

**CHAPTER I**

**SECTION 2 TABLES**

Table I-2-1  
Summary of Data Quality Objectives and Associated Measurement Performance Criteria

Data Quality Objective	Measurement Performance Criteria
Establish baseline PCB load at Thompson Island, Schuylerville, Stillwater and Waterford to be used in determining dredging compliance with resuspension performance standards	<ul style="list-style-type: none"> <li>- Determine the width and depth-integrated TSS and PCB concentrations in water flowing past each of the main stem Upper Hudson River monitoring stations</li> <li>- Determine river flow at the time of sampling</li> </ul>
Provide a means to translate between the historical record of PCB concentrations at Thompson Island Dam (TID) and Schuylerville and the proposed baseline data	<ul style="list-style-type: none"> <li>- Paired measurements at the historical and baseline monitoring stations using the historical and baseline monitoring sampling protocols</li> </ul>
Establish the Baseline Annual PCB Load at Waterford and on the Mohawk River at Cohoes to provide a basis to assess the effectiveness of the remedy in reducing PCB Load to the Lower Hudson River	<ul style="list-style-type: none"> <li>- Weekly sampling will be conducted to provide sufficient data to capture seasonal trends</li> <li>- Monthly sampling at the Mohawk River is sufficient because of absence of significant sediment PCB source</li> <li>- Year-round sampling will be conducted to allow for an annual PCB loading estimate</li> </ul>
Establish baseline PCB concentrations upstream of the GE facilities to determine background PCB levels	<ul style="list-style-type: none"> <li>- A single sampling location will be used to provide an accurate representation of the PCB concentration and loading at the Bakers Falls Bridge sampling station</li> <li>- Low-level PCB collection, extraction and analysis methods will be used to quantify PCBs at the Bakers Falls Bridge sampling station</li> </ul>
Establish baseline PCB concentrations at Rogers Island to determine the PCB contribution downstream of the background station and upstream of the sediment remedial action	<ul style="list-style-type: none"> <li>- Centroid (approximate center channel) sampling will be performed in the East and West channels of river at Rogers Island</li> <li>- Sampling will occur year-round</li> <li>- Low-level PCB collection, extraction and analysis methods will be used to quantify PCBs at Rogers Island</li> </ul>
Establish reference concentrations of nutrients, metals and dioxins/furans prior to dredging	<ul style="list-style-type: none"> <li>- TAL metals will be monitored bi-weekly from May through November of each year at each of the Upper Hudson River Stations</li> <li>- Nutrients (TKN, nitrate, nitrite, total phosphorous) will be monitored weekly from May through November of 2004 at each of the Upper Hudson River Stations</li> <li>- Dioxins and furans will be monitored monthly from May through November of 2004 at Rogers Island, Thompson Island, Schuylerville, Stillwater, and Waterford</li> <li>- Sampling protocols are the same as for PCBs</li> </ul>
Establish a relationship between turbidity and meteorological events	<ul style="list-style-type: none"> <li>- Turbidity will be measured weekly at each of the main stem Upper Hudson River stations</li> <li>- Precipitation is measured at numerous stations within the tributary basins</li> </ul>

Table I-2-1  
Summary of Data Quality Objectives and Associated Measurement Performance Criteria

Data Quality Objective	Measurement Performance Criteria
Establish baseline conditions of parameters potentially useful for comparison to conditions during the dredging operation	<ul style="list-style-type: none"> <li>- TSS, DOC and POC will be measured on water samples in conjunction with the PCB samples</li> <li>- Water quality (WQ) measurements including pH, dissolved oxygen (DO), conductivity, turbidity, and temperature will be taken at each sampling station using a probe</li> </ul>
Confirm particulate and dissolved phase PCB partitioning behavior under baseline conditions to provide a means to evaluate the cause of elevated PCB levels that may potentially be observed during remedial action	<ul style="list-style-type: none"> <li>- High volume samples will be collected at Thompson Island and Schuylerville and filtered in the field once per month (May – November) during the 2004 field season</li> <li>- The aqueous and particulate phases will be analyzed separately</li> </ul>
Establish baseline PCB concentrations in the Lower Hudson River to assess remedy effectiveness and provide a baseline in the vicinity of the principal Lower Hudson River water intake	<ul style="list-style-type: none"> <li>- Depth integrated samples taken at the centroid (approximate cent channel) of the river will be collected at Albany/Troy and Poughkeepsie on a monthly basis from May through November</li> </ul>
Monitor PCB levels in Upper Hudson River sport fish and forage fish to allow evaluation of long term recovery trends.	<ul style="list-style-type: none"> <li>- Fish species (including sport and forage fish) covering a range of association with sediment including black bass, yellow/brown bullhead, yearling pumpkinseed, yellow perch and spottail shiner or substitute forage fish will be collected from multiple locations within each river section</li> <li>- A maximum of 20-30 fish samples of each species (depending on location) will be collected</li> <li>- The Feeder Dam Pool will serve as a reference location</li> <li>- Fish will be collected at Albany/Troy just below the Federal Dam to determine when PCB concentrations in Lower Hudson River fish have reached levels that would permit relaxation of consumption advisories</li> </ul>

*Source: Anchor QEA ,2004. Quality Assurance Project Plan for the Hudson River PCBs Site, Baseline Monitoring Program, May 2004. Table A-2.*

Table I-2-2  
Description of Routine Water Column Sampling Locations, Procedures, and Significance

Sampling Location <sup>1</sup>	Approx. HRM <sup>2</sup>	Description	Approx. Water Depth <sup>3</sup>	Sampling Method	Significance <sup>4</sup>
Bakers Falls Bridge	196.9	Sample collected from the centroid (defined as approximate center of the channel) from the downstream side of the County Route 27 Bridge in Hudson Falls. Approximate distance from top of guardrail to river bed ~ 38 ft.	8 ft.	Single depth-integrated sample collected with multiple aliquot depth integrating sampler.	Historical Monitoring Station (PCRDMP). Measures background PCB concentrations in the Hudson River upstream of GE facilities, remnant deposits, and PCB-containing sediment.
Rogers Island – Route 197 Bridge	194.2	A centroid sample will be collected from the east and west channels of the Hudson River. The flow distribution will be used to weight the volumes of each sample in the composite. The east and west channels are sampled from the upstream side of the Route 197 Bridge in Fort Edward. Distance from concrete deck to river bed ~ 29 ft on the west side and ~ 34 ft on the east side.	8 ft. (West) 8 ft. (East)	Depth-integrated water samples collected at the centroid (defined as approximate center channel to be consistent with historical sampling stations) by lowering a multiple aliquot depth integrating sampler through the water column to approximately 75% of the location's depth. The entire volume collected during each deployment will be poured into composite sample containers.	Historical Monitoring Station (PCRDMP). Measures PCB concentrations in the Hudson River downstream of GE facilities - approximately 0.7 miles below the former Fort Edward Dam, the upstream end of River Section 1. Studies performed by O'Brien & Gere Engineers in 1995 indicate that sampling from this location should provide representative data for estimating the PCB load past this station. Under mean flow conditions, approximately 65% of the river flow is in the west channel and 35% is in the east channel; however, the proportion of water flowing through each channel varies with flow rate.

Sampling Location <sup>1</sup>	Approx. HRM <sup>2</sup>	Description	Approx. Water Depth <sup>3</sup>	Sampling Method	Significance <sup>4</sup>
Thompson Island	187.5	<p>Transect sampling to occur at 6 equal-flow locations over the cross section at this station. Samples will be collected at the southern end of Thompson Island by boat.</p> <p>The historical single-point sampling locations at TID PRW2 will be sampled simultaneously with the transect sampling monthly from March to November during 2004.</p>	11 ft.	Depth-integrated water samples collected at each EDI location by lowering a multiple aliquot depth integrating sampler through the water column to approximately 75% of the location's depth. The entire volume collected during each deployment will be poured into composite sample containers.	Historical Monitoring Location. Located just downstream of Thompson Island Dam, the beginning of River Section 2. HRMP Station TID-PRW2, which was often inaccessible by boat during winter or high flow events, and TID-West, a shore-based station that has been shown to be biased <sup>6,7</sup> . Samples from the center of the channel below the dam have been shown to be representative of the PCB load entering River Section 2 <sup>7</sup> .
Schuylerville – Route 29 Bridge	181.4	<p>Transect sampling to occur at 6 equal-flow locations over the cross section at this station. Samples are collected from the upstream-side of the Route 29 Bridge in Schuylerville. Distance from the top of the guardrail to the Riverbed ~ 53 ft.</p> <p>The historical single-point sampling locations at Schuylerville will be sampled simultaneously with the transect sampling monthly (year-round) during 2004.</p>	21 ft.	Depth-integrated water samples collected at each EDI location by lowering a USGS “fish sampler” through the water column to approximately 75% of the location's depth. The entire volume collected during each deployment will be poured into composite sample containers.	Historical Monitoring Station (HRMP). Samples collected from this location are assumed to be representative of PCB loading past this station, which is approximately 2 miles downstream of the Northumberland Dam, which divides River Sections 2 and 3.

Sampling Location <sup>1</sup>	Approx. HRM <sup>2</sup>	Description	Approx. Water Depth <sup>3</sup>	Sampling Method	Significance <sup>4</sup>
Stillwater – Route 125 Bridge	168.4	Transect sampling to occur at 5 equal-flow locations over the cross section at this station. Samples are collected from the downstream side of the Route 125 Bridge in Stillwater. Distance from the top of the guardrail to the Riverbed (to be determined; TBD).	5 ft.	Depth-integrated water samples collected at each EDI location by lowering a multiple aliquot depth integrating sampler through the water column to approximately 75% of the location's depth. The entire volume collected during each deployment will be poured into composite sample containers.	Samples collected at this station are assumed to be representative of the PCB load transported downstream from the upper reach (Northumberland Dam to Stillwater Dam) of River Section 3.
Lock 1 – Route 4 Bridge	159.5	Transect sampling will occur at 5 equal-flow locations over the cross section at this station by boat.	(TBD)	Depth-integrated water samples collected at each EDI location by lowering a multiple aliquot depth integrating sampler through the water column to approximately 75% of the location's depth. The entire volume collected during each deployment will be poured into composite sample containers.	New station, not historically sampled. Sampling may be discontinued after 2004 if good correlation with data collected from Waterford station is observed.

Sampling Location <sup>1</sup>	Approx. HRM <sup>2</sup>	Description	Approx. Water Depth <sup>3</sup>	Sampling Method	Significance <sup>4</sup>
Waterford – Route 4 Bridge	156	Transect sampling occurs at 5 equal-flow locations over the cross section at this station. Samples are collected from the downstream side of the Rt. 4 Bridge in Waterford.  Samples will be taken at the centroid (defined as approximate center of the channel to be consistent with historical sampling location) during high flow.	12 ft.	Depth-integrated water samples collected at each EDI location by lowering a multiple aliquot depth integrating sampler through the water column to approximately 75% of the location's depth. The entire volume collected during each deployment will be poured into composite sample containers.	Historical USGS monitoring station for TSS. Samples collected at this station are assumed to be representative of the PCB load transported downstream from the lower reach (Waterford Dam at Lock 1 to Troy Dam) of River Section 3 to the Lower Hudson River below Troy. Samples collected from this station will generate data to compute annual baseline loads to assess the effectiveness of the remedy in reducing the PCB load from the Upper Hudson River to the Lower Hudson River.
Mohawk River at Cohoes	NA	Transect sampling occurs at 5 equal-flow locations over the cross section at this station. Samples are collected from the downstream side of the Rt. 32 Bridge in Cohoes.	14 ft.	Single, depth-integrated sample collected multiple aliquot depth integrating sampler.	Samples collected from this station will generate data to compute annual baseline loads to assess the effectiveness of the remedy in reducing the PCB load from the Upper Hudson River to the Lower Hudson River.
Albany/Troy	145	Centroid (defined as approximate center of the channel).	25 ft.	Single, depth-integrated sample collected with multiple aliquot depth integrating sampler.	Samples collected from this station will provide a baseline to assess the remedy effectiveness.
Poughkeepsie	75	Centroid (defined as approximate center of the channel).	75 ft.	Single, depth-integrated sample collected with multiple aliquot depth integrating sampler.	Samples collected from this station will provide a baseline in the vicinity of the principal Lower Hudson water intake.

Notes:

- 1 Designations presented correspond to those used in the GE Hudson River Database.
- 2 HRM refers to Hudson River Mile. HRM 0.0 is located at the Battery in New York City.
- 3 Approximate water depth at center of channel during typical mean flow of 5,000 cfs.
- 4 PCRDM = Post-Construction Remnant Deposit Monitoring Program; HRMP = GE Hudson River Monitoring Program.
- 5 O'Brien & Gere, 1996. Hudson River Project, River Monitoring Test. O'Brien & Gere Engineers, Inc., Syracuse, New York January, 1996.
- 6 QEA, 1998. Thompson Island Pool Sediment PCB Sources. Quantitative Environmental Analysis, LLC. March 1998.
- 7 O'Brien & Gere, 1998. Hudson River Project, 1996-1997 Thompson Island Pool Studies. O'Brien & Gere Engineers, Inc., Syracuse, New York. February, 1998.

Source: QEA, LLC, 2004. *Quality Assurance Project Plan for the Hudson River PCBs Site, Baseline Monitoring Program, May 2004. Table B-1.*

Table I-2-3  
Hudson River Water Monitoring Summary

Station	Hudson RM	Sample Type <sup>1</sup>	Analyte and Sampling Frequency				
			PCBs, TSS, Suspended OC, Dissolved OC	Additional TSS	TAL Metals	Nutrients <sup>6</sup>	Dioxins/Furans <sup>6</sup>
Bakers Falls <sup>2</sup>	197.0	Centroid (~center channel)	Year-round/weekly		May-Nov./bi-weekly	May-Nov./weekly	May-Nov./monthly
Rogers Island	194.2	Centroid (~center of East and West channels)	Year-round/weekly		May-Nov./bi-weekly	May-Nov./weekly	May-Nov./monthly
Thompson Island	187.5	Transect (6 loc.)	March-Nov./weekly	Weekly (May-June)	May-Nov./bi-weekly	May-Nov./weekly	May-Nov./monthly
Schuylerville <sup>3</sup>	181.4	Transect (6 loc.)	Year-round/weekly	Weekly (May-June)	May-Nov./bi-weekly	May-Nov./weekly	May-Nov./monthly
Stillwater	168.4	Transect (5 loc.)	May-Nov./weekly		May-Nov./bi-weekly	May-Nov./weekly	May-Nov./monthly
Lock 1 <sup>4</sup>	159.5	Transect (5 loc.)	May-Nov./weekly		May-Nov./bi-weekly	May-Nov./weekly	
Waterford	156	Transect (5 loc.)	Year-round/weekly		May-Nov./bi-weekly	May-Nov./weekly	May-Nov./monthly
		Centroid (~center channel)	During high flow				
Mohawk River at Cohoes	NA	Transect (5 loc.)	Year-round/weekly				
Albany/ Troy <sup>5</sup>	145	Centroid (~center channel)	May-Nov./monthly				
Poughkeepsie <sup>5</sup>	75	Centroid (~center channel)	May-Nov./monthly				

Note: Water Quality (WQ) measurements including temperature, specific conductivity, pH, turbidity and dissolved oxygen will be taken for each water sample using a probe.

- 1 A single composite sample will be generated for each station
- 2 Bakers Falls sampling will be reduced to monthly after the first year if concentrations are uniformly low.
- 3 The historical single-point sampling locations at TID (TID-PRW2) and Schuylerville will be sampled simultaneously with the transect sampling monthly for the first 12 months of the program.
- 4 If data for Lock 1 for 2004 field season exhibit a strong correlation with the Waterford station, the Lock 1 station will be abandoned.
- 5 Only PCBs and TSS will be measured at the Lower Hudson Stations.
- 6 Sampling for nutrients and dioxins/furans to occur in 2004 only.

Special Studies

- A velocity profile study will be conducted at each routine monitoring station during the first few months of the program to refine the equal discharge interval locations.
- A transect positioned upstream of Lock 1 will be sampled for 7 months (May-Nov.) during the 2004 field season. If the data exhibit a strong correlation with data from the Waterford station, the Lock 1 station will be abandoned.
- Pseudo-TOT sampling will take place monthly at the routine monitoring stations in the Upper Hudson River for 7 months (May-Nov) during 2004.
- A dissolved/particulate phase PCB study will be conducted at Thompson Island and Schuylerville once per month (May to Nov) during 2004.

Source: QEA, LLC, 2004. Quality Assurance Project Plan for the Hudson River PCBs Site, Baseline Monitoring Program, May 2004. Table B-2.

Table I-2-4

Estimated log K<sub>oc</sub> Values at Schuylerville and Thompson Island Calculated from Dissolved/Particulate BMP Special Study Results

Schuylerville				
log K <sub>oc</sub>				
Peak	Average	Min	Max	Std Dev
2	5.02	4.39	6.22	0.69
3	6.52	6.42	6.69	0.12
4	6.52	6.42	6.69	0.12
5	4.92	4.59	5.22	0.29
6	5.93	5.55	6.32	0.25
7	5.84	5.53	6.03	0.18
8	5.76	5.27	6.23	0.37
9	6.52	6.42	6.69	0.12
10	5.08	4.69	5.55	0.3
11	6.52	6.42	6.69	0.12
12	6.52	6.42	6.69	0.12
13	6.52	6.42	6.69	0.12
14	5.61	5.06	6.19	0.4
15	5.57	5.23	6.02	0.31
16	5.41	5.03	5.91	0.34
17	5.49	5.05	6.06	0.37
19	5.65	5.4	5.99	0.25
20	6.45	5.27	7.77	0.92
21	5.96	5.6	6.42	0.3
22	6.17	5.79	6.49	0.23
23	5.94	5.58	6.49	0.34
24	6.07	5.51	6.74	0.43
25	5.7	5.21	6.32	0.36
26	5.8	5.42	6.26	0.3
27	5.93	5.43	6.14	0.27
28	6.52	6.42	6.69	0.12
29	6.04	5.7	6.65	0.34
30	6.52	6.42	6.69	0.12
31	5.77	5.51	6.19	0.26
32	5.91	5.62	6.35	0.27
33	5.9	5.68	6.39	0.27
34	6	5.65	6.54	0.31
35	6.52	6.42	6.69	0.12
36	6.52	6.42	6.69	0.12
37	5.84	5.05	6.62	0.57
38	6.08	5.78	6.59	0.28
39	6	5.69	6.4	0.24
41	6.21	6	6.42	0.17
42	5.94	5.71	6.2	0.22
43	6.41	6.08	6.9	0.3
44	6.18	5.59	6.79	0.39
45	6.15	5.85	6.51	0.27
46	6.19	5.73	6.78	0.39
47	6.15	5.51	6.8	0.49
48	6.2	5.69	6.72	0.36
49	6.01	5.64	6.16	0.2
50	6.2	5.84	6.72	0.32
51	6.17	5.86	6.64	0.33
52	6.62	6.05	7.47	0.56
53	6.35	6.06	6.84	0.28
54	6.32	6.13	6.73	0.22
55	6.51	6.07	7.39	0.47
56	6.36	5.88	6.78	0.32
57	6.26	5.94	6.56	0.24
58	6.29	5.9	6.64	0.28
59	6.31	5.97	6.66	0.22

Thompson Island				
log K <sub>oc</sub>				
Peak	Average	Min	Max	Std Dev
2	5.1	4.86	5.73	0.33
3	6.6	6.4	6.75	0.14
4	6.41	5.63	6.75	0.4
5	5.03	4.74	5.24	0.18
6	5.99	5.78	6.28	0.19
7	5.95	5.78	6.2	0.16
8	5.76	5.49	6.12	0.23
9	6.6	6.4	6.75	0.14
10	4.92	3.75	5.32	0.6
11	6.6	6.4	6.75	0.14
12	6.6	6.4	6.75	0.14
13	6.45	5.84	6.75	0.32
14	5.64	5.34	6.16	0.32
15	5.61	5.35	6.09	0.27
16	5.49	5.25	5.87	0.23
17	5.53	5.28	5.91	0.23
19	5.79	5.39	6.09	0.26
20	6.22	5.4	7.16	0.76
21	6.04	5.81	6.45	0.22
22	6.24	6.04	6.45	0.15
23	5.92	5.5	6.4	0.31
24	6.07	5.74	6.58	0.32
25	5.68	5.36	6.2	0.3
26	5.91	5.64	6.29	0.23
27	6.14	5.92	6.48	0.2
28	6.65	6.4	7.08	0.24
29	6.19	5.88	6.65	0.25
30	6.6	6.4	6.75	0.14
31	5.77	5.43	6.02	0.23
32	5.9	5.47	6.36	0.31
33	5.98	5.73	6.37	0.25
34	5.98	5.74	6.27	0.21
35	6.6	6.4	6.75	0.14
36	6.6	6.4	6.75	0.14
37	5.69	5.36	6.43	0.39
38	5.91	5.39	6.38	0.33
39	5.95	5.66	6.4	0.3
41	6.38	5.95	6.75	0.3
42	6.08	5.68	6.75	0.4
43	6.5	6.04	6.75	0.24
44	6.19	5.97	6.58	0.21
45	6.08	5.87	6.41	0.2
46	6.07	5.57	6.46	0.34
47	6.2	5.76	6.63	0.43
48	6.33	5.96	6.72	0.3
49	6.03	5.78	6.35	0.21
50	6.19	5.85	6.73	0.35
51	6.02	5.75	6.32	0.23
52	6.49	5.98	7.02	0.38
53	6.14	5.13	6.75	0.55
54	6.32	6.04	6.68	0.22
55	6.34	5.94	6.78	0.34
56	6.35	6.13	6.8	0.25
57	6.3	6.04	6.69	0.24
58	6.38	6.16	6.96	0.29
59	6.35	5.97	6.84	0.3

Table I-2-4

Estimated log K<sub>oc</sub> Values at Schuylerville and Thompson Island Calculated from Dissolved/Particulate BMP Special Study Results

Schuylerville				
log K <sub>oc</sub>				
Peak	Average	Min	Max	Std Dev
60	6.56	6.18	6.86	0.23
61	6.27	5.83	6.75	0.3
62	6.52	6.42	6.69	0.12
63	6.24	5.93	6.73	0.3
64	6.45	5.86	6.81	0.33
65	6.7	5.88	8.09	0.74
66	6.16	5.73	6.64	0.34
67	6.44	6.06	7	0.31
68	6.48	6.22	6.69	0.18
69	6.5	6.03	6.74	0.26
70	6.52	6.42	6.69	0.12
71	6.55	6.28	6.8	0.2
72	6.53	5.74	7.65	0.69
73	6.62	5.58	7.07	0.58
74	6.74	5.94	7.29	0.48
75	6.72	6.28	7.1	0.32
76	6.52	6.42	6.69	0.12
77	6.54	6.43	6.69	0.12
78	6.57	6.44	6.71	0.13
79	6.52	6.42	6.69	0.12
80	6.29	5.98	6.69	0.26
82	6.64	6.12	7.61	0.51
83	6.54	6.42	6.69	0.1
84	6.53	6.25	6.94	0.24
85	6.52	6.42	6.69	0.11
87	6.52	6.42	6.69	0.12
88	6.52	6.42	6.69	0.12
89	6.42	6.03	6.69	0.23
90	6.52	6.42	6.69	0.12
91	6.44	5.82	6.69	0.33
92	6.55	6.42	6.69	0.13
93	6.52	6.42	6.69	0.12
94	6.52	6.42	6.69	0.12
95	6.63	6.42	6.94	0.18
96	6.49	6.29	6.69	0.16
98	6.52	6.42	6.69	0.12
99	6.52	6.42	6.69	0.12
100	6.52	6.42	6.69	0.12
101	6.52	6.42	6.69	0.12
102	6.52	6.42	6.69	0.12
103	6.52	6.42	6.69	0.12
104	6.52	6.42	6.69	0.12
105	6.52	6.42	6.69	0.12
106	6.41	5.81	6.69	0.32
107	6.67	6.42	7.38	0.37
108	6.52	6.42	6.69	0.12
109	6.58	6.42	6.81	0.16
110	6.52	6.42	6.69	0.12
111	6.52	6.42	6.69	0.12
112	6.52	6.42	6.69	0.12
113	6.65	6.42	7.22	0.31
114	6.52	6.42	6.69	0.12
115	6.52	6.42	6.69	0.12
116	6.52	6.42	6.69	0.12
117	6.72	6.42	7.64	0.47
118	6.52	6.42	6.69	0.12

Thompson Island				
log K <sub>oc</sub>				
Peak	Average	Min	Max	Std Dev
60	6.63	6.47	6.94	0.18
61	6.33	5.89	6.75	0.32
62	6.6	6.4	6.75	0.14
63	6.37	6.03	6.64	0.27
64	6.63	6.13	7.46	0.46
65	6.53	5.79	7.45	0.59
66	6.67	5.57	7.87	0.78
67	6.53	5.74	7.41	0.56
68	6.53	6.37	6.75	0.14
69	6.4	5.84	6.75	0.34
70	6.6	6.4	6.75	0.14
71	6.7	6.31	7.24	0.32
72	6.7	6.09	7.29	0.45
73	6.57	6.08	7.01	0.33
74	6.7	6.34	7.21	0.29
75	6.71	6.53	6.95	0.15
76	6.6	6.4	6.75	0.14
77	6.6	6.34	6.75	0.16
78	6.6	6.4	6.75	0.14
79	6.5	5.9	6.75	0.31
80	6.54	6.09	6.75	0.27
82	6.75	6.44	7.47	0.42
83	6.44	5.81	6.75	0.36
84	6.48	5.66	6.75	0.41
85	6.62	6.53	6.75	0.1
87	6.6	6.4	6.75	0.14
88	6.62	6.53	6.75	0.11
89	6.52	6.29	6.75	0.18
90	6.6	6.4	6.75	0.14
91	6.47	6	6.75	0.26
92	6.6	6.4	6.75	0.14
93	6.6	6.4	6.75	0.14
94	6.57	6.25	6.75	0.19
95	6.57	5.64	7.06	0.5
96	6.58	6.44	6.75	0.1
98	6.6	6.4	6.75	0.14
99	6.6	6.4	6.75	0.14
100	6.6	6.4	6.75	0.14
101	6.6	6.4	6.75	0.14
102	6.6	6.4	6.75	0.14
103	6.6	6.4	6.75	0.14
104	6.6	6.4	6.75	0.14
105	6.64	6.53	6.75	0.09
106	6.6	6.4	6.75	0.14
107	6.6	6.4	6.75	0.14
108	6.6	6.4	6.75	0.14
109	6.6	6.4	6.75	0.14
110	6.6	6.4	6.75	0.14
111	6.6	6.4	6.75	0.14
112	6.6	6.4	6.75	0.14
113	6.6	6.4	6.75	0.14
114	6.6	6.4	6.75	0.14
115	6.6	6.4	6.75	0.14
116	6.6	6.4	6.75	0.14
117	6.6	6.4	6.75	0.14
118	6.6	6.4	6.75	0.14

Table I-2-5

Monthly Total PCB, Tri+PCB, TSS, DOC and POC Average Concentrations for Far Field Stations during BMP Sampling Program

Station	Unit	January	February	March	April	May	June	July	August	September	October	November	December
Bakers Falls	ng/L	0.62	0.68	1.13	0.56	0.90	1.30	1.32	1.48	1.57	1.72	0.88	0.70
Rogers Islands	ng/L	1.50	1.48	2.13	2.71	2.83	4.28	5.63	4.03	3.45	4.12	1.94	2.45
Thompson Island	ng/L	NA	NA	NA	21.7	38.8	58.6	47.7	28.8	30.7	43.7	26.1	9.07
Schuylerville (Transect)	ng/L	13.1	10.5	15.4	27.6	40.9	62.0	52.3	37.3	33.0	42.9	28.2	12.5
Stillwater	ng/L	NA	NA	NA	NA	38.9	57.2	49.3	31.0	29.8	44.7	31.5	NA
Waterford	ng/L	23.2	13.6	18.5	36.8	31.8	55.6	37.8	24.6	25.8	37.2	31.9	12.9
Mohawk River at Cohoes	ng/L	3.76	NA	7.02	3.21	1.74	4.06	5.72	4.56	3.94	14.9	3.30	2.26
LHR Albany	ng/L	NA	NA	NA	NA	25.4	23.7	21.2	15.3	17.9	26.9	16.9	NA
LHR Poughkeepsie	ng/L	NA	NA	NA	NA	17.9	15.9	19.7	17.5	22.6	24.7	19.2	NA

Station	Unit	January	February	March	April	May	June	July	August	September	October	November	December
Bakers Falls	ng/L	0.12	0.16	0.34	0.15	0.087	0.57	0.17	0.15	0.12	0.22	0.19	0.16
Rogers Islands	ng/L	0.94	0.84	1.17	1.86	1.55	2.97	3.87	2.18	1.47	2.14	0.92	1.68
Thompson Island	ng/L	NA	NA	NA	10.0	11.9	20.3	17.9	10.4	10.8	13.4	6.25	1.63
Schuylerville (Transect)	ng/L	7.48	6.49	5.25	14.2	13.1	22.7	21.6	15.6	12.6	12.7	7.89	4.32
Stillwater	ng/L	NA	NA	NA	NA	13.6	22.3	22.2	14.3	12.8	15.3	8.83	NA
Waterford	ng/L	17.3	10.4	13.3	25.0	12.7	29.9	18.5	12.4	11.7	15.9	14.5	4.59
Mohawk River at Cohoes	ng/L	1.47	NA	5.87	2.22	0.93	0.68	2.68	1.53	1.99	11.13	1.7	0.93
LHR Albany	ng/L	NA	NA	NA	NA	9.89	10.6	10.2	8.95	8.63	13.6	6.33	NA
LHR Poughkeepsie	ng/L	NA	NA	NA	NA	15.6	14.0	16.8	15.5	19.4	20.5	15.5	NA

Station	Unit	January	February	March	April	May	June	July	August	September	October	November	December
Bakers Falls	mg/L	2.04	2.38	1.36	4.46	1.11	2.28	1.27	1.52	1.48	1.51	1.89	1.62
Rogers Islands	mg/L	1.66	1.40	1.30	3.47	1.51	2.00	1.33	2.08	2.01	2.80	1.62	2.12
Thompson Island	mg/L	NA	NA	NA	4.66	2.21	3.02	2.10	2.67	1.52	2.86	2.91	1.85
Schuylerville (Transect)	mg/L	8.79	3.86	13.8	13.3	2.73	5.16	2.83	2.06	1.54	3.01	2.69	3.79
Stillwater	mg/L	NA	NA	NA	NA	3.71	7.36	4.84	2.23	2.05	4.79	3.94	NA
Waterford	mg/L	99.6	38.8	79.2	62.3	5.91	31.0	10.0	4.68	4.20	17.6	19.5	8.00
Mohawk River at Cohoes	mg/L	24.5	NA	187	65.7	9.64	11.2	122	7.10	6.81	76.1	6.9	18.0
LHR Albany	mg/L	NA	NA	NA	NA	9.71	8.50	7.14	3.12	4.60	24.6	19.6	NA
LHR Poughkeepsie	mg/L	NA	NA	NA	NA	18.4	16.0	15.1	12.5	257	14.8	18.1	NA

Table I-2-5

Monthly Total PCB, Tri+PCB, TSS, DOC and POC Average Concentrations for Far Field Stations during BMP Sampling Program

Station	Unit	January	February	March	April	May	June	July	August	September	October	November	December
Bakers Falls	mg/L	4.11	3.76	3.62	3.86	4.10	5.32	4.46	5.48	5.36	4.47	6.39	4.97
Rogers Islands	mg/L	3.52	3.87	3.75	3.93	4.41	5.14	4.67	5.02	5.02	5.19	6.27	4.43
Thompson Island	mg/L	NA	NA	NA	4.76	3.89	4.99	4.37	5.15	4.84	5.06	5.67	3.37
Schuylerville (Transect)	mg/L	3.55	3.84	4.25	4.49	3.91	4.86	4.31	4.53	4.42	5.23	5.65	4.49
Stillwater	mg/L	NA	NA	NA	NA	4.13	5.55	4.40	5.05	5.08	4.68	6.29	NA
Waterford	mg/L	4.58	6.88	4.67	3.46	3.92	5.00	5.22	4.41	4.24	4.80	5.75	4.80
Mohawk River at Cohoes	mg/L	NA	NA	2.28	7.48	9.26	10.4	4.33	2.97	4.37	4.84	15.9	3.42
LHR Albany	mg/L	NA	NA	NA	NA	3.31	NA	3.10	NA	4.37	5.18	3.88	NA
LHR Poughkeepsie	mg/L	NA	NA	NA	NA	2.37	NA	3.04	NA	4.66	4.28	4.43	NA

Station	Unit	January	February	March	April	May	June	July	August	September	October	November	December
Bakers Falls	mg/L	0.33	0.50	0.35	0.42	0.22	0.36	0.21	0.27	0.28	0.23	0.29	0.24
Rogers Islands	mg/L	0.19	0.26	0.25	0.34	0.23	0.30	0.23	0.29	0.36	0.31	0.27	0.27
Thompson Island	mg/L	NA	NA	NA	0.38	0.26	0.33	0.24	0.26	0.23	0.25	0.30	0.25
Schuylerville (Transect)	mg/L	0.52	0.27	0.54	0.51	0.26	0.40	0.21	0.23	0.20	0.27	0.28	0.29
Stillwater	mg/L	NA	NA	NA	NA	0.28	0.39	0.24	0.19	0.20	0.29	0.26	NA
Waterford	mg/L	1.67	1.07	1.81	1.55	0.30	0.82	0.38	0.28	0.27	0.49	0.64	0.31
Mohawk River at Cohoes	mg/L	1.16	NA	2.84	1.67	0.52	0.52	2.28	0.26	0.32	2.00	0.29	0.52
LHR Albany	mg/L	NA	NA	NA	NA	1.07	NA	0.14	NA	0.16	0.23	0.23	NA
LHR Poughkeepsie	mg/L	NA	NA	NA	NA	1.19	NA	0.69	NA	0.26	0.79	0.26	NA

**Table I-2-6  
Correlation Matrix of PCBs, TSS, DOC and POC BMP Concentrations**

**Correlations for Bakers Falls**

	Total PCB (ng/L)	Tri+PCB (ng/L)	DOC (mg/L)	POC (mg/L)	TSS (mg/L)
Total PCB (ng/L)		0.6519	0.1337	-0.1233	-0.1691
		(195)	(121)	(193)	(195)
		<b>0.0000</b>	0.1437	0.0875	<b>0.0181</b>
Tri+PCB (ng/L)	0.6519		0.0197	-0.0204	-0.0003
	(195)		(121)	(193)	(195)
	<b>0.0000</b>		0.8303	0.7786	0.9966
DOC (mg/L)	0.1337	0.0197		0.0888	0.0022
	(121)	(121)		(121)	(121)
	0.1437	0.8303		0.3326	0.9807
POC (mg/L)	-0.1233	-0.0204	0.0888		0.4820
	(193)	(193)	(121)		(193)
	0.0875	0.7786	0.3326		<b>0.0000</b>
TSS (mg/L)	-0.1691	-0.0003	0.0022	0.4820	
	(195)	(195)	(121)	(193)	
	<b>0.0181</b>	0.9966	0.9807	<b>0.0000</b>	

**Correlations for Rogers Island**

	Total PCB (ng/L)	Tri+PCB (ng/L)	DOC (mg/L)	POC (mg/L)	TSS (mg/L)
Total PCB (ng/L)		0.9637	0.1583	0.0244	0.2844
		(195)	(127)	(194)	(195)
		<b>0.0000</b>	0.0755	0.7357	<b>0.0001</b>
Tri+PCB (ng/L)	0.9637		0.1230	0.0245	0.3031
	(195)		(127)	(194)	(195)
	<b>0.0000</b>		0.1683	0.7340	<b>0.0000</b>
DOC (mg/L)	0.1583	0.1230		-0.0454	0.0529
	(127)	(127)		(128)	(128)
	0.0755	0.1683		0.6110	0.5535
POC (mg/L)	0.0244	0.0245	-0.0454		0.3951
	(194)	(194)	(128)		(195)
	0.7357	0.7340	0.6110		<b>0.0000</b>
TSS (mg/L)	0.2844	0.3031	0.0529	0.3951	
	(195)	(195)	(128)	(195)	
	<b>0.0001</b>	<b>0.0000</b>	0.5535	<b>0.0000</b>	

Notes:

Number in the first row is the correlation coefficient.

Number in the parenthesis (2<sup>nd</sup> row) indicates sample size.

Number in the third row is the p-value. Number in the red ink indicates significant p-value.

**Correlations for Thompson Island**

	Total PCB (ng/L)	Tri+PCB (ng/L)	DOC (mg/L)	POC (mg/L)	TSS (mg/L)
Total PCB (ng/L)		0.8397	-0.0491	-0.0990	-0.1468
		(170)	(109)	(170)	(170)
		<b>0.0000</b>	0.6122	0.1989	0.0561
Tri+PCB (ng/L)	0.8397		0.0197	0.0306	-0.0341
	(170)		(109)	(170)	(170)
	<b>0.0000</b>		0.8388	0.6918	0.6591
DOC (mg/L)	-0.0491	0.0197		-0.0592	0.2076
	(109)	(109)		(109)	(109)
	0.6122	0.8388		0.5411	<b>0.0303</b>
POC (mg/L)	-0.0990	0.0306	-0.0592		0.4832
	(170)	(170)	(109)		(170)
	0.1989	0.6918	0.5411		<b>0.0000</b>
TSS (mg/L)	-0.1468	-0.0341	0.2076	0.4832	
	(170)	(170)	(109)	(170)	
	0.0561	0.6591	<b>0.0303</b>	<b>0.0000</b>	

**Correlations for Schuylerville**

	Total PCB (ng/L)	Tri+PCB (ng/L)	DOC (mg/L)	POC (mg/L)	TSS (mg/L)
Total PCB (ng/L)		0.8324	-0.0175	-0.0572	-0.0923
		(210)	(137)	(208)	(210)
		<b>0.0000</b>	0.8389	0.4119	0.1828
Tri+PCB (ng/L)	0.8324		-0.0160	0.1542	0.0490
	(210)		(137)	(208)	(210)
	<b>0.0000</b>		0.8526	<b>0.0261</b>	0.4802
DOC (mg/L)	-0.0175	-0.0160		-0.1742	-0.1235
	(137)	(137)		(137)	(137)
	0.8389	0.8526		<b>0.0418</b>	0.1505
POC (mg/L)	-0.0572	0.1542	-0.1742		0.7567
	(208)	(208)	(137)		(208)
	0.4119	<b>0.0261</b>	<b>0.0418</b>		<b>0.0000</b>
TSS (mg/L)	-0.0923	0.0490	-0.1235	0.7567	
	(210)	(210)	(137)	(208)	
	0.1828	0.4802	0.1505	<b>0.0000</b>	

Notes:

Number in the first row is the correlation coefficient.

Number in the parenthesis (2<sup>nd</sup> row) indicates sample size.

Number in the third row is the p-value. Number in the red ink indicates significant p-value.

**Correlations for Stillwater**

	Total PCB (ng/L)	Tri+PCB (ng/L)	DOC (mg/L)	POC (mg/L)	TSS (mg/L)
Total PCB (ng/L)		0.7723	-0.2093	0.0509	0.0647
		(149)	(92)	(149)	(149)
		0.0000	0.0453	0.5379	0.4328
Tri+PCB (ng/L)	0.7723		-0.1646	0.2924	0.2953
	(149)		(92)	(149)	(149)
	0.0000		0.1168	0.0003	0.0003
DOC (mg/L)	-0.2093	-0.1646		-0.1273	0.0285
	(92)	(92)		(92)	(92)
	0.0453	0.1168		0.2267	0.7872
POC (mg/L)	0.0509	0.2924	-0.1273		0.7953
	(149)	(149)	(92)		(149)
	0.5379	0.0003	0.2267		0.0000
TSS (mg/L)	0.0647	0.2953	0.0285	0.7953	
	(149)	(149)	(92)	(149)	
	0.4328	0.0003	0.7872	0.0000	

**Correlations for Waterford**

	Total PCB (ng/L)	Tri+PCB (ng/L)	DOC (mg/L)	POC (mg/L)	TSS (mg/L)
Total PCB (ng/L)		0.9284	-0.0549	0.2628	0.1156
		(339)	(243)	(331)	(338)
		0.0000	0.3945	0.0000	0.0337
Tri+PCB (ng/L)	0.9284		-0.0607	0.4597	0.3048
	(339)		(243)	(331)	(338)
	0.0000		0.3457	0.0000	0.0000
DOC (mg/L)	-0.0549	-0.0607		-0.0801	-0.1070
	(243)	(243)		(243)	(242)
	0.3945	0.3457		0.2136	0.0966
POC (mg/L)	0.2628	0.4597	-0.0801		0.8716
	(331)	(331)	(243)		(330)
	0.0000	0.0000	0.2136		0.0000
TSS (mg/L)	0.1156	0.3048	-0.1070	0.8716	
	(338)	(338)	(242)	(330)	
	0.0337	0.0000	0.0966	0.0000	

Notes:

Number in the first row is the correlation coefficient.

Number in the parenthesis (2<sup>nd</sup> row) indicates sample size.

Number in the third row is the p-value. Number in the red ink indicates significant p-value.

**Correlations for Mohawk**

	Total PCB (ng/L)	Tri+PCB (ng/L)	DOC (mg/L)	POC (mg/L)	TSS (mg/L)
Total PCB (ng/L)		0.9312	-0.0950	0.5451	0.4819
		(41)	(24)	(40)	(41)
		<b>0.0000</b>	0.6587	<b>0.0003</b>	<b>0.0014</b>
Tri+PCB (ng/L)	0.9312		-0.0736	0.5343	0.4850
	(41)		(24)	(40)	(41)
	<b>0.0000</b>		0.7325	<b>0.0004</b>	<b>0.0013</b>
DOC (mg/L)	-0.0950	-0.0736		-0.1256	-0.1494
	(24)	(24)		(24)	(24)
	0.6587	0.7325		0.5587	0.4859
POC (mg/L)	0.5451	0.5343	-0.1256		0.9720
	(40)	(40)	(24)		(40)
	<b>0.0003</b>	<b>0.0004</b>	0.5587		<b>0.0000</b>
TSS (mg/L)	0.4819	0.4850	-0.1494	0.9720	
	(41)	(41)	(24)	(40)	
	<b>0.0014</b>	<b>0.0013</b>	0.4859	<b>0.0000</b>	

**Correlations for Albany**

	Total PCB (ng/L)	Tri+PCB (ng/L)	DOC (mg/L)	POC (mg/L)	TSS (mg/L)
Total PCB (ng/L)		0.7421	-0.3992	0.8255	-0.0010
		(34)	(5)	(5)	(34)
		<b>0.0000</b>	0.5056	0.0852	0.9955
Tri+PCB (ng/L)	0.7421		-0.3608	0.6775	0.3147
	(34)		(5)	(5)	(34)
	<b>0.0000</b>		0.5508	0.2089	0.0699
DOC (mg/L)	-0.3992	-0.3608		-0.3778	-0.0607
	(5)	(5)		(5)	(5)
	0.5056	0.5508		0.5307	0.9228
POC (mg/L)	0.8255	0.6775	-0.3778		0.9376
	(5)	(5)	(5)		(5)
	0.0852	0.2089	0.5307		<b>0.0185</b>
TSS (mg/L)	-0.0010	0.3147	-0.0607	0.9376	
	(34)	(34)	(5)	(5)	
	0.9955	0.0699	0.9228	<b>0.0185</b>	

Notes:

Number in the first row is the correlation coefficient.

Number in the parenthesis (2<sup>nd</sup> row) indicates sample size.

Number in the third row is the p-value. Number in the red ink indicates significant p-value.

**Correlations for Poughkeepsie**

	Total PCB (ng/L)	Tri+PCB (ng/L)	DOC (mg/L)	POC (mg/L)	TSS (mg/L)
Total PCB (ng/L)		0.9793	-0.3928	0.7119	0.1139
		(34)	(5)	(5)	(34)
		0.0000	0.5130	0.1774	0.5214
Tri+PCB (ng/L)	0.9793		-0.6029	0.7271	0.1015
	(34)		(5)	(5)	(34)
	0.0000		0.2819	0.1640	0.5680
DOC (mg/L)	-0.3928	-0.6029		-0.8449	-0.7875
	(5)	(5)		(5)	(5)
	0.5130	0.2819		0.0716	0.1138
POC (mg/L)	0.7119	0.7271	-0.8449		0.6969
	(5)	(5)	(5)		(5)
	0.1774	0.1640	0.0716		0.1910
TSS (mg/L)	0.1139	0.1015	-0.7875	0.6969	
	(34)	(34)	(5)	(5)	
	0.5214	0.5680	0.1138	0.1910	

Notes:

Number in the first row is the correlation coefficient.

Number in the parenthesis (2<sup>nd</sup> row) indicates sample size.

Number in the third row is the p-value. Number in the red ink indicates significant p-value.

Table I-2-7  
Estimated TPCB UCL Baseline Concentrations

Station	Fort Edward Flow	May	June	July	August	September	October	November
Thompson Island	<= 5000	68	79	54	36	34	67	61
Thompson Island	5000-10000	35	41	52	29	20	30	25
Thompson Island	>10000	43	38				16	21
Schuylerville	<= 5000	69	80	57	47	36	56	67
Schuylerville	5000-10000	42	72	71	36	25	41	33
Schuylerville	>10000	37	49				21	26
Waterford	<= 5000	47	48	37	27	28	45	56
Waterford	5000-10000	31	55	56	34	25	39	26
Waterford	10000-25000	37	41	79			42	54

Table I-2-8  
 Estimated TPCB Mean Baseline Concentrations

Station	Fort Edward Flow	May	June	July	August	September	October	November
Thompson Island	<= 5000	52	69	50	32	32	53	41
Thompson Island	5000-10000	26	41	43	23	20	24	20
Thompson Island	>10000	43	38				16	21
Schuylerville	<= 5000	55	66	51	42	34	49	45
Schuylerville	5000-10000	33	59	55	28	25	28	23
Schuylerville	>10000	33	49				21	26
Waterford	<= 5000	37	43	34	24	26	38	38
Waterford	5000-10000	25	46	40	26	25	31	22
Waterford	10000-25000	32	36	79			42	42

Table I-2-9  
Estimated Tri+PCB UCL Baseline Concentrations

Station	Fort Edward Flow	May	June	July	August	September	October	November
Thompson Island	<= 5000	15	25	21	12	12	39	14
Thompson Island	5000-10000	11	17	20	12	7	11	6
Thompson Island	>10000	19	17				4	7
Schuylerville	<= 5000	16	25	23	18	14	16	14
Schuylerville	5000-10000	15	31	32	20	11	25	10
Schuylerville	>10000	17	22				7	9
Waterford	<= 5000	14	18	18	12	13	17	12
Waterford	5000-10000	13	27	29	21	13	20	10
Waterford	10000-25000	20	29	45			28	35

Table I-2-10  
 Estimated Tri+PCB Mean Baseline Concentrations

Station	Fort Edward Flow	May	June	July	August	September	October	November
Thompson Island	<= 5000	12	22	19	11	11	16	10
Thompson Island	5000-10000	8	17	16	10	7	7	4
Thompson Island	>10000	19	17				4	7
Schuylerville	<= 5000	15	22	21	16	13	13	11
Schuylerville	5000-10000	11	25	24	15	11	11	7
Schuylerville	>10000	14	22				7	9
Waterford	<= 5000	12	16	16	11	11	13	9
Waterford	5000-10000	10	23	20	16	13	13	8
Waterford	10000-25000	16	26	45			28	25

Table I-2-11

Comparison of 2009 Estimated Baseline PCB Loads to 2004-2008 Observed Loads for the Period May 15 to November 30

Year	Ft Edward Flow (Billion Gallons)	Lock 1 Flow (Billion Gallons)	Thompson Island Baseline Load (kg)		Schuylerville Baseline Load (kg)		Waterford Baseline Load (kg)	
			Total PCB	Tri+PCB	Total PCB	Tri+PCB	Total PCB	Tri+PCB
2004	639	957	98	33	107	41	125	55
2005	666	1,061	83	28	90	35	128	70
2006	991	1,486	140	52	149	59	364	212
2007	399	605	58	17	64	20	69	25
2008	543	863	76	26	80	31	86	37
2009	747	1,174	92	32	114	45	137	63

Table I-2-12  
 Estimated Annual PCB Load for Waterford (2005-2008)

Year	Waterford Annual Load				
	Cumulative Flow (Mgal)	TPCB Load (Kg)	CV%	Tri+ PCB Load (kg)	CV%
2005	2,372,022	357	17%	224	16%
2006	2,784,036	484	12%	287	11%
2007	2,062,430	219	18%	132	17%
2008	2,651,452	260	12%	182	11%