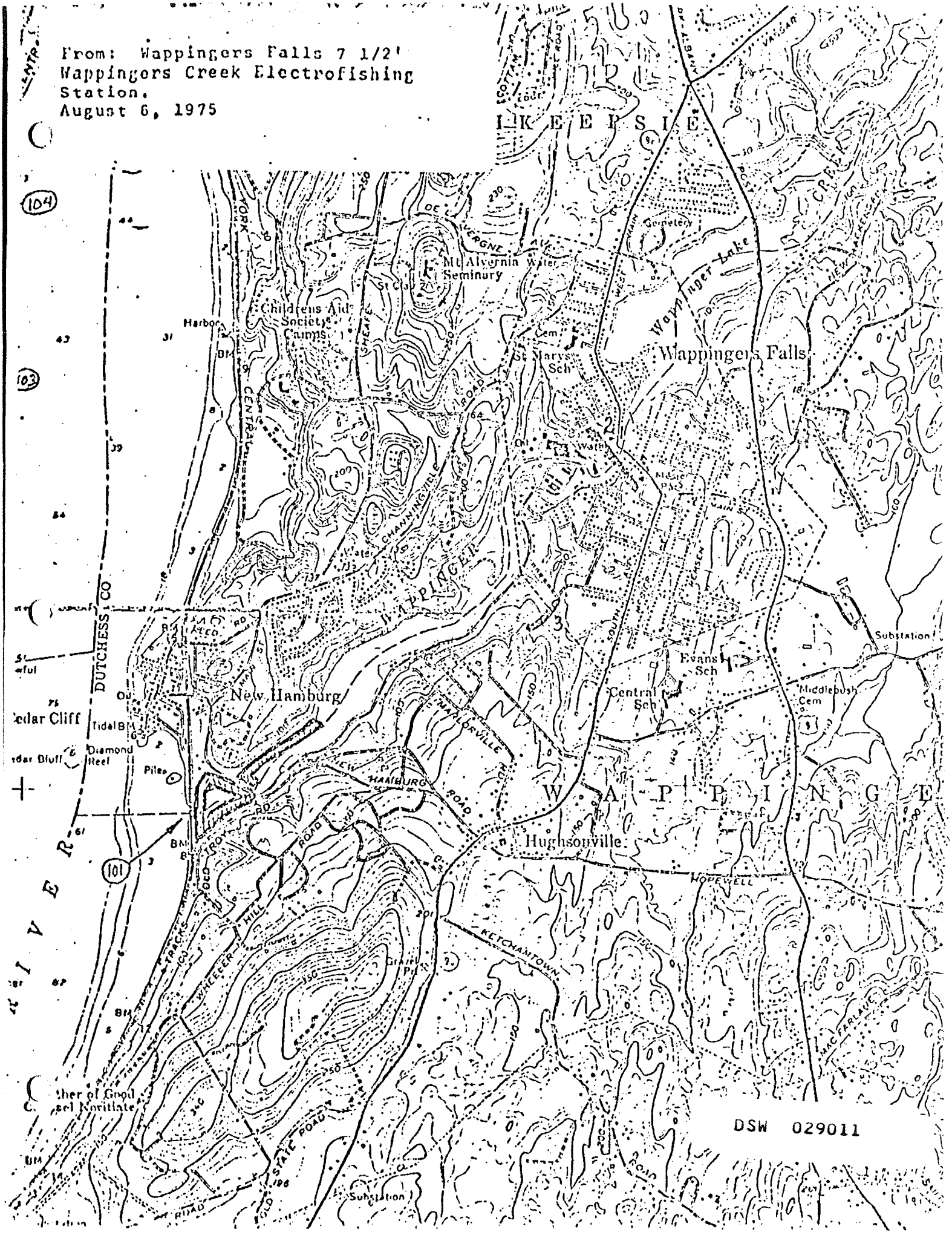
TAG NO.	LAB NO.	ORIGIN	DATE TAKEN	SPECIE	SEX	LENGTH	WT.	Hg. PPM	**	REMARKS	DATE SUBMITTED
		Hudson River									
		2.0 miles									
		South of									
		Mid-Hudson									
		Bridge									
None			5/18/75	Shad Roe		–					
None			5/18/75	Amer. Shad		–					
"			"	Amer. Shad		–					
"			"	Amer. Shad		–					
"			"	Amer. Shad		–					
"			"	Amer. Shad		–					
None			8/18/75	Herring		–					
"			"	"		–					
"			"	"		–					
"			"	"		–					
"			"	"		–					

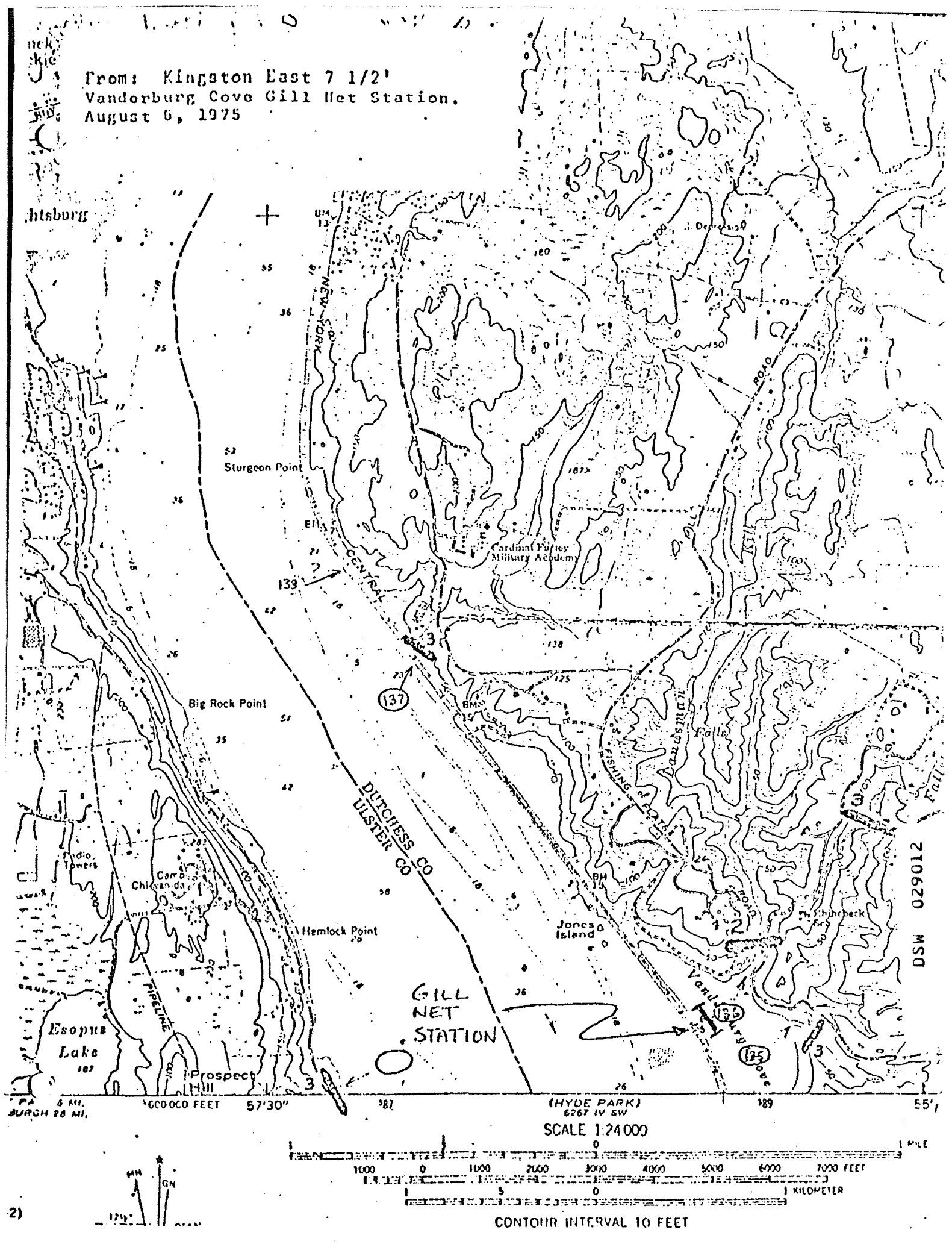
Submitted by Emil Tschudi 170 Cannon St Poughkeepsie, N.Y. Commercial Fisherman

DSW 029010

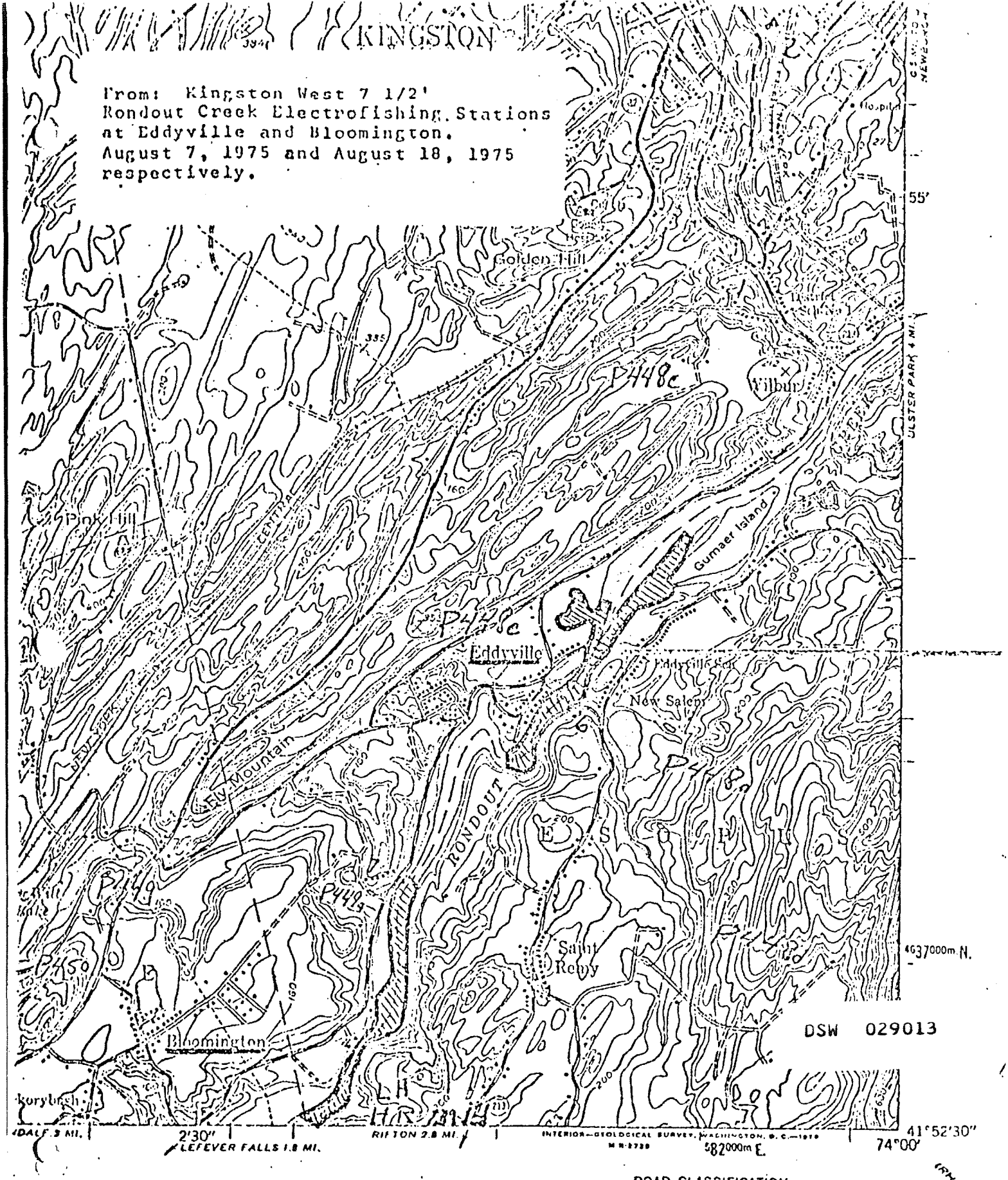
5 **Data from additional analysis as follows.

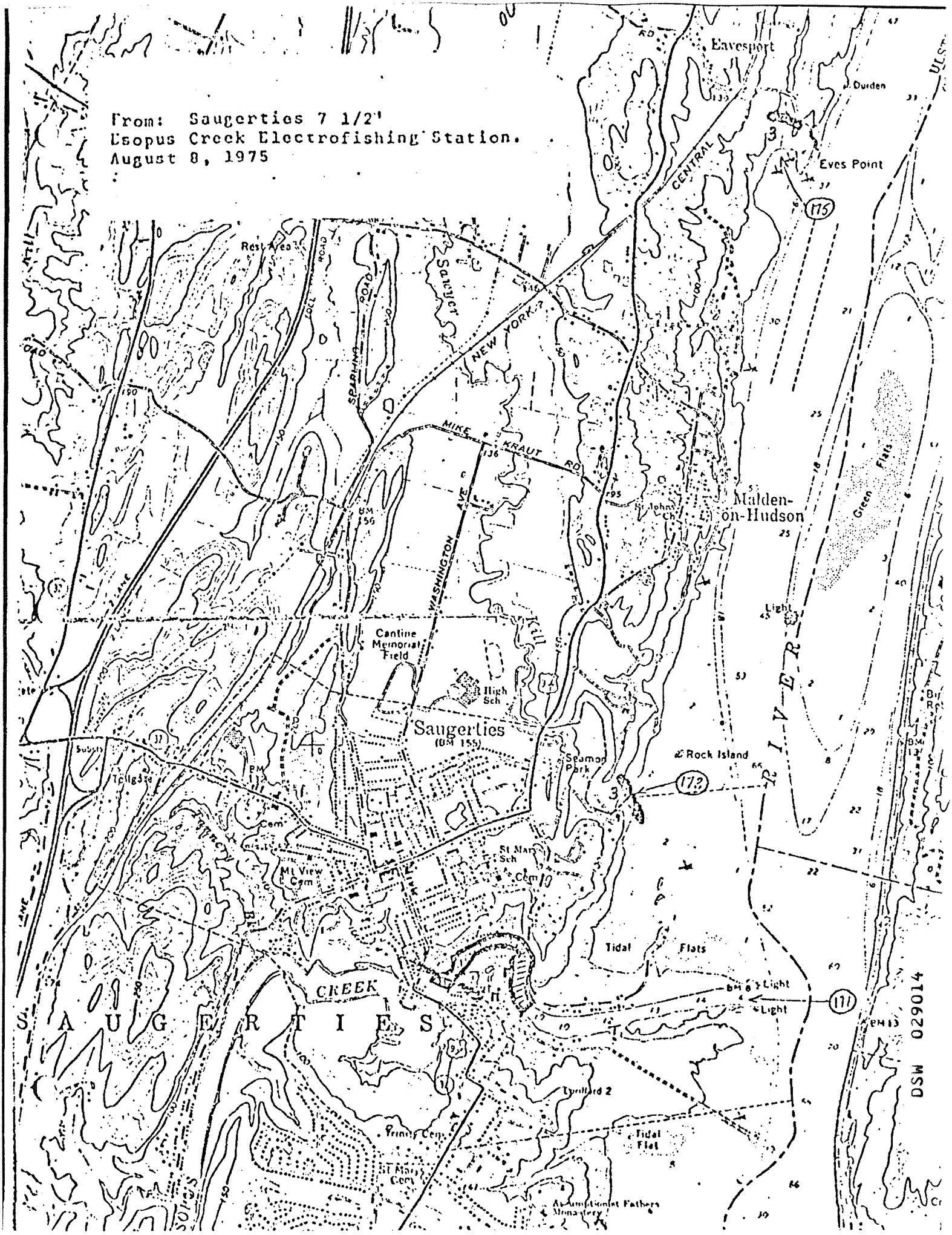
STLCOPCB4012972

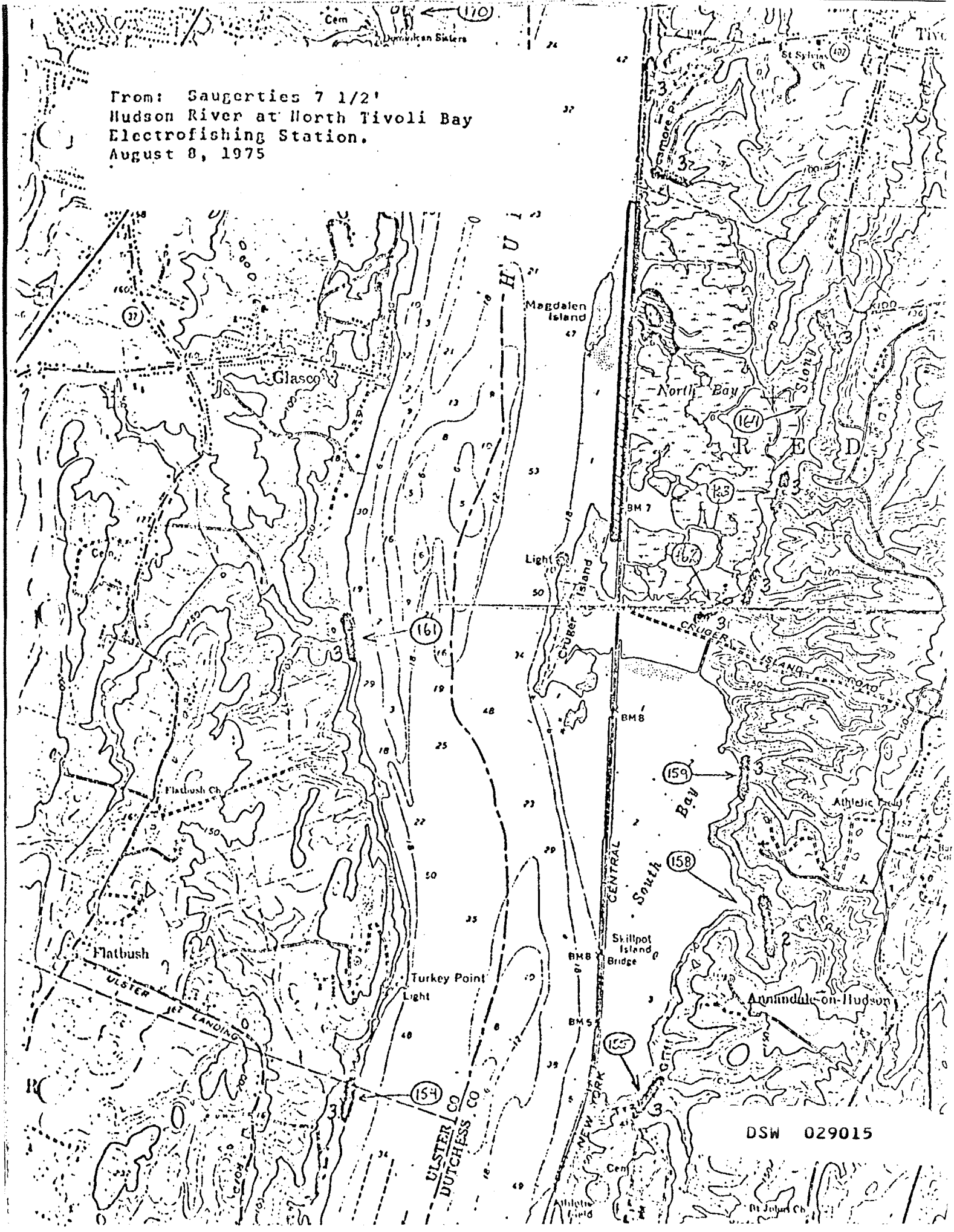


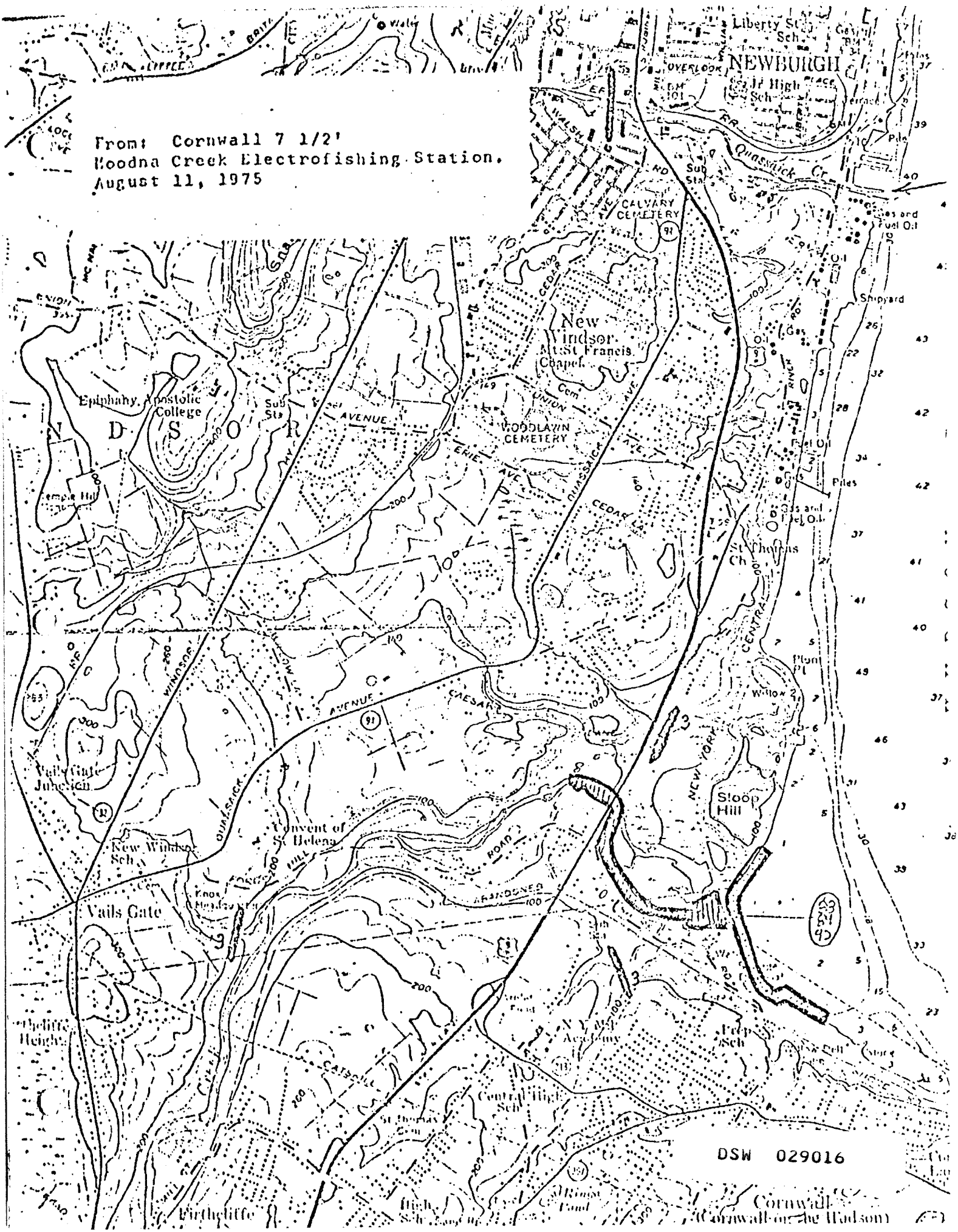


STLCOPCB4012974









STLCOPCB4012978

REPORT OF
PCB FISH SAMPLE COLLECTIONS
UPPER HUDSON RIVER
By: Region 5-South, Warrensburg Inland Fisheries Management Unit

Introduction

The Warrensburg DEC, Division of Fish and Wildlife, Bureau of Fisheries, Inland Fisheries Management Unit, under the supervision of Fisheries Manager Gene Lane, Associate Aquatic Biologist, collected representative fish samples from the Hudson River at six (6) sample stations, described below, from Corinth downstream to Waterford:

Station Number	Dates	Area	U.S.G.S. 7.5 Minute Quad Map Reference
1	Aug. 20-21, 1975	Above Corinth (One-half mile below the mouth of the Sacandaga River downstream approx. 5 miles to 1/2 mile above the dam at Corinth)	Figures 1 & 2 Lake Luzerne (Fig. 1) and Corinth Quads (Fig. 2)
2	July 24-25, 1975	Above Glens Falls (Approx. 2 miles downstream from U.S. Rte. 87, Northway Bridge Crossing)	Figure 3 Glens Falls Quad
3	July 1-2, 1975	Below Hercules, Inc. Hudson Falls, N.Y.	Figure 4 Hudson Falls Quad
4 a.	July 24-25, 1975	Fort Edward (Below G.E. plants in vicinity of Rogers Island)	Figure 4 Hudson Falls Quad
b.	Sept.18, 1975	Fort Edward (Same as 4a)	Same

DSW 029017

5	a. July 28-29, 1975	Approx. 5 miles below Fort Edward	Figure 5 Fort Miller Quad
	b. Sept. 15-17, 1975	Same	Same
6	Aug. 25-27, 1975	Waterford, N.Y. (Lock #1 downstream approx. 3 miles to 0.5 mi. above mouth of Mohawk River)	Figure 6 Troy North Quad

Fish samples were collected by gill netting, fish toxicant (rotenone) and by angling. Sampling techniques were determined by recreational useage conflicts, water quality and clarity, velocity of flow and, in one instance, potential for additional vandalism of nets.

Upon capture, all fish samples were immediately put in polycthylene bags and placed in an insulated, portable cooler filled with ice. On the same day of capture, the bags containing the sample were labeled with information as to the species contained, capture date and location and placed in a walk-in freezer located in a locked building on the Warrensburg DEC Regional office property. Building security is supervised by the Regional Supervisor of Fish and Wildlife, Principle Fish & Wildlife Biologist Robert Brewer. Samples were held in the freezer until they were transported to various laboratories for analysis. Clean samples of the polyethylene bags were also sent with the samples for analysis.

Collection methodology, field supervision, transportation methods and sample destination will be described for each sample station on the section that follows. Sample collections will be described from the most upstream station to the downstream location rather than in chronological order. Two stations (4 and 5) were sampled twice to provide more comprehensive fish collections.

Fish Collection Stations

Station 1 - Above Corinth - Aug. 20-21, 1975

Conservation Biologist Bruce Shupp supervised the 3 man field crew on this collection. Nylon, multifilament gill nets were chosen as the collection method. Netting was difficult due to diurnal changes in volume and velocity of flow due to releases from the Conklingville Dam on the Great Sacandaga Lake. Electrofishing was eliminated as a sampling tool because of low conductivity and a mean water depth which would have reduced efficient electrofishing to minimal effectiveness. Fish toxicants were also eliminated because of the heavy use of this section of the Hudson by boaters, swimmers and anglers.

On 8/20/75, gill nets were set in 5 locations, designated as G-1-1, G-1-2, G-1-3, G-1-4 and G-1-5 on Figure 1. The five sets totaled 600 linear feet of 6 ft. deep mesh (2-150' variable mesh nets, $1\frac{1}{2}$" stretch through 4" stretch; and 3-100', 3" stretch mesh nets).

Nets were pulled in the AM on 8/21/75. One 150' variable mesh net was vandalized beyond repair and the other 150' variable mesh net was stolen. The remaining three nets caught a satisfactory sample, except for smallmouth bass (Micropterus dolomieui). To eliminate further net vandalism, angling was used on 8/21/75 to complete the smallmouth bass sample. The areas where the rod and reel captured bass were taken are designated on Figures 1 and 2 by the yellow shaded areas A-1-1 and A-1-2.

Table No. 1 lists numbers, length range and average length for the combined sample of fish captured by netting and angling.

That portion of the total sample which was transported by truck to the DEC Rome Fishery Laboratory on 8/22/75 by Temporary Fish and Wildlife Technician Raymond Smith and received by DEC Chemist Earl Harris is identified on Table No. 1 by species, length and designated composite number.

Station 2 - Above Glens Falls - July 24-25, 1975

Senior Fish and Wildlife Technician Burton Morehouse supervised the 3 man collection crew. A total of 1350 linear feet of 6 ft. deep multifilament nylon gill net was set 7/24/75 and fished for 20 hours (overnight) in 4 net locations designated as G-2-1, G-2-2, G-2-3 and G-2-4 on Figure 3. The nets fished efficiently and when pulled 7/25/75 produced a total collection as listed on Table 2.

Also on Table 2 is the sample of fish from the total collection which was transported to the DEC Rome, New York, laboratory on 7/28/75 by a technician from the Rome Lab and received by DEC Chemist Earl Harris.

These samples are listed by total length, total weight, and are identified by a designated composite number.

Station 3 - Below Hercules, Inc. - Hudson Falls - 7/1-2/75

This station was sampled at the request of the United States Food and Drug Administration. Senior Fish and Wildlife Technician Burton Morehouse supervised the 2 man crew.

Multifilament nylon gill nets were fished overnight in two locations for 22 hours below the outfall of the Hercules, Inc., Hudson Falls plant. One location consisted of a 150 linear foot x 6 ft. deep x variable mesh net. The other set was 300 linear feet of similar depth and mesh size. These sets are designated G-3-1 and G-3-2 on Figure 4. The total 450' of gill net was discarded due to the severe accumulation of fibrous sludge which is present in voluminous quantitites through the water volume.

Total lengths of fish captured are listed on Table 3. Also listed is the sample of fish which was selected from the total collection, packed with 4 lbs. of dry ice in a sturdy, insulated ice chest, sealed in a cardboard carton and transported on 8/6/75 by Fish & Wildlife Technician Ray Brown to the Alleghany Air Lines Air Freight Terminal at the Albany County Airport for shipment to the FDA Lab in Washington, D.C.

Station 4 - Fort Edward - Rogers Island Vicinity

Station 4a - July 24-25, 1975

Senior Fish and Wildlife Technician Burton Morehouse directed a 3 man crew which attempted to obtain a comprehensive fish sample in the vicinity of Rogers Island by setting multifilament nylon gill nets in three locations designated as G-4-1, G-4-2 and G-4-3 on Figure 4. The three net gangs consisted of 2 panels each of 150' x 6' x variable graded mesh ($1\frac{1}{2}$" stretch through 4" stretch mesh). The total 900 linear feet of net was ultimately discarded due to massive accumulations of fibrous sludge which also caused the destruction of the nets at Station 3.

The nets were set on 7/24/75 and fished overnight for 20 hours until pulled [illegible] 7/25/75. Because of the amount of sludge the nets did not fish efficiently. Only 3 fish, listed in Table 4a, were captured. The entire collection was subsequently transported to the DEC Chemistry Lab in Rome, N.Y., on 7/28/75 by personnel from the Rome Lab and received by DEC Chemist Earl Harris.

Individual fish used for analysis from this sample have been designated as 55 Hud-75-DN, 56 Hud-75-DN and 57 Hud-75-DN and are also listed on Table 4a.

Station 4b - Sept. 18, 1975

Because the netting on 7/24-25/75 resulted in a poor catch due to the disastrous fibrous sludge accumulation a second attempt was made to sample fish in the vicinity of Rogers Island at Fort Edward.

On 9/15/75 an attempt was made to collect specimens by electrofishing the mainland and island shoreline areas in the Rogers Island area. Although a few fish were captured during a 3.5 hour period, the extreme water turbidity caused extremely poor visibility, thus electrofishing proved an inefficient sampling method.

Fish toxicant was the only other alternative! On 9/18/75 two areas in the Rogers Island area were treated with 5% emulsifiable Rotenone at 2 ppm under direct supervision of Conservation Biologist Bruce D. Shupp. These areas are indicated as R-4-1 and R-4-2, in red, on Figure 4.

The total fish collection resulting from this method is listed on Table 4b.

Listed on Table 4c are the lengths, weights and metal jaw tag numbers which were placed on some individual fish specimens, and bagged composites of smaller untagged specimens. This sample was transported by truck to the DEC Chemistry Lab at Rome, N.Y., on 9/19/75 by Fish and Wildlife Technician Raymond Smith. Documentation of delivery and receipt are on Table 4d. Delivery received by Senior Analytical Chemist Ralph Karcher Jr.

Station 5 - 5 miles below Ft. Edward, New York

Station 5a - July 28-29, 1975

A crew of three under the supervision of Senior Fish and Wildlife Technician Burton Morehouse set a total of 850 linear feet of 6 ft. deep multifilament nylon gill net in 3 locations designated as G-5-1a, G-5-2a, and G-5-3a on Figure 5. Linear footage of utilized stretch mesh dimensions are: 150' of variable mesh ($1\frac{1}{2}$"-4" stretch); 300 ft. of 3" stretch; 300 feet of 4" stretch; and 100 feet of 5" stretch. The nets were set 7/28 and pulled 7/29/75 after fishing 18 hours. Although the nets had accumulations of fibrous sludge material, they caught some fish and the nets were salvaged.

Table 5a lists the species and the total lengths for individual fish caught in this netting. Also listed are the designated composite numbers identifying the samples from this collection which were transported to the DEC Chemistry Lab, Rome, N.Y., by DEC Water Resources Technicians from Albany on 7/30/75 and were received by DEC Chemist Earl Harris.

Station 5a - Sept. 15-17, 1975

Predator species were lacking in the 7/28-29/75 sample (designated 5a) in this location 5 miles downstream from Fort Edward; therefore, additional sampling was required to obtain a more comprehensive sample. On 9/15/75, under the direct supervision of Conservation Biologist Bruce D. Shupp, a 4 man crew set a total of 1400 linear feet of 6' deep multifilament nylon gill net. The nets were set in 7 locations designated G-5-1b, G-5-2b, G-5-3b, G-5-4b, G-5-5b, G-5-6b, and G-5-7b on Figure 5. Totals of various stretch-measured mesh sizes include: 500' of 4" mesh, 300' of 3" mesh, 300' of $2\frac{1}{2}$" mesh, and 300' of variable-graded $1\frac{1}{2}$"-4" mesh.

The nets were pulled on 9/16/75 after fishing approximately 24 hrs. Density of fibrous sludge in the river had increased during the period the nets were fishing. This occurred either as a result of disturbance of bottom sludge deposition from increased barge traffic, or from increased discharge from the source. Whatever the reason for the increased sludge density, the result was destruction of the 1400' of gill net and a negligible fish sample. As in the situation at Station 4b, fish toxicant was utilized to obtain a comprehensive sample.

On 9/17/75, under direct supervision of Regional Fish Manager Gene A. Lane, a 5% solution of emulsifiable rotenone was applied at 2 ppm to the areas shown with brown shading and designated R-5-1, R-5-2 and R-5-3 on Figure 5.

The total fish collection resulting from the rotenone application is itemized on Table 5b. Table 5c lists the lengths, weights and individual jaw tag numbers on individual species specimens, the composite plastic bag sample of untagged smaller specimens, and a 5 lb. snapping turtle sent live also for PCB analysis.

The sample was transported by truck to the DEC Chemistry Lab in Rome, N.Y. on 9/18/75 by Fish and Wildlife Technician David Kenyon and received by DEC Chemist Earl B. Harris. Table 5d documents delivery and receipt of this sample.

Station 6 - Waterford, New York - 8/25-27/75

This station was netted two nights 8/25-26/75 and 8/26-27/75 under direct supervision of Conservation Biologist Bruce D. Shupp. A total of 8 net sites were fished. These are designated G-6-1 through G-6-8 on Figure 6. Sites G-6-5 and G-6-6 were fished both nights. Sites G-6-1 through G-6-4 were fished 8/25-26/75 only. Sites G-6-7 and G-6-8 were fished only 8/26-27/75.

Over the two net-nights a total of 1935 linear feet of 6' deep multifilament nylon gill net was employed.

Although the debris accumulated in the nets (including raw human sewage) limited netting efficiency, a satisfactory comprehensive sample was obtained. The total catch is summarized on Table 6. Table 6a itemizes the species, their lengths and tag numbers which were utilized as

the sample transported to the New York State Department of Agriculture and Markets Laboratory in Albany, New York on 8/28/75 by Fish and Wildlife Technician Raymond Smith and which were received by Dr. Elmer George of Agriculture and Markets.

Prepared: September 29, 1975

By _____

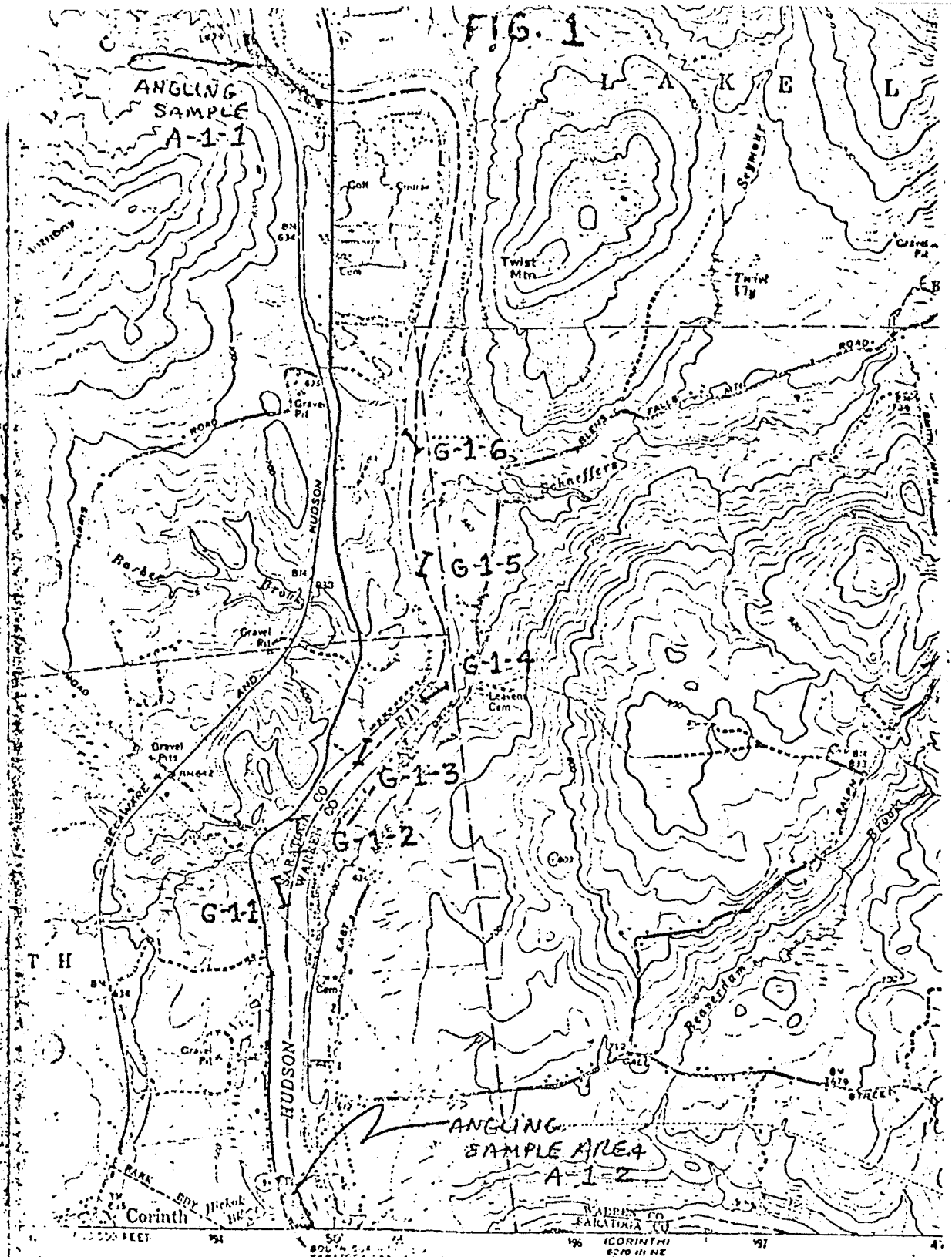
Bruce D. Shupp
Conservation Biologist
Fish and Wildlife
Region 5 - Warrensburg

Approved by:

_____

Gene A. Lane
Regional Fisheries Manager
Fish and Wildlife
Region 5 - Warrensburg

FIG. 1



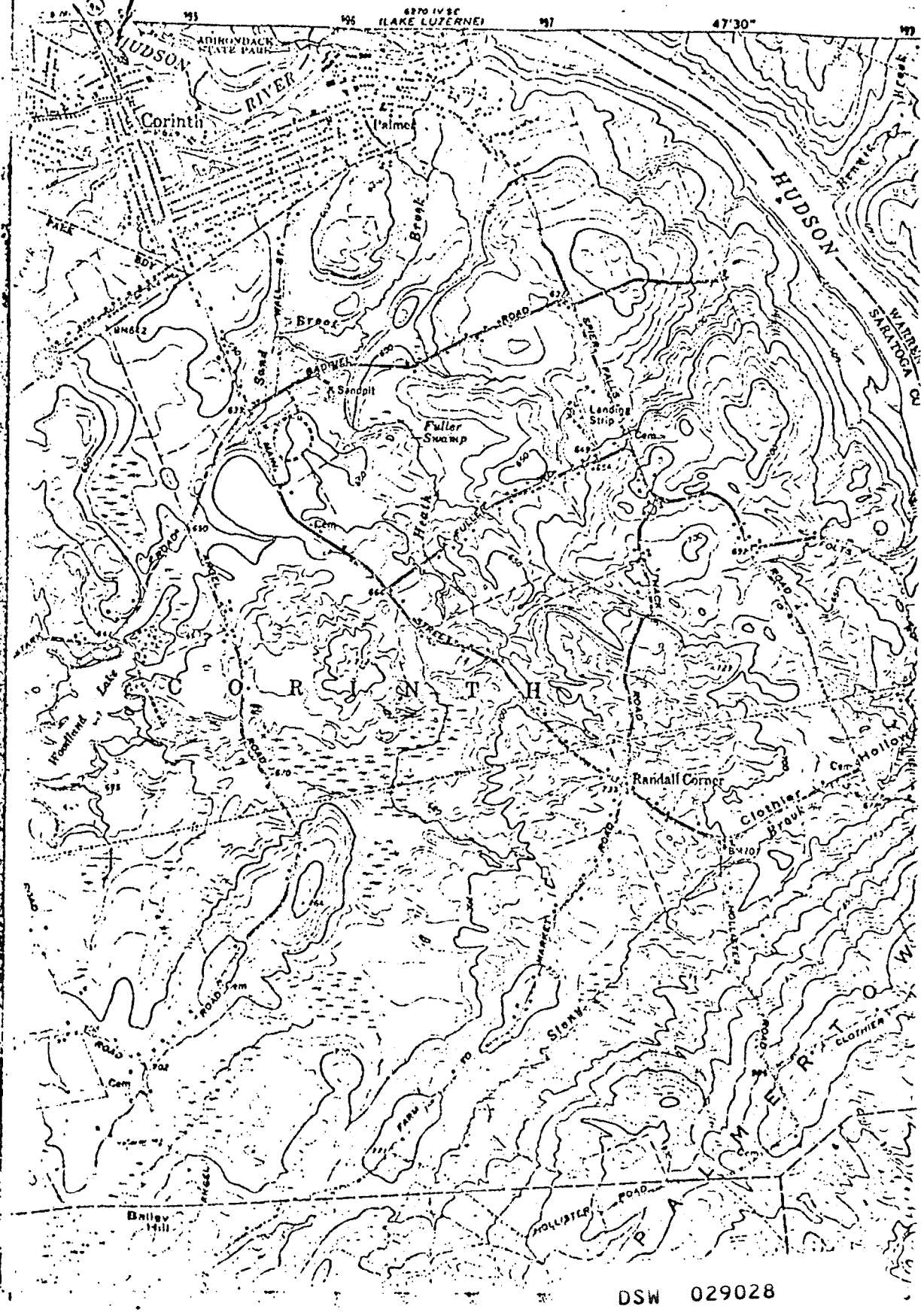
DSW 029027

AREA =

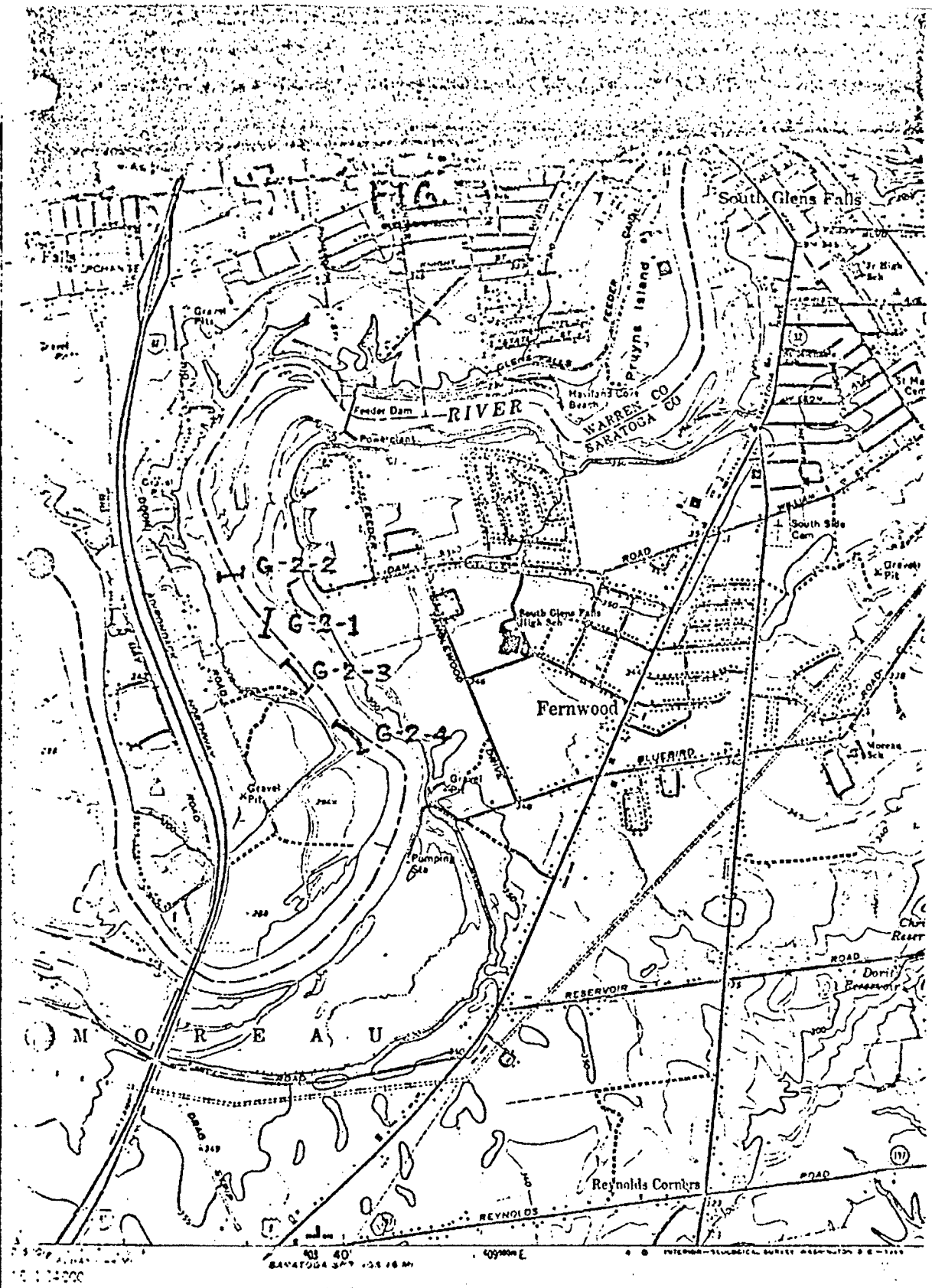
STLCOPCB4012989

FIG. 2

ANGLING SAMPLE AREA – A-1-3



DSW 029028



STLCOPCB4012991

ed by the Geological Survey

CE, and U. S. Lake Survey

methods from aerial
checked 1966

rth American datum

York coordinate system, east zone
e Mercator grid ticks,

elected fence and field lines where
graphs. This information is unchecked

only landmark buildings are shown

UTM GRID AND 1966 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24000

CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL

DSW 029030

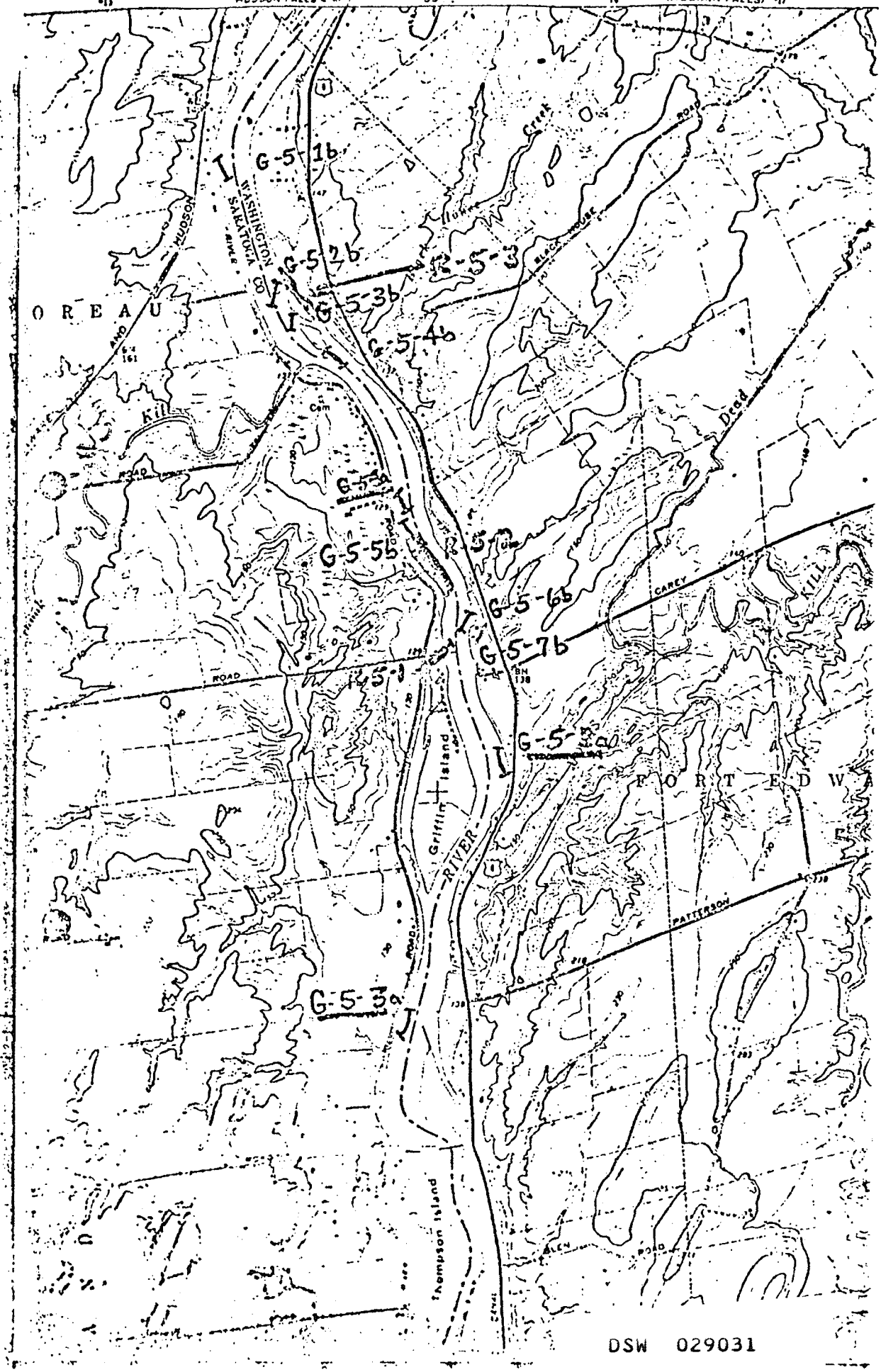
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARI
FOR SALE BY U.S. GEOLOGICAL SURVEY, WASHINGTON, D C
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE

SITE

STLCOPCB4012992

THE INTERIOR
SURVEY

FIG 5



DSW 029031

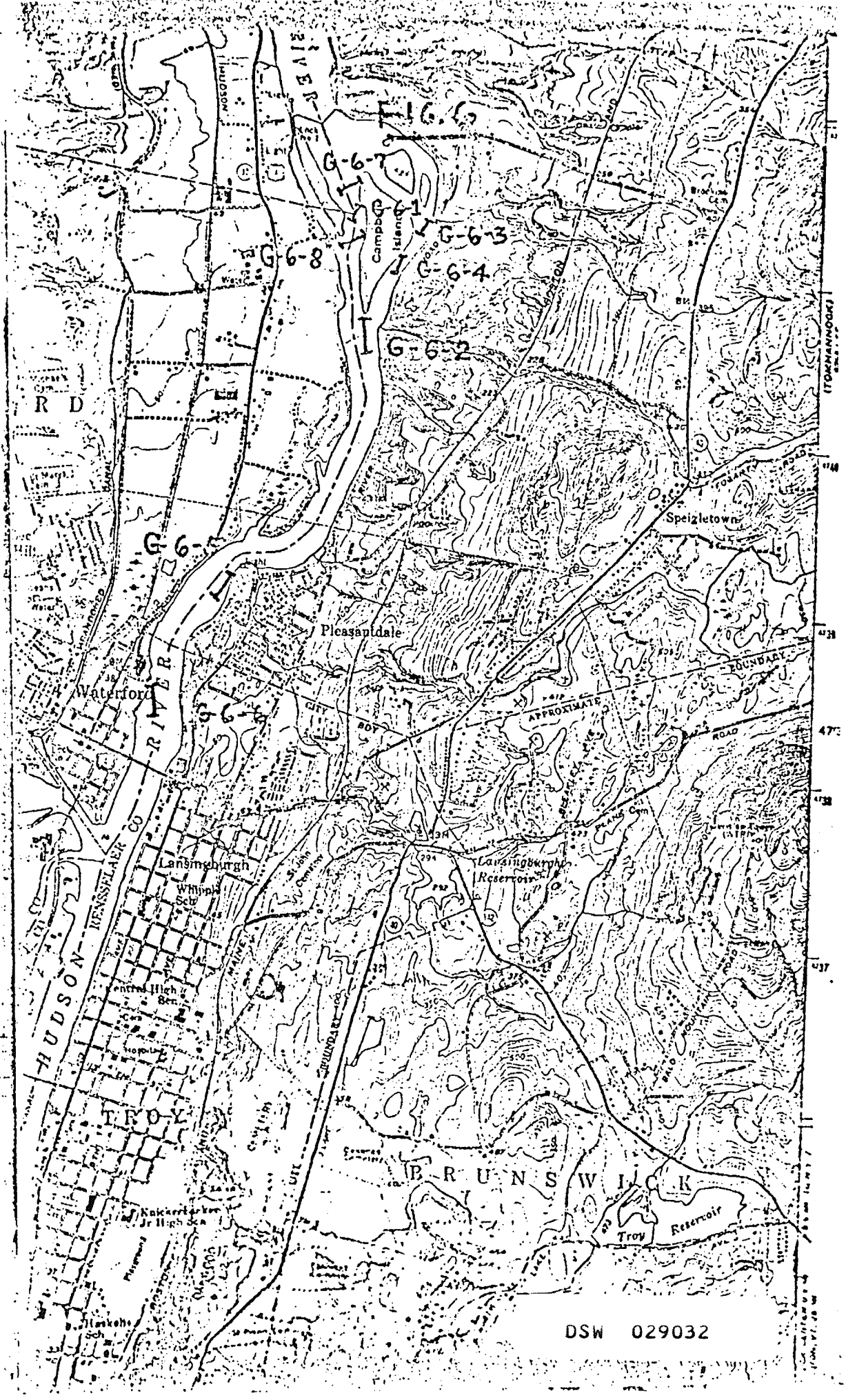


TABLE NO. 1
HUDSON RIVER - STATION 1 - ABOVE CORINTH, N. Y.
8/20-21/75 - TOTAL COLLECTION

Species	Total #	Range	Ave. Size
Micropterus dolomieui/Smallmouth Bass	20	6.8" to 11.4"	9.6"
Esox lucius/Northern Pike	1	-	17.4"
Stizostedion vitreum vitreum/Walleye	1	-	9.9"
Ambloplites rupestris/Rock Bass	8	5.4" to 8.4"	7.0"
Lepomis gibbosus/Pumpkinseed Sunfish	1	-	5.8"
Catostomus commersoni/Common sucker	4	15.6" to 19.3"	17.5"
Perca flavescens/Yellow Perch	6	6.7" to 8.7"	8.0"
Semotilus corporalis/Fallfish	2	10.6", 14.8"	12.7"

Sample Transported to DEC Rome Lab 8/22/75

Species	Location	Length (inches)	Weight (pounds)	Composite No.
Smallmouth bass (Micropterus dolomieui)	Above Corinth	9.1	0.35	5S Hud. Comp. 5
		9.2	0.37	
		11.0	0.64	5S Hud. Comp. 4
		11.4	0.70	
		11.0	0.62	5S Hud. Comp. 1
		11.0	0.66	
		10.6	0.64	
		6.7	0.12	5S Hud. Comp 3
		7.1	0.17	
		7.3	0.17	
		7.5	0.20	5S Hud. Comp. 6
		7.7	0.22	
		10.0	0.44	5S Hud. Comp. 2
		10.0	0.45	
		10.0	0.48	
		10.6	0.55	
White sucker (Catostomus commersoni)	Above Corinth	14.6	1.47	5S Hud. 17
		18.5	3.02	5S Hud. 18
Yellow perch (Perca flavescens)	Above Corinth	6.7	0.16	5S Hud. Comp. 7
		6.9	0.14	
		7.1	0.14	
		7.1	0.15	
		7.1	0.16	

DSW 029033

TABLE NO. 2
HUDSON RIVER - STATION 2 - ABOVE GLENS FALLS
7/24-25/75 - TOTAL COLLECTION

Species	Total #	Range	Ave. Size
Perca flavescens/Yellow Perch	49	6.8" to 11.8"	8.9"
Ictalurus nebulosus/Brown Bullhead	29	10.2" to 12.8"	11.3"
Stizostedion vitreum/Walleye	2	15.0", 15.4"	15.2"
Micropterus dolomieui/Smallmouth Bass	11	6.4" to 11.0"	8.5"
Lepomis gibbosus/Pumpkinseed Sunfish	87	6.5" to 8.4"	7.8"
Ambloplites rupestris/Rock Bass	29	4.6" to 8.8"	6.7"
Lepomis auritus/Red-breasted Sunfish	3	5.3" to 5.7"	5.5"
Semotilus corporalis/Fallfish	4	7.3" to 15.3"	12.9"
Catostomus commersoni/White Sucker	7	16.3" to 20.1"	17.7"

Sample Transported to DEC Rome Lab

Species	Location	Length (inches)	Weight (pounds)	Composite No.
Smallmouth bass (Micropterus dolemieui)	Above Glens Falls	11.0	0.54	3 Hud. 75 Up
		10.6	0.46	4 Hud. 75 Up
		9.4	0.35	5 Hud. 75 Up
		9.4	0.31	6 Hud. 75 Up
		9.0	0.30	8 Hud. 75 Up
		8.7	0.21	9 Hud. 75 Up
		8.3	0.26	7 Hud. 75 Up
		7.5	0.16	10 Hud. 75 Up
		6.7	0.13	11 Hud. 75 Up
		6.3	0.10	12 Hud. 75 Up
Walleye (Stizostedion vitreum)	Above Glens Falls	15.4	1.03	2 Hud. 75 Up
		15.0	1.05	1 Hud. 75 Up
Yellow perch (Perca flavescens)	Above Glens Falls	11.8	0.73	16 Hud. 75 Up
		11.4	0.67	15 Hud. 75 Up
		11.0	0.57	13 Hud. 75 Up
		10.6	0.60	17 Hud. 75 Up
		10.6	0.55	14 Hud. 75 Up
		10.2	0.61	26 Hud. 75 Up
		9.8	0.55	19 Hud. 75 Up
		9.8	0.45	21 Hud. 75 Up
		9.0	0.42	22 Hud. 75 Up
		7.9	0.63	18 Hud. 75 Up
White sucker (Catostomus commersoni)	Above Glens Falls			41 Hud. 75 Up
				42 Hud. 75 Up

TABLE NO. 3

HUDSON RIVER - STATION 3 - BELOW HERCULES OUTFALL
7/1-2/75 - TOTAL COLLECTION

Species	Total #	Range	Ave. Size
Ictalurus nebulosus/Brown Bullhead	9	9.8" to 11.0"	10.4"
Perca flavescens/Yellow Perch	3	8.2" to 10.1"	9.4"
Catostomus commersoni/Common Sucker	7	12.9" to 15.6"	14.1"
Esox niger/Chain Pickerel	1	-	18.7"
Lepomis gibbosus/Pumpkinseed Sunfish	3	5.4" to 5.8"	5.6"
Ambloplites rupestris/Rock Bass	4	5.2" to 7.2"	6.4"

Samples sent to USFDA Lab, Washington, D. C. - 8/6/75

Species	Number	Length Range (inches)
Ictalurus nebulosus	5	9.8 - 11.0
Perca flavescens	2	10.0 - 10.1
Catostomus commersoni	3	12.9 - 15.3
Esox niger	1	18.7
Lepomis gibbosus	3	5.4 - 5.8
Ambloplites rupestris	4	5.2 - 7.2

DSW 029035

TABLE NO. 4a

HUDSON RIVER - STATION 4a - BELOW FT. EDWARD (ROGERS ISLAND)

7/24-25/75

Species	Number
(Rock Bass) Ambloplites rupestris	4
(Yellow Perch) Perca flavescens	2
(White Sucker) Catostomus commersoni	1
(Alewife) Alosa psuedoharengus	1

Specimens From This Sample Analyzed by DEC Rome Lab - 8/13/75

Species	Number	Composite No.
Ambloplites rupestris	2	56 Hud-75-DN
		57 Hud-75-DN
Alosa psuedoharengus	1	55 Hud-75-DN

TABLE NO. 4b

HUDSON RIVER AT ROGER'S ISLAND (STATION 4b) - BELOW FT. EDWARD

9/18/75 - TOTAL SAMPLE COLLECTED

Species	Total #	Range	Ave. Size
Notemigonus crysoleucas/Golden Shiner	7	4.5" to 5.8"	5.2"
Carassias auratus/Goldfish	1	-	10.8"
Lepomis gibbosus/Pumpkinseed Sunfish	2	1.1", 4.7"	2.9"
Salmo trutta/Brown trout	1	-	10.1"
Ictalurus nebulosus/Brown Bullhead	1	-	6.2"
Ambloplites rupestris/Rock Bass	1	-	2.1"
Esox niger/Chain Pickerel	7	6.6" to 7.9"	7.4"
Semotilus corporalis/Fallfish	3	8.0" to 8.8"	8.4"
Ethcostoma nigrum/Johnny Darter	2	2.0", 2.1"	2.05"
Percopsis omiscomaycus/Trout-perch	2	2.2", 3.2"	2.7"
Alosa pseudoharangus/Alewife	120	2.4" to 11.7"	5.2"
Perca flavescens/Yellow Perch	127	3.1" to 7.7"	5.2"
Catostomus commersoni/White Sucker	68	2.2" to 14.2"	5.2"
Stizostedion vitreum vitreum/Walleye	18	6.4" to 11.7"	8.5"
Assorted Cyprinids (minnows)	44	1.6" to 4.8"	2.9"

TABLE NO. 4c

SAMPLE FROM STATION 4b TRANSPORTED TO DEC ROME LAB - 9/19/75

HUDSON RIVER - FT. EDWARD VICINITY OF ROGERS ISLAND

Date	Tag No.	Species	Length (inches)	Weight (ounces)
9/18/75	6R8265	White Sucker	11.6	11.5
9/18/75	6R8266	" "	13.2	16.0
"	6R8267	" "	13.1	15.5
"	6R8268	" "	14.2	19.5
"	6R8269	" "	8.1	4.5
"	6R8270	" "	9.6	6.5
"	6R8271	" "	8.5	4.5
"	6R8272	" "	8.1	4.5
"	6R8273	" "	8.6	4.5
"	6R8274	" "	7.8	4.0
"	6R8275	Walleye	7.2	2.5
"	6R8278	"	7.6	3.0
"	6R8276	"	7.8	3.0
"	6R8280	"	7.1	2.5
"	6R8277	"	8.0	3.5
"	6R8279	"	7.8	3.0
"	6R8281	"	8.3	4.0
"	6R8282	"	7.5	3.0
"	6R8283	"	6.9	2.5
"	6R8289	"	6.8	2.0
"	6R8285	"	6.6	2.0
"	6R8284	"	7.2	2.5
"	6R8286	"	6.4	2.0
"	6R8288	"	6.7	2.0
"	6R8290	"	11.7	10.5
"	6R8291	"	10.7	7.5
"	6R8292	"	11.3	9.0
"	6R8293	"	11.3	8.5
"	6R8294	Yellow Perch	7.8	4.0
"	6R8296	" "	7.7	3.5
"	6R8295	" "	7.2	3.0
"	6R8297	" "	7.4	3.5
"	6R8299	" "	6.8	3.0
"	6R8298	" "	6.8	3.0
"	6R675	" "	6.8	2.5
"	6R688	" "	7.4	3.5
"	6R678	" "	7.1	3.5
"	6R682	" "	6.9	3.5
"	Untagged in Plastic Bag	" "	3.6	
"	" " " "	" "	4.7	
"	" " " "	" "	4.4	
"	" " " "	" "	4.2	
"	" " " "	" "	3.5	
"	" " " "	" "	3.5	
"	" " " "	" "	3.8	
"	" " " "	" "	3.7	
"	" " " "	" "	3.8	

DSW 029038

TABLE NO. 4c - Continued

Date	Tag No.	Species	Length (inches)	Weight (ounces)
9/18/75	Untagged in Plastic Bag	Yellow Perch	3.5	
"	" " " "	" "	4.3	
"	" " " "	" "	4.4	
"	" " " "	" "	3.8	
"	" " " "	" "	4.3	
"	" " " "	" "	3.0	
"	" " " "	" "	3.9	
"	" " " "	" "	3.1	
"	" " " "	" "	3.8	
"	" " " "	" "	3.2	
"	" " " "	" "	3.7	
"	" " " "	" "	4.9	
"	" " " "	" "	5.1	
"	" " " "	" "	4.8	
"	" " " "	" "	5.0	
"	" " " "	" "	4.8	
"	" " " "	" "	5.4	
"	" " " "	" "	4.7	
"	" " " "	" "	5.5	
"	" " " "	" "	4.8	
"	" " " "	" "	5.8	

DSW 029039

TABLE 4d.
TRANSFER DOCUMENT - PCB SAMPLES

I, RAYMOND H. SMITH (name), have received from GENE LANE (name) on 9-19-75 (date) the following from HUDSON RIVER (water):

Tag No.	Species
6R8265	Common Sucker
6R8266	Common Sucker
6R8267	Common Sucker
6R8268	Common Sucker
6R8269	Common Sucker
6R8270	Common Sucker
6R8271	Common Sucker
6R8272	Common Sucker
6R8273	Common Sucker
6R8274	Common Sucker
6R8275	Walleye
6R8278	Walleye
6R8276	Walleye
6R8280	Walleye
6R8277	Walleye
6R8279	Walleye
6R8281	Walleye
6R8282	Walleye
6R8283	Walleye
6R8289	Walleye
6R8285	Walleye
6R8284	Walleye
6R8286	Walleye
6R8288	Walleye
6R8290	Walleye
6R8291	Walleye
6R8292	Walleye
6R8293	Walleye
6R8294	Yellow Perch
6R8296	Yellow Perch
6R8295	Yellow Perch
6R8297	Yellow Perch
6R8299	Yellow Perch
6R8298	Yellow Perch
6R675	Yellow Perch
6R688	Yellow Perch
6R678	Yellow Perch
6R682	Yellow Perch

One plastic bag containing 20 untagged yellow perch ranging in size from 3.0" to 4.7" in total length.

One plastic bag containing 19 untagged yellow perch ranging in size from 4.7" to 5.6" in total length.

DSW 029040

TABLE 4d. (continued)

The aforementioned items were obtained by GENE LANE (name)

from HUDSON RIVER (water) in the vicinity of _____

ROGERS ISLAND - FORT EDWARD located in the

Towns of FORT EDWARD & MOREAU, WASHINGTON & SARATOGA Counties, RESPECTIVELY

Time Collected: 9:00 AM TO 5:00 P.M.

Date Collected: 9.18.75

Said items were first transported and hand-delivered and were in the custody of GENE LANE at all times until transferred to and hand-delivered by those persons at times and dates indicated below:

Delivered To	Time	Date	Signature
RAYMOND H. SMITH	10:30 AM	9.19.75	Raymond H Smith
[illegible]	[illegible]	9/19/75	[illegible]

Collector: GENE LANE (Name-Print)

_____ (Signature)

Last Received: _____ (Name-Print)

_____ (Signature)

DSW 029041

TABLE NO. 5a
HUDSON RIVER - STATION 5a
7/28-29/75 - TOTAL COLLECTION

Species	Total #	Range	Ave. Size
Catostomus commersoni/White Sucker	37	5.9" to 14.9"	12.0"
Ictalurus nebulosus/Brown Bullhead	22	6.2" to 12.0"	10.7"
Perca flavescens/Yellow Perch	5	4.5" to 5.5"	5.1"
Micropterus dolomieui/Smallmouth Bass	1	-	11.0"
Stizostedion vitreum vitreum/Walleye	1	-	13.4"
Notemigonus crysoleucas/Golden Shiner	12	4.8" to 7.2"	5.7"
Lepomis gibbosus/Pumpkinseed Sunfish	1	-	6.2"
Cyprinus carpio/Carp	10	6.9" to 17.3"	12.1"
Carassius auratus/Goldfish	1	-	9.9"

Sample Transported to DEC Rome Lab

Species	Location	Length (inches)	Weight (pounds)	Composite No.
Smallmouth bass (Micropterus dolomieui)	5 miles below Ft. Edward	11.0	0.74	23-HUD-75-DN
Walleye (Stizostedion vitreum)	5 miles below Ft. Edward	13.4	0.87	24-HUD-75-DN
White sucker (Catostomus commersoni)	5 miles below Ft. Edward			51-HUD-75-DN 48-HUD-75-DN 40-HUD-75-DN 54-HUD-75-DN
				52-Hud-75-DN
				49-Hud-75-DN

TABLE NO. 5b
HUDSON RIVER - 5 mi. DOWNSTREAM FROM FORT EDWARD-STATION 5b
SAMPLE COLLECTED - 9/16-17/75

Species	Total #	Range	Ave. Size
Catostomus commersoni/White Sucker	53	2.8" to 14.5"	6.9"
Lepomis gibbosus/Pumpkinseed Sunfish	37	1.5" to 6.3"	3.9"
Perca flavescens/Yellow Perch	222	2.9" to 7.7"	4.2"
Ambloplites rupestris/Rock Bass	11	1.7" to 7.3"	3.8"
Notemigonus crysoleucas/Golden Shiner	41	2.7" to 7.5"	4.9"
Salmo trutta/Brown Trout	1	-	10.0"
Esox niger/Chain Pickerel	4	7.2" to 8.1"	7.6"
Stizostedion vitreum vitreum/Walleye	4	5.6" to 11.4"	8.2"
Micropterus salmoides/Large-mouth Bass	2	3.5", 3.9"	3.7"
Carassias auratus/Goldfish	2	2.9", 4.2"	3.5"
Ictalurus nebulosus/Brown Bullhead	8	2.4" to 11.4"	9.9"
Percina caprodes/Log Perch	1	-	2.7"
Alosa pseudoharangus/Alewife	125	2.1" to 4.0"	2.8"
Etheostoma nigrum/Johnny Darter	2	1.3", 1.8"	1.5"
Assorted Cyprinid Species	87	1.5" to 3.5"	2.6"

TABLE NO. 5c
SAMPLES FROM STATION 5b TRANSPORTED TO DEC ROME LAB - 9/18/75
HUDSON RIVER - 5 MILES DOWNSTREAM FROM FT. EDWARD

Date	Tag. No.	Species	Length (inches)	Weight (ounces)
9/17/75	6R7800	Yellow Perch	6.7	2.5
"	6R7801	" "	6.5	2.5
"	6R7802	" "	6.5	2.5
"	6R7803	" "	5.4	2.0
"	6R7804	" "	6.5	2.5
"	6R7805	" "	7.6	4.0
"	6R7806	" "	7.5	4.0
"	6R7807	" "	6.6	2.5
"	6R7808	" "	6.8	3.0
"	6R7809	" "	7.7	4.5
"	Untagged in Plastic Bag	" "	3.9	
"	" " " "	" "	4.2	
"	" " " "	" "	3.3	
"	" " " "	" "	3.8	
"	" " " "	" "	3.5	
"	" " " "	" "	4.0	
"	" " " "	" "	4.2	
"	" " " "	" "	3.7	
"	" " " "	" "	3.4	
"	" " " "	" "	3.8	
"	" " " "	" "	3.4	
"	" " " "	" "	3.3	
"	" " " "	" "	3.2	
"	" " " "	" "	3.4	
"	" " " "	" "	3.2	
"	" " " "	" "	3.7	
"	" " " "	" "	3.5	
"	" " " "	" "	3.5	
"	" " " "	" "	3.7	
"	" " " "	" "	3.4	
9/16/75	6R698	Brown Bullhead	11.4	12.5
"	6R679	" "	9.3	7.0
"	6R665	" "	10.0	7.0
"	6R662	" "	10.6	10.5
"	6R687	" "	10.0	10.0
"	6R669	" "	11.3	12.5
"	6R694	White Sucker	13.0	20.0
"	6R683	" "	13.8	22.0
"	6R691	" "	14.0	23.0
"	6R661	" "	14.5	23.0
"	6R673	" "	12.8	19.0

DSW 029044

TABLE NO. 5c - Continued

Date	Tag. No.	Species	Length (inches)	Weight (ounces)
9/16/75	6R677	White Sucker	11.0	10.0
"	6R680	" "	10.7	8.5
"	6R696	" "	10.2	9.5
"	6R663	" "	10.9	9.5
"	6R695	" "	8.9	5.5
9/17/75	6R699	Walleye	9.9	6.5
9/16/75	6R697	Walleye	11.4	10.0

Snapping Turtle - 5 lb. (live)

TABLE 5d.
TRANSFER DOCUMENT - PCB SAMPLES

I, T. DAVID KENYON (name), have received from GENE LANE (name) on 9/18/75 (date) the following from HUDSON RIVER (water):

Tag No.	Species
6R7800	Yellow Perch
6R7801	Yellow Perch
6R7802	Yellow Perch
6R7803	Yellow Perch
6R7804	Yellow Perch
6R7805	Yellow Perch
6R7806	Yellow Perch
6R7807	Yellow Perch
6R7808	Yellow Perch
6R7809	Yellow Perch
6R698	Brown Bullhead
6R679	Brown Bullhead
6R665	Brown Bullhead
6R662	Brown Bullhead
6R687	Brown Bullhead
6R669	Brown Bullhead
6R694	White Sucker
6R683	White Sucker
6R691	White Sucker
6R661	White Sucker
6R673	White Sucker
6R677	White Sucker
6R680	White Sucker
6R696	White Sucker
6R663	White Sucker
6R695	White Sucker
6R699	Walleye
6R697	Walleye

A plastic bag containing 20 untagged yellow perch ranging in size from 3.2" to 4.2" in total length.
1 snapping turtle, approximate weight 5 pounds, live.

The aforementioned items were obtained by GENE LANE (name) from HUDSON RIVER (water) in the vicinity of 5 MILES DOWNSTREA FROM FORT EDWARD located in the Town(s) of FORT EDWARD & MOREAU, WASHINGTON & SARATOGA Counties, RESPECTIVELY.

DSW 029046

Time Collected: BETWEEN 9:00 AM + 5:00 PM

Date Collected: 9/16/75 AND 9/17/75

Said items were first transported and hand-delivered and were in the custody of GENE LANE at all times until transferred to and hand-delivered by those persons at times and dates indicated below:

Delivered To	Time	Date	Signature
DAVID KENYON	12:45 PM	9/17/75	David A. Kenyon
EARL J. HARRIS	3:50 PM	9/17/75	Earl J. Harris

Collector: GENE LANE
(Name-Print)
(Signature)

Last Receiver: EARL J HARRIS
(Name-Print)
(Signature)

DSW 029047

TABLE NO. 6
HUDSON RIVER - WATERFORD - STATION 6
SAMPLE COLLECTED 8/26-27/75

Species	Total #	Range	Ave. Size
Catostomus commersoni/White Sucker	83	8.8" to 16.9"	13.0"
Micropterus dolomieui/Smallmouth Bass	10	8.7" to 14.0"	11.2"
Micropterus salmoides/Largemouth Bass	1	-	8.9"
Stizostedion vitreum vitreum/Walleye	3	14.2" to 18.5"	16.3"
Morone americana/White Perch	67	6.0" to 9.0"	7.3"
Morone saxatilis/Striped Bass	7	8.7" to 22.1"	13.9"
Cyprinus carpio/Carp	4	14.5" to 27.0"	20.6"
Carassius auratus/Goldfish	5	7.6" to 12.3"	10.7"
Ambloplites rupestris/Rock Bass	4	6.5" to 8.8"	7.6"
Lepomis gibbosus/Pumpkinseed Sunfish	6	6.4" to 6.9"	6.6"
Ictalurus catus/White Catfish	3	9.4" to 10.5"	9.8"
Ictalurus natalis/Yellow Bullhead	1	-	10.8"
Ictalurus nebulosus/Brown Bullhead	1	-	12.5"
Dorosoma cepedianum/Gizzard Shad	1	-	12.4"

TABLE NO. 6a

PCB SAMPLE - HUDSON RIVER - STATION 6 - WATERFORD, N. Y. AREA
MOUTH OF MOHAWK RIVER UPSTREAM TO LOCK #1
8/25-27/75

Date	Tag No.	Species	Length (inches)	Weight (ounces)
8/26/75	6R1410	Smallmouth Bass	8.7"	
"	6R1411	" "	10.1	
"	6R1421	" "	10.7	
8/27/75	6R1433	" "	10.1	
"	6R1436	" "	10.5	
"	6R1437	" "	9.9	
8/26/75	6R1417	" "	14.0	
"	6R1418	" "	13.3	
"	6R1419	" "	12.9	
"	6R1420	" "	11.5	
8/26/75	6R1405	White Sucker	12.5	
"	6R1424	" "	11.0	
"	6R1425	" "	11.8	
"	6R1426	" "	12.1	
"	6R1429	" "	11.7	
8/27/75	6R1430	" "	8.8	
8/26/75	6R1409	" "	16.5	
"	6R1423	" "	16.5	
8/27/75	6R1431	" "	16.5	
"	6R1432	" "	15.5	
"	6R1438	" "	15.7	
8/26/75	6R1415	Walleye	18.5	
"	6R1416	"	16.1	

APPENDIX F

Data Quality Assurance

ROBERT P. WHALEN, M.D.
COMMISSIONER

STATE OF NEW YORK
DEPARTMENT OF HEALTH
NEW SCOTLAND AVENUE
ALBANY, NEW YORK 12201

DIVISION OF LABORATORIES
AND RESEARCH

DONALD J. DEAN, D.V.M.
DIRECTOR

G. WOLFGANG FUHS, Ph.D.
DIRECTOR
ENVIRONMENTAL HEALTH CENTER

October 30, 1975

Mr. Russell Mt. Pleasant
Division of Pure Waters
Bureau of Monitoring and Surveillance
N.Y.S. Department of Environmental Conservation
50 Wolf Road
Albany, New York

Dear Mr. Mt. Pleasant:

Enclosed please find a report on the quality assurance for PCB analyses comprised of the currently available data for several collaborative studies. An updated report will be issued as more data becomes available.

Very truly yours,

James C Daly

James C. Daly
Principal Sanitary Chemist

JCD/mb
Encs.

DSW 029051

Quality Assurance for PCB Analyses

In order to ascertain the reliability and comparability of polychlorinated biphenyl (PCB) data being generated by several laboratories involved in PCB analysis of environmental samples in New York State, a series of interlaboratory comparison studies was initiated. These interlaboratory studies included the analysis of the following types of samples:

(1) Known amounts of single Aroclors in an organic solvent,

(2) Known amounts of mixtures of Aroclors in an organic solvent,

(3) Known amount of a single Aroclor in water,

(4) Split samples of fish tissue,

(5) Split sample of sediment.

The following laboratories participated in one or more of these collaborative studies.

N.Y.S. Department of Environmental Conservation, Rome, New York

N.Y.S. Department of Health, Albany, New York

U.S. Environmental Protection Agency, Edison, New Jersey

U.S. Environmental Protection Agency, Cincinnati, Ohio

N.Y.S. Department of Agriculture and Markets, Albany, New York

N.Y.S. Department of Environmental Conservation, Stony Brook, New York

U.S. Environmental Protection Agency, Duluth, Minnesota

U.S. Food and Drug Administration, New York, New York

The preliminary results of each of these collaborative studies is presented in this report.

The relative standard deviation (RSD) and bias have been calculated where 3 or more values have been reported.

Hexane Solutions of Single Aroclors

A blank and two known concentrations of single Aroclors in hexane as described in Table 1 were prepared by Dr. Brian Bush of the Division of Laboratories and Research in the New York State Department of Health. These three solutions were distributed to four participating laboratories. This study was designed to determine the capability of the laboratories to identify and quantitate a single PCB in an organic solvent containing no interfering substances. The results of this intercomparison are tabulated in Table 1. For the record it should

be noted that laboratory 1 originally reported a value of 0.43 for Aroclor 1254 in sample D. The value in Table 1 is a corrected value, the original value of 0.43 reflected an error in the injection volume.

Iso-octane Solutions of Aroclor Mixtures

Two PCB mixtures in iso-octane with known concentrations as noted in Table 2 were prepared by the Operations and Review Section of the Environmental Protection Agency in Edison, N.J. These two solutions were distributed to five laboratories for analysis. The intent of this interlaboratory comparison was to test the ability of the laboratories to distinguish Aroclors in PCB mixtures and to quantitate the components of the mixture. The data for this study is presented in Table 2. Needless to say, the differentiation of Aroclor 1016 from Aroclor 1242 is extremely difficult, thus sample E-2 presents a most difficult case for interpretation of gas chromatographic data.

PCB in Water

A blank and two known concentrations of a single Aroclor in water were prepared and distributed by the Operations and Review Section of the EPA Laboratory in Edison, N.J.. No comparison data is available for these three samples at this time.

Split Samples of Fish

The fish samples were composited, ground and mixed by Earl Harris of the Department of Environmental Conservation in Rome, New York. Five fish samples were split among six laboratories. The samples were placed in small polyethylene bags for distribution by Dr. Brian Bush of the New York State Department of Health. The samples were shipped frozen to the participating laboratories. The data for the split samples of fish appear in Table 3.

Split Sample of Sediment

One sample of sediment was split among three laboratories. The sample was mixed, then portions placed in all-glass containers for shipment to the participating laboratories. The data for the split sediment sample is presented in Table 4.

James C Daly

James C. Daly
Quality Assurance Officer

Environmental Health Center
N.Y.S. Department of Health

October 30, 1975

Table 1

Laboratory Intercomparison Study of Single Aroclors in a Hexane Solution

Sample	Aroclor	Known (µg/mL)	Laboratory Code 1 (µg/ml)	2 (µg/ml)	3 (µg/ml)	4 (µg/ml)	RSD	Bias
A	1016	0	0	0	0	0		
	1242	0	0	0	0	0		
	1254	0	0	0	0	0		
B	1016	0.80	0.89	a	1.15	0.71	21%	+20%
	1242	0	a	1.09	a	a		
	1254	0	a	a	a	a		
D	1016	0	a	a	a	a		
	1242	0	a	a	a	a		
	1254	0.95	0.92	1.32	1.01	0.97	17%	+11%

a) No value reported for this Aroclor.

Table 2

Laboratory Intercomparison Study of Aroclor Mixtures in an Iso-octane Solution

Sample	Aroclor	Known (µg/ml)	Laboratory Code 1 (µg/ml)	2 (µg/ml)	3 (µg/ml)	4 (µg/ml)	7 (µg/ml)	RSD	Bias
E-1	1016	55.5	a		a		26	52%	-17%
	1242	0	73.3		39.8		a		
	1254	72.0	92.8		90.4		91	1.4%	+21%
E-2	1016	61.0	70.0		a		38		
	1242	64.5	50.0		70.3		60	17%	-6.8%
	1254	0	a		a		a		

a) No value reported for this Aroclor.

DSW 029054

Table 3

Laboratory Intercomparison Study of PCB in Fish

Sample	Aroclor	Laboratory Code 1 (ppm)	2 (ppm)	3 (ppm)	4 (ppm)	5 (ppm)	6 (ppm)	RSD
F4830	1016	b		a			2.32	
	1254			3.69			4.37	
F4831	1016	a		a	4.3		b	
	1254	3.3		2.58	6.0			45%
F4842	1016	a		a	1.0	b	4.34	
	1254	8.4		7.16	9.5		8.49	11%
F4844	1016	a		a			c	
	1254	6.6		5.55				
F4845	1016	a		a			c	
	1254	4.2		6.34				

a) No value reported for this Aroclor.

b) No sample sent to this laboratory.

c) Sample not analyzed.

DSW 029055

Table 4

Laboratory Intercomparison Study of PCB in Sediment

Sample	Aroclor	Laboratory Code 4 (mg/kg)	7 (mg/kg)	8 (mg/kg)	RSD
1	1016	59		45.5	
	1254	4		4.4	

a) Calculated as mg PCB/kg of dry weight.