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Transmitted Via First Class Mail

February 7, 2000

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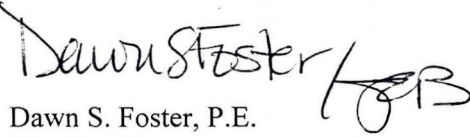
Re: Sheboygan River and Harbor Annual IMP Report
Project #: 176.29.006 #2

Dear Tom:

Enclosed please find three copies of the 2000 Annual Interim Monitoring Report. Should you have any questions, please let us know.

Sincerely,

BLASLAND, BOUCK & LEE, INC.



Dawn S. Foster, P.E.
Vice President

JEB/dam

Enclosures

F:\USERS\AMM\2000\11501819.WPD

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*1999 Annual Interim
Monitoring Program
Report*

Sheboygan River and Harbor

Prepared by BBL, Inc. On Behalf of
Tecumseh Products Company

February 2000

REPORT

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1. Interim Monitoring Program

1.1 General

This report presents a summary of the resident fish monitoring and the caged fish bioaccumulation study completed as part of the Interim Monitoring Program (IMP) for the Sheboygan River and Harbor (the Site). These activities were completed in accordance with the IMP Work Plan/QAPP (BBL, 1996), which was developed in consultation with the U.S. Environmental Protection Agency (USEPA) and Wisconsin Department of Natural Resources (WDNR).

The stated objectives of the IMP are to:

1. provide data to evaluate the effectiveness of remediation;
2. generate data to allow for periodic re-evaluation of potential human exposure and associated risks; and
3. establish baseline data to be used in conjunction with the data from the long-term monitoring program that will be established following implementation of the selected remedy to evaluate the overall effectiveness of remediation.

A description of the IMP biota sampling activities completed in 1999 and a summary of the results are presented in the following sections.

2. Resident Fish Monitoring

2.1 Field Sampling Activities

Consistent with previous IMP resident fish sampling efforts, resident fish were collected in 1999 from three reaches of the Sheboygan River, including: 1) in the vicinity of Rochester Park, 2) between Kohler's River Bend dam and Waelderhaus dam, and 3) in the vicinity of Kiwanis Park. Target species for each reach were twelve smallmouth bass (*Micropterus dolomieu*) and twenty-five composite samples (n = 2 fish per composite) of juvenile white suckers (*Catostomus commersoni*).

Adult smallmouth bass were collected from each location using electrofishing equipment during the week of September 20, 1999. A summary of the smallmouth bass analytical results is presented in the following section. Only three juvenile white suckers were encountered during the IMP sampling effort, despite intensive collection efforts with boat-mounted and stream-side electrofishing units. WDNR fisheries personnel theorized that the lack of juvenile white suckers in 1999 may have been due to unusually high spring water levels that may have resulted in "wash out" of juveniles into the lake. As such, no white sucker samples were retained for analysis.

2.2 Analytical Results

The 1999 resident fish (smallmouth bass) data are presented in Tables 1 and 2. The 1999 data indicate that mean PCB concentrations in smallmouth bass are the same or lower than concentrations observed in 1998 at all locations. Mean total PCB concentrations in Rochester Park (7.6 mg/kg) are not statistically significantly lower than concentrations reported in 1998 (10.7 mg/kg), or any of the previous ASRI or IMP sampling events (ANOVA, Scheffe, $p < 0.05$). Mean total PCB concentrations in smallmouth bass from between the Kohler dams (2.0 mg/kg) are significantly lower than concentrations reported in 1998 (3.1 mg/kg), and lower than concentrations reported in earlier samples (1991-1995) (ANOVA, Scheffe, $p < 0.05$). At Kiwanis Park, mean total PCB concentrations (2.0 mg/kg) are similar to mean total PCB concentrations reported in 1998 (1.9 mg/kg), and previous sampling events. Smallmouth bass lipid-normalized PCB data follow the same general trend as described for total PCBs.

Figures 1 and 2 graphically depict temporal trends in mean total PCB and mean lipid-normalized PCB concentrations. Smallmouth bass collected in the vicinity of Rochester Park show no apparent temporal trend in total PCB and lipid-normalized PCB concentrations. Figures 1 and 2 show an apparent decreasing trend in smallmouth bass total PCB and lipid-normalized PCB concentrations between the Kohler dams. A similar decreasing trend is also apparent for total PCB concentrations in smallmouth bass collected in the vicinity of Kiwanis Park.

2.3 1999 Smallmouth Bass Chromatogram Evaluation

The 1999 and 1998 smallmouth bass chromatograms for all sampling locations were reviewed using a qualitative evaluation similar to that presented in the 1998 Interim Monitoring Program (IMP) Report (i.e., comparison of various peak amplitudes). In doing so, there was no evidence of a change or shift in the 1999 chromatogram pattern from 1998. In other words, the chromatograms are similar for both years.

For comparative purposes, sample smallmouth bass PCB chromatograms for the following sample locations are attached:

- Figure 3 - Rochester Park 1998 and 1999;
- Figure 4 - Between the Kohler dams 1998 and 1999; and
- Figure 5 - Kiwanis Park 1998 and 1999.

More specifically, as noted on the above figures, the consistency of the relative proportions of the labeled peaks 3, 4, 6, and 7 between 1998 and 1999 for a given sampling location indicates that the PCB composition has not

substantively changed. In addition, since the peak 7 amplitude remains greater than the peak 4 amplitude (see Figure 3), there appears to be little, if any, evidence in the 1999 Rochester Park smallmouth bass chromatograms of the dechlorination weathering pattern seen prior to 1998. PCBs were quantified as Aroclors 1248 and 1254 in both the 1998 and 1999 Rochester Park smallmouth bass samples, with most of the PCB quantified as Aroclor 1254 for both years.

3. Caged Fish Study

3.1 Field Sampling Activities

The IMP caged fish studies were conducted as described in the IMP Work Plan (BBL, 1996). The caged fish studies were implemented at the request of USEPA/WDNR and are designed to provide a relative indicator of PCB bioavailability. These study results do not provide information that is directly useful for evaluating potential risks to human health.

The 1999 caged fish studies were consistent with previous IMP caged fish studies and include the following five monitoring locations.

1. A background location above Sheboygan Falls dam corresponding to water-column monitoring location W-1 (first of two previous ASRI caged fish sampling locations - IMP Station 1).
2. Immediately downstream of sediment Area 19 and near water-column monitoring location W-13B (the second of the two previous ASRI caged fish sampling locations - IMP Station 2).
3. Immediately upstream of Riverbend dam near water-column monitoring location W-3, and immediately downstream of sediment Areas 28 and 31 (IMP Station 3).
4. Immediately upstream of Waelderhaus dam, near water-column monitoring location W-4, and immediately downstream of sediment Areas 45 and 46 (IMP Station 4).
5. In the vicinity of the I-43 bridge and the USGS gaging station, near water-column monitoring location W-5 (IMP Station 5).

Fish cages (two cages per location) were placed in the River on September 23, 1999. Each cage contained approximately 250 fathead minnows (*Pimephales promelas*). Prior to placing minnows into cages, two pre-exposure minnow samples were obtained and submitted to EnChem Laboratory, Madison, Wisconsin for analyses of PCB/lipid content to confirm that the study population was free of PCBs.

Three-week exposure samples were obtained on October 14, 1999, and 6-week exposure samples were taken on November 4, 1999. During each sampling event, two composite samples were obtained from each cage, for a total of four samples per location.

3.2 Analytical Results

The results of PCB and lipid analyses for the 1999 caged fish study are presented in Table 3. Total mean PCB concentrations at the four downstream locations (Stations 2-5) ranged from 0.77 mg/kg to 1.2 mg/kg for the 3-week samples, and mean lipid-normalized concentrations ranged from 27 to 36 mg/kg lipid. Total mean PCB concentrations at the four downstream locations for the 6-week samples ranged from 2.1 mg/kg to 3.0 mg/kg, and lipid-normalized mean concentrations ranged from 80 mg/kg to 111 mg/kg lipid.

Table 4 presents a summary of all the 6-week caged fish results, including historic ASRI data (i.e., data for ASRI monitoring Stations 1 and 2 which are included in the IMP). At Station 2 (the only caged fish location continually monitored since 1989), the 1999 PCB mean total and lipid-normalized PCB concentrations are significantly less than 1989 baseline concentrations (ANOVA, Scheffe, $p < 0.05$). Figures 6 and 7 support the statistical analyses and show no clear temporal trends in the IMP caged fish data set itself (1994-1999).

3.3 1999 Caged Fish Chromatogram Evaluation

Review of the 1998 and 1999 6-week caged fish chromatograms for all sampling locations indicates that the chromatograms generally are similar for both years. One very slight/subtle difference is that in the 1999 downstream locations (i.e., Riverbend dam, Waelderhaus dam and the USGS Gaging Station), there is an apparent relative decrease in one of the earliest peaks (i.e., the 1999 peak 1 exhibits a lesser relative amplitude than that of the 1998 peak 1; see Figure 8). A lower peak 1 amplitude in caged fish chromatograms would be consistent with the loss of lower chlorinated components (via dissolution weathering) from the sediment PCB mixture that governed the 1999 downstream caged fish exposures. The relative loss of peak 1 components was not apparent in the caged fish location immediately downstream of Sediment Area 19 (i.e., caged fish station #2, the location closest to the Tecumseh plant site). Overall, and most importantly, the chromatograms of the 1998 and 1999 caged fish are quite similar. In those instances where a slight/subtle difference was noted, this difference may be attributed to dissolution weathering (see Figure 8). However, the sensitivity of the data is such that no interpretations can be made regarding this apparent, albeit very subtle, difference noted between upstream and downstream caged fish results.

Tables

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Table 1

Sheboygan River and Harbor
Interim Monitoring Program1999 Smallmouth Bass Monitoring Results (1)
September 1999

Location/Species	Sample ID	Length (cm)	Weight (g)	Lipid (%)	Total PCB (2) (mg/kg)	Lipid-Normalized PCB (2) (mg/kg-lipid)
Rochester Park	FB-331	34.3	570	0.82	7.1	866
	FB-332	29.7	370	0.74	8.7	1176
	FB-333	36.0	630	0.95	2.7	284
	FB-334	29.5	340	0.65	6.2	954
	FB-335	27.6	280	1.02	4.2	412
	FB-336	23.6	150	0.48	22	4583
	FB-337	28.5	340	0.92	5.7	620
	FB-338	28.5	320	0.6	7.8	1300
	FB-339	29.0	275	0.77	4.2	545
	FB-340	29.5	380	1.14	8.7	763
	FB-341	29.0	340	0.76	6.6	868
	FB-342	24.5	190	0.52	7.6	1462
Mean (3)		29.1	349	0.78	7.6	1153
Standard Deviation		3.43	137	0.20	4.9	1136
Between Kohler Dams	FB-319	29.9	400	0.61	3.1	508
	FB-320	31.4	410	1.08	2.3	213
	FB-321	28.0	310	0.59	1.8	305
	FB-322	25.4	220	0.58	2.2	379
	FB-323	25.7	220	0.38	0.79	208
	FB-324	27.3	270	0.58	1.9	328
	FB-325	24.9	200	0.54	2.0	370
	FB-326	24.6	210	0.65	2.3	354
	FB-327	23.1	180	0.50	1.8	360
	FB-328	23.3	160	0.69	2.1	304
	FB-329	23.2	160	0.60	2.3	383
	FB-330	23.0	140	0.75	1.1	147
Mean (3)		25.8	240	0.63	2.0	322
Standard Deviation		2.79	90.5	0.17	0.59	97
Kwanis Park	FB-307	31.2	460	1.72	3.6	209
	FB-308	31.8	485	1.03	2.0	194
	FB-309	28.4	300	0.97	2.3	237
	FB-310	30.5	425	0.98	2.8	286
	FB-311	29.8	450	0.67	1.2	179
	FB-312	28.5	320	0.74	1.7	230
	FB-313	29.8	410	0.75	1.1	147
	FB-314	30.2	420	0.88	2.1	239
	FB-315	30.0	380	0.54	1.5	278
	FB-316	29.9	330	0.67	2.1	313
	FB-317	27.4	260	0.53	2.4	453
	FB-318	26.0	230	0.62	1.3	210
Mean (3)		29.5	373	0.84	2.0	248
Standard Deviation		1.63	82.9	0.32	0.72	80

Notes:

- (1) Smallmouth bass samples prepared as skin-on, scales-off fillets.
- (2) PCB concentrations reported on a wet-weight basis.
- (3) Arithmetic mean.

Table 2
Sheboygan River and Harbor
Interim Monitoring Program

Summary of Smallmouth Bass Monitoring Results (1,2,3)
(1990 - 1996, 1998 and 1999)

Location/Species	Year	Mean Total PCB (mg/kg) (4)	Mean Lipid-Normalized PCB (mg/kg-lipid) (4)
Rochester Park	1990	6.2 (ab)	916 (a)
	1991	10.3 (ab)	969 (a)
	1992	6.3 (ab)	600 (a)
	1993	4.6 (ab)	450 (a)
	1994	7.5 (ab)	875 (a)
	1995	9.6 (ab)	854 (a)
	1996	3.4 (b)	341 (a)
	1998	10.7 (a)	1294 (a)
	1999	7.6 (ab)	1153 (a)
Between Kohler Dams	1990	4.7 (abc)	571 (ab)
	1991	7.3 (a)	848 (a)
	1992	5.2 (ab)	417 (b)
	1993	5.4 (ab)	562 (ab)
	1994	5.6 (ab)	523 (ab)
	1995	3.6 (ab)	335 (b)
	1996	3.9 (abc)	361 (b)
	1998	3.1 (ab)	416 (b)
	1999	2.0 (c)	322 (b)
Kiwanis Park	1990	2.3 (ab)	217 (ab)
	1991	3.7 (a)	355 (ab)
	1992	2.4 (ab)	283 (b)
	1993	3.0 (ab)	733 (a)
	1994	2.5 (ab)	219 (b)
	1995	2.0 (b)	163 (b)
	1996	2.3 (ab)	249 (b)
	1998	1.9 (b)	186 (b)
	1999	2.0 (b)	248 (b)

Notes:

- (1) Smallmouth bass samples prepared as skin-on, scales-off fillets.
- (2) Arithmetic Mean.
- (3) Samples were not collected in 1997. Scientific Collectors Permit Application was not approved.
- (4) PCB concentrations reported on a wet-weight basis.

The letters in parentheses denoting statistical differences (for each analysis) apply to the data presented in each column for each location. Within each location, means with different letters are significantly different (ANOVA, Scheffe, 95% Confidence).

Table 3

Sheboygan River and Harbor
Interim Monitoring Program1999 Caged Fish Monitoring Results (1,2)
(9/23/99-11/4/99)

Location	Cage No.	Lipid (%)	3-Week Exposure		6-Week Exposure		
			Total PCB (3) (mg/kg)	Lipid-Normalized PCB (3) (mg/kg-lipid)	Total PCB (3) (mg/kg)	Lipid-Normalized PCB (3) (mg/kg-lipid)	
Station 1	1A	2.38	< 0.064	< 2.7	2.82	< 0.05	< 1.8
Upstream of Sheboygan Falls dam (W-1)	1A	3.60	< 0.044	< 1.2	3.22	< 0.05	< 1.6
	1B	3.70	< 0.047	< 1.3	2.78	< 0.05	< 1.8
	1B	4.26	< 0.042	< 0.99	2.72	< 0.05	< 1.8
Mean (4)		3.49	NA	NA	2.89	NA	NA
Standard Deviation		0.79	NA	NA	0.23	NA	NA
Station 2	2A	3.24	0.97	30	2.70	3.1	115
Downstream of ASRI capping/armoring and removal areas (W-13B)	2A	4.04	1.3	32	2.72	3.5	129
	2B	3.96	1.3	33	2.90	2.9	100
	2B	3.22	1.2	37	2.51	2.5	100
Mean (4)		3.62	1.2	33	2.7	3.0	111
Standard Deviation		0.45	0.16	3.1	0.16	0.42	14
Station 3	3A	2.40	1.3	54	2.72	2.6	96
Upstream of Riverbend dam (W-3)	3A	3.06	1.1	36	2.38	2.0	84
	3B	3.16	1.0	32	2.69	2.6	97
	3B	4.60	1.1	24	2.74	2.8	102
Mean (4)		3.31	1.1	36	2.63	2.5	95
Standard Deviation		0.93	0.13	13	0.17	0.35	8
Station 4	4A	3.02	1.1	36	2.79	2.4	86
Upstream of Waelderhaus dam (W-4)	4A	4.64	1.0	22	2.54	2.3	91
	4B	3.76	0.96	26	2.76	2.8	101
	4B	3.80	1.3	34	2.37	2.3	97
Mean (4)		3.81	1.1	29	2.62	2.5	94
Standard Deviation		0.66	0.15	7.0	0.20	0.24	7
Station 5	5A	2.58	0.70	27	2.70	1.9	70
Downstream of USGS Gaging Station (W-5)	5A	2.60	0.76	29	2.72	1.8	66
	5B	3.13	0.99	32	2.71	2.6	96
	5B	3.27	0.61	19	2.30	2.0	87
Mean (4)		2.90	0.77	27	2.61	2.1	80
Standard Deviation		0.36	0.16	5.6	0.21	0.36	14

Notes:

- (1) Whole-body fathead minnow composite samples.
 - (2) Two samples of the pre-exposure minnow population were collected and analyzed for PCBs. PCBs were not detected at levels above Aroclor-specific method detection limit (0.05 mg/kg). Lipid content of the samples was 5.50 % and 5.08 %.
 - (3) PCB concentrations reported on a wet-weight basis.
 - (4) Arithmetic mean.
- NA = not applicable.

Table 4

Sheboygan River and Harvor
Interim Monitoring ProgramSummary of Caged Fish Monitoring Results (1,2)
(6-Week Samples)

Location	YEAR	Mean Total PCB (mg/kg) (3)	Mean PCB/Lipid (mg/kg-lipid) (3)
Station 1 (W-1) Upstream of Sheboygan Falls dam	Phase 1(9/8/89)	< 0.02	< 1.1
	Phase 2a (12/21/89)	< 0.035	< 1.5
	Phase 2b (10/31/90)	< 0.1	< 10
	Phase 3a (9/1/92)	< 0.03	< 1.2
	Phase 3b (10/13/92)	< 0.02	< 1.3
	Phase 4 (IMP) 1994	< 0.05	< 3.0
	Phase 5 (IMP) 1995	< 0.05	< 1.7
	Phase 6 (IMP) 1996	< 0.05	< 1.34
	Phase 7 (IMP) 1997	0.025	1.2
Station 2 (W-13B) Downstream of ASRI capping/armoring and removal areas	Phase 8 (IMP) 1998	< 0.2	< 4.78
	Phase 9 (IMP) 1999	< 0.05	< 1.8
	Phase 1(9/8/89)	8.4 (a)	690 (a)
	Phase 2a (12/21/89)	2.0 (c)	104 (b)
	Phase 2b (10/31/90)	3.23 (bc)	300 (b)
	Phase 3a (9/1/92)	7.55 (ab)	222 (b)
	Phase 3b (10/13/92)	1.42 (c)	91 (b)
	Phase 4 (IMP) 1994	1.1 (c)	67 (b)
	Phase 5 (IMP) 1995	2.2 (bc)	84 (b)
Station 3 (W-3) Upstream of Riverbend dam	Phase 6 (IMP) 1996	1.8 (c)	94 (b)
	Phase 7 (IMP) 1997	2.4 (bc)	112 (b)
	Phase 8 (IMP) 1998	2.0 (c)	89 (b)
	Phase 9 (IMP) 1999	3.0 (bc)	111 (b)
	Phase 4 (IMP) 1994	1.4 (b)	89 (b)
	Phase 5 (IMP) 1995	2.4 (a)	99 (ab)
	Phase 6 (IMP) 1996	1.2 (b)	68 (b)
	Phase 7 (IMP) 1997	1.7 (ab)	81 (b)
	Phase 8 (IMP) 1998	2.6 (a)	121 (a)
Station 4 (W-4) Upstream of Waelderhaus dam	Phase 9 (IMP) 1999	2.5 (a)	95 (ab)
	Phase 4 (IMP) 1994	1.6 (de)	103 (b)
	Phase 5 (IMP) 1995	2.7 (ab)	98 (b)
	Phase 6 (IMP) 1996	1.2 (e)	66 (b)
	Phase 7 (IMP) 1997	2.0 (cd)	99 (b)
	Phase 8 (IMP) 1998	3.3 (a)	163 (a)
	Phase 9 (IMP) 1999	2.5 (bc)	94 (b)
	Phase 4 (IMP) 1994	1.6 (cd)	83 (abc)
	Station 5 (W-5) Downstream of USGS Gaging Station	Phase 5 (IMP) 1995	2.5 (ab)
Phase 6 (IMP) 1996		1.8 (bcd)	85 (abc)
Phase 7 (IMP) 1997		1.3 (d)	68 (c)
Phase 8 (IMP) 1998		3.0 (a)	97 (ab)
Phase 9 (IMP) 1999		2.1 (bc)	80 (bc)

Notes:

1 Whole-body fathead minnow composite samples.

2 Arithmetic Mean

3 PCB concentrations reported on a wet-weight basis.

The letters in parentheses denoting statistical differences (for each analysis) apply to the data presented in each column for each location. Within each location, means with different letters are significantly different (ANOVA, Scheffe's, 95% Confidence.)

Phase 1 = pre ASRI activities.

Phase 2a, 2b = during ASRI activities (upstream of Station 2).

Phase 3a, 3b = post ASRI activities (work conducted upstream of Station 2 in November 1991).

Phase 4-9 = IMP (post-ASRI activities).

1994 6-week samples collected 10/26/94.

1995 6-week samples collected 11/1/95.

1996 6-week samples collected 11/6/96.

1997 6-week samples collected 10/30/97.

1998 6-week samples collected 11/4/98.

1999 6-week samples collected 11/4/99.

Figures

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FIGURE 1A. Vicinity of Rochester Park

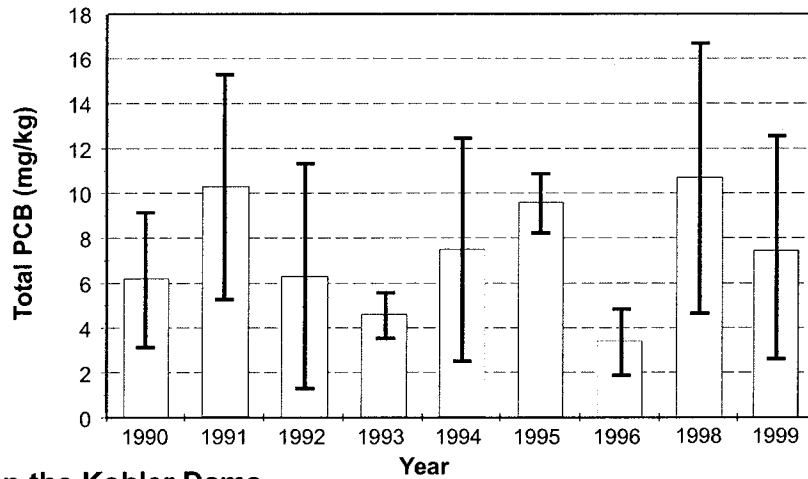


FIGURE 1B. Between the Kohler Dams

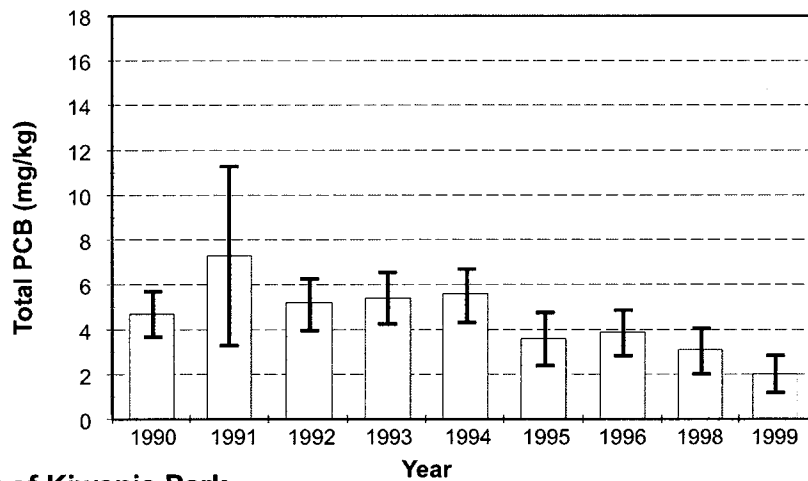
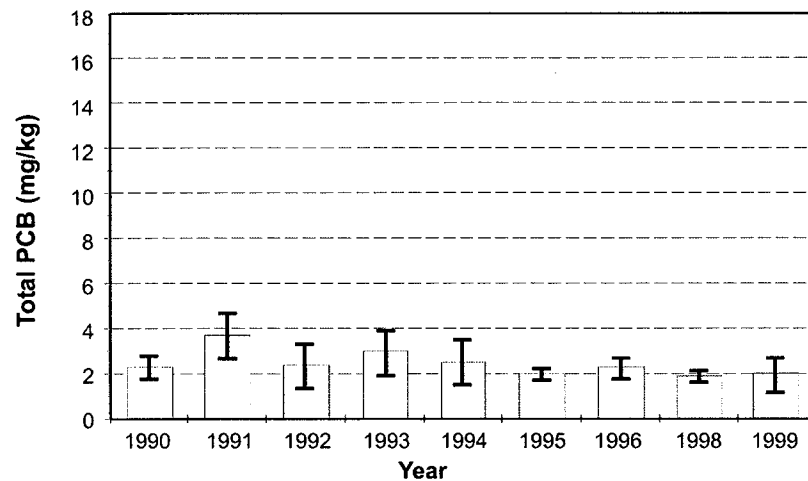


FIGURE 1C. Vicinity of Kiwanis Park



I = Standard Deviation

**SHEBOYGAN RIVER AND HARBOR
INTERIM MONITORING PROGRAM**

**SMALLMOUTH BASS
MEAN TOTAL PCB CONCENTRATIONS (MG/KG)
(1990-1996, 1998, 1999)**

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**FIGURE
1**

FIGURE 2A. Vicinity of Rochester Park

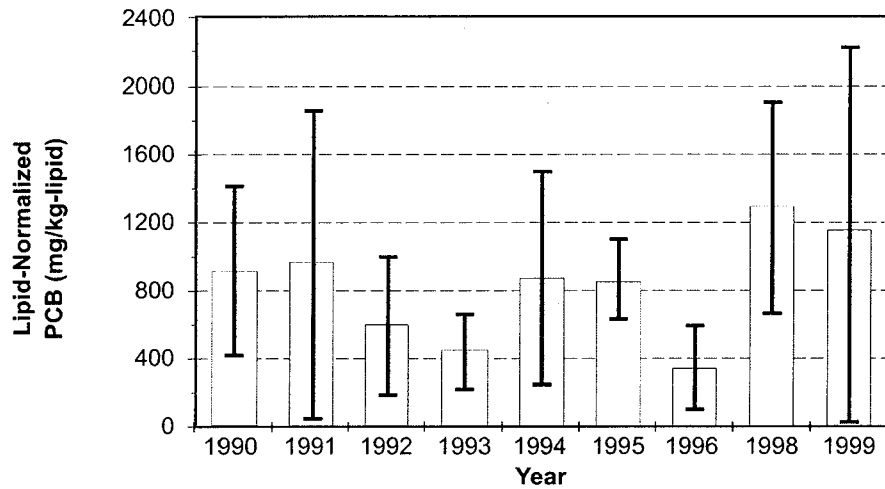


FIGURE 2B. Between the Kohler Dams

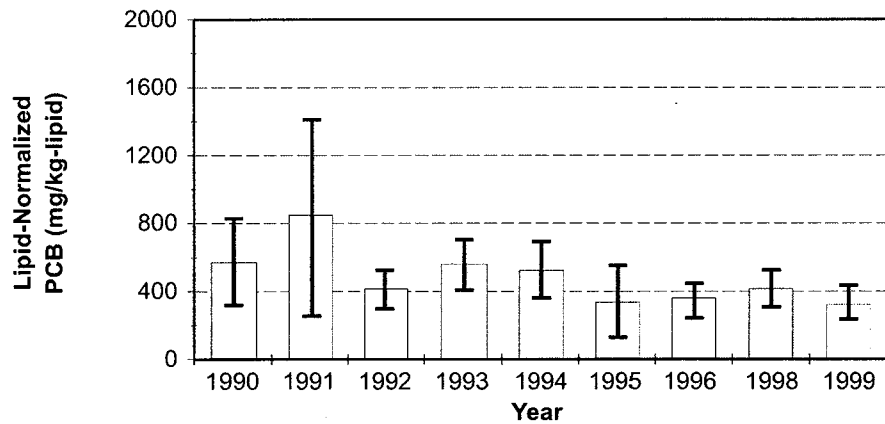
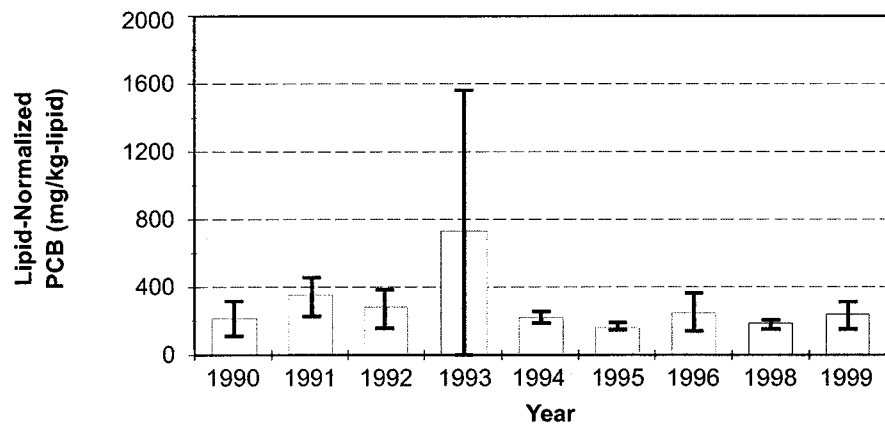


FIGURE 2C. Vicinity of Kiwanis Park



I = Standard Deviation

SHEBOYGAN RIVER AND HARBOR
INTERIM MONITORING PROGRAM

SMALLMOUTH BASS MEAN
LIPID-NORMALIZED PCB CONCENTRATIONS
(MG/KG-LIPID) (1990-1996, 1998, 1999)

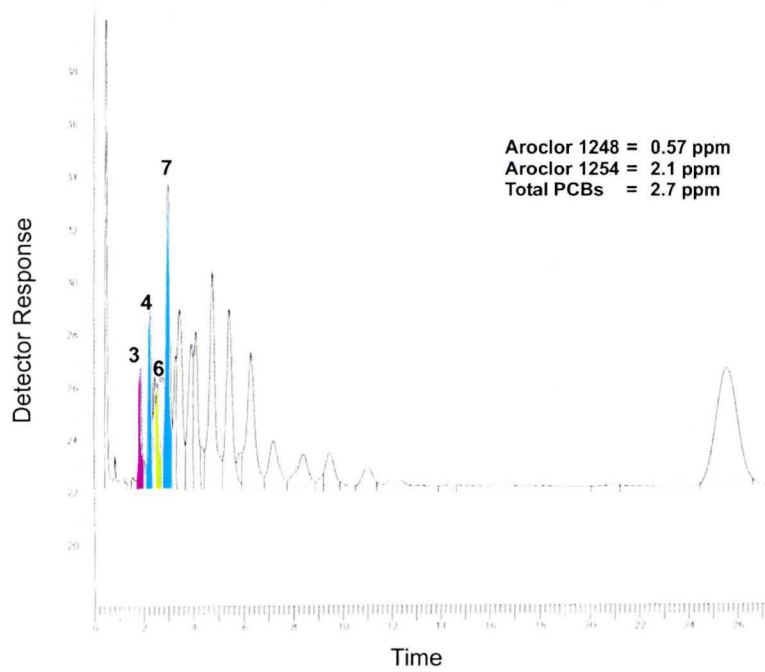
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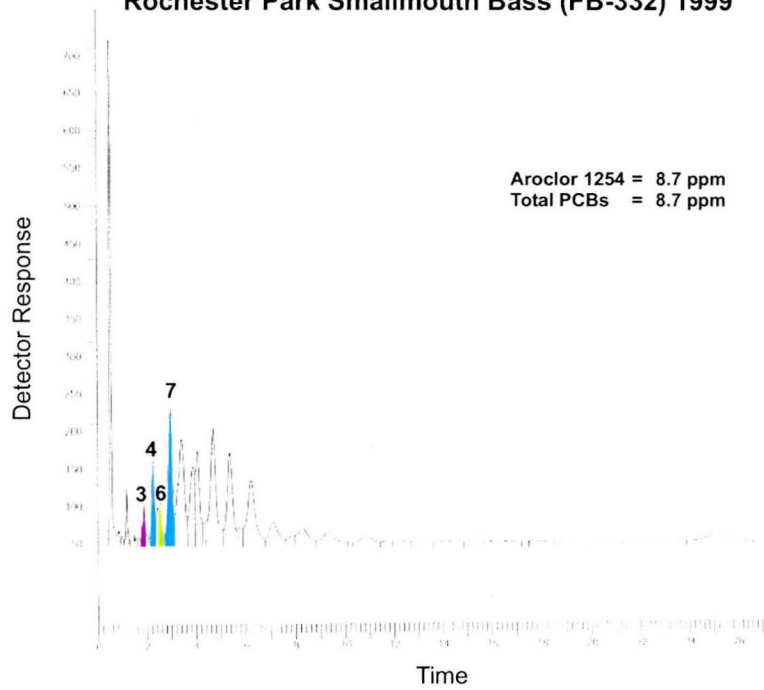
FIGURE

2

Rochester Park Smallmouth Bass (FB-285) 1998



Rochester Park Smallmouth Bass (FB-332) 1999



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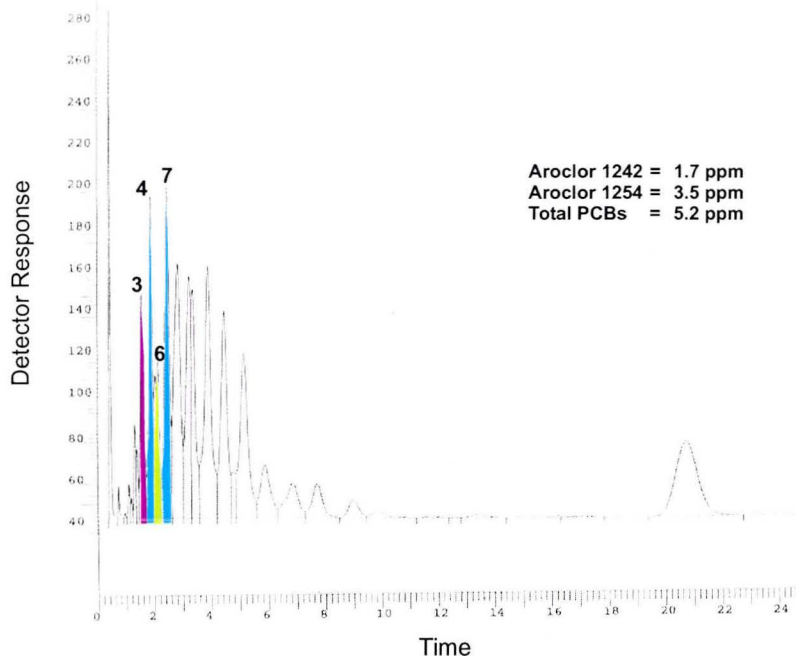
ROCHESTER PARK SMALLMOUTH BASS
(1998 AND 1999)

BBL

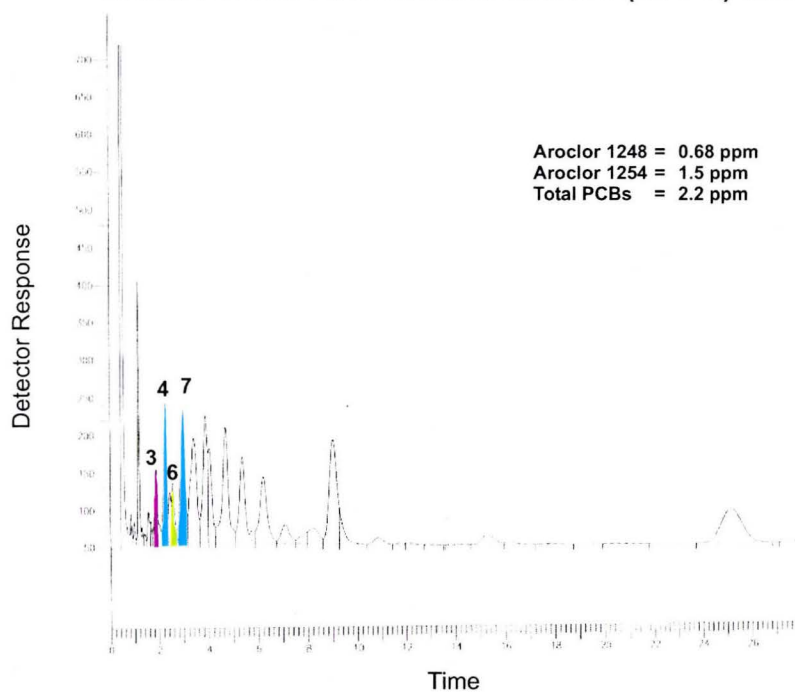
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FIGURE
3

Between Kohler Dams Smallmouth Bass (FB-296) 1998



Between Kohler Dams Smallmouth Bass (FB-322) 1999



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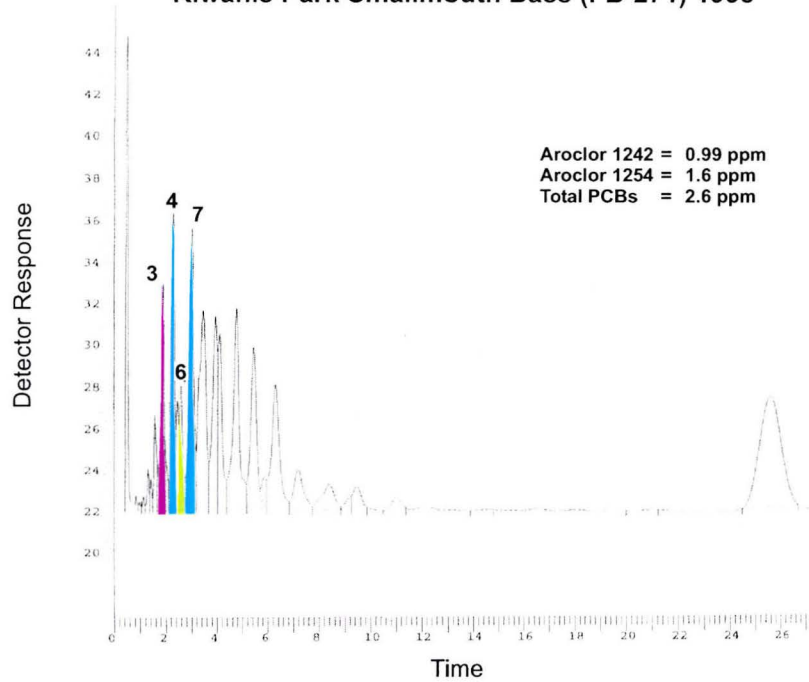
BETWEEN KOHLER DAMS
 SMALLMOUTH BASS
 (1998 AND 1999)

BBL

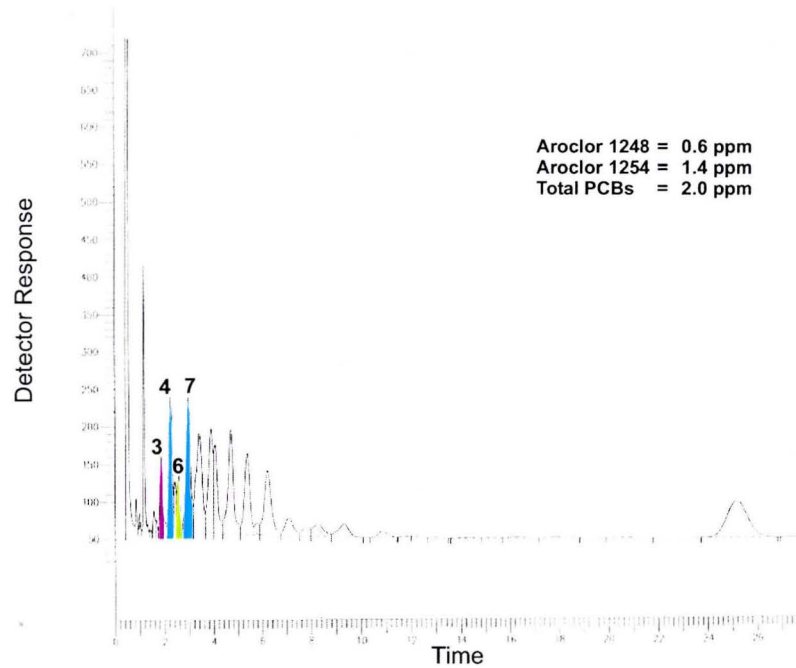
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FIGURE
4

Kiwanis Park Smallmouth Bass (FB-271) 1998



Kiwanis Park Smallmouth Bass (FB-308) 1999



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KIWANIS PARK SMALLMOUTH BASS
(1998 AND 1999)

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FIGURE

5

FIGURE 3A. Station 2 (W-13B) Downstream of ASRI Capped/Armoring and Removal Areas

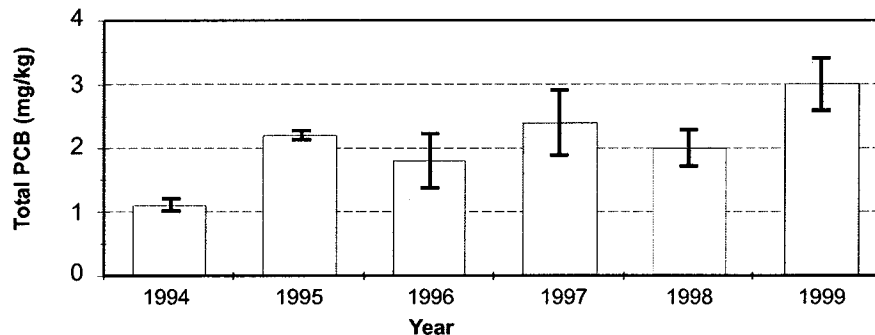


FIGURE 3B. Station 3 (W-3) Upstream of River Bend Dam

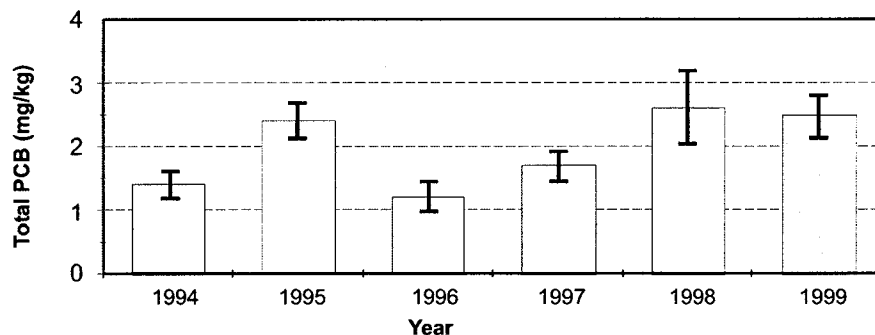


FIGURE 3C. Station 4 (W-4) Upstream of Waelderhaus Dam

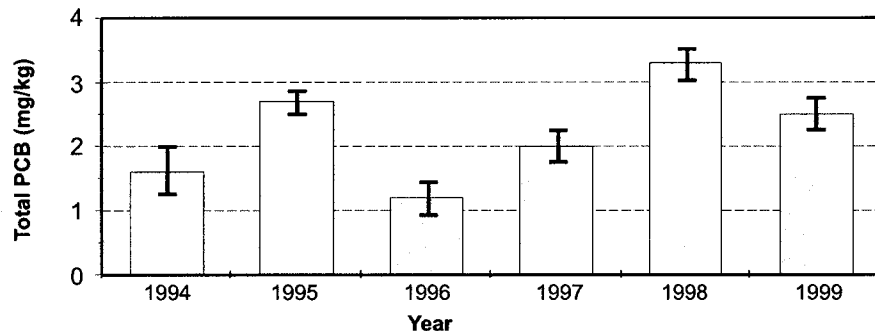
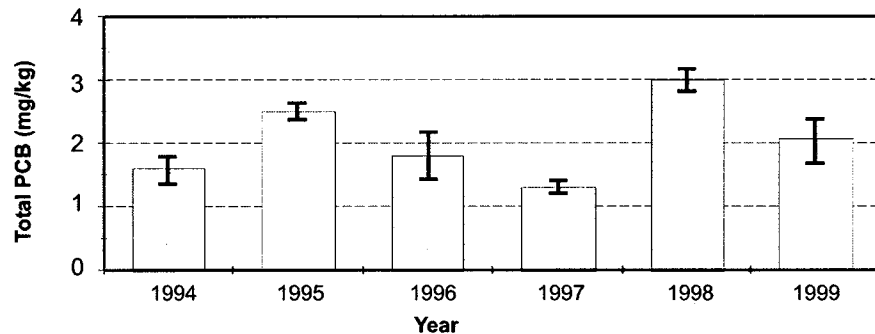


FIGURE 3D. Station 5 (W-5) Downstream of USGS Gaging Station



I = Standard Deviation

SHEBOYGAN RIVER AND HARBOR
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CAGED FISH MEAN TOTAL PCB
CONCENTRATIONS (MG/KG) (1994-1999)

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FIGURE

6

FIGURE 4A. Station 2 (W-13B) Downstream of ASRI Capped/Armoring and Removal Areas

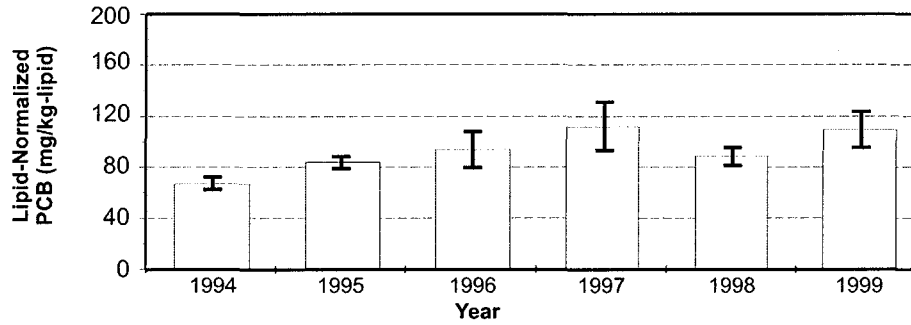


FIGURE 4B. Station 3 (W-3) Upstream of River Bend Dam

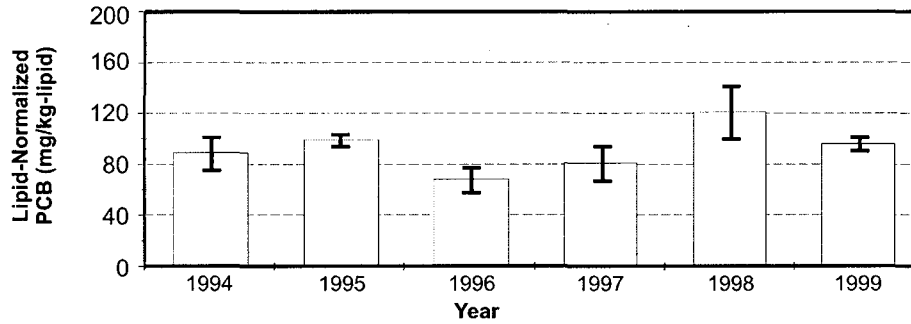


FIGURE 4C. Station 4 (W-4) Upstream of Waelderhaus Dam

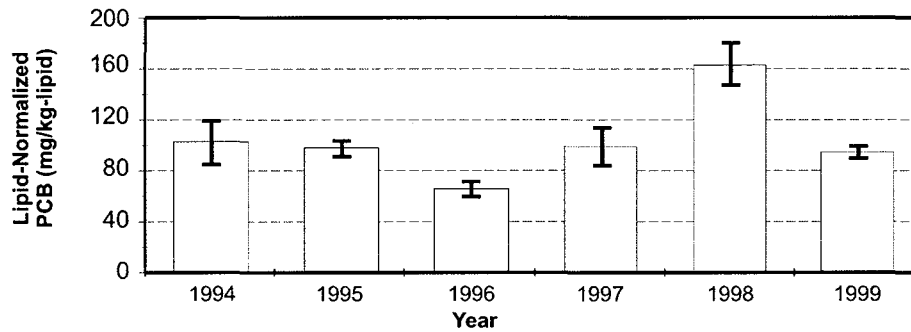
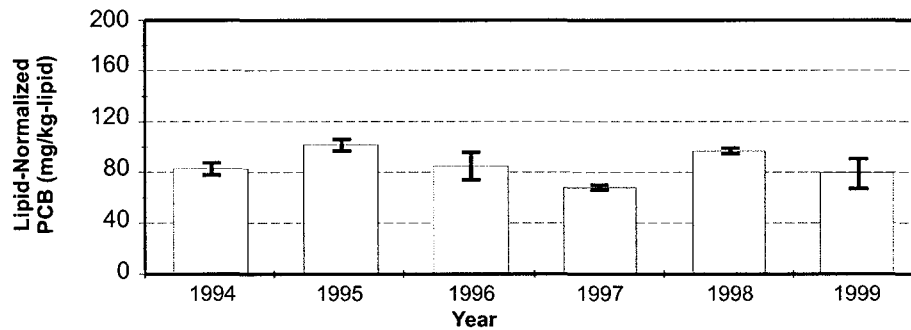


FIGURE 4D. Station 5 (W-5) Downstream of USGS Gaging Station



I = Standard Deviation

SHEBOYGAN RIVER AND HARBOR
INTERIM MONITORING PROGRAM

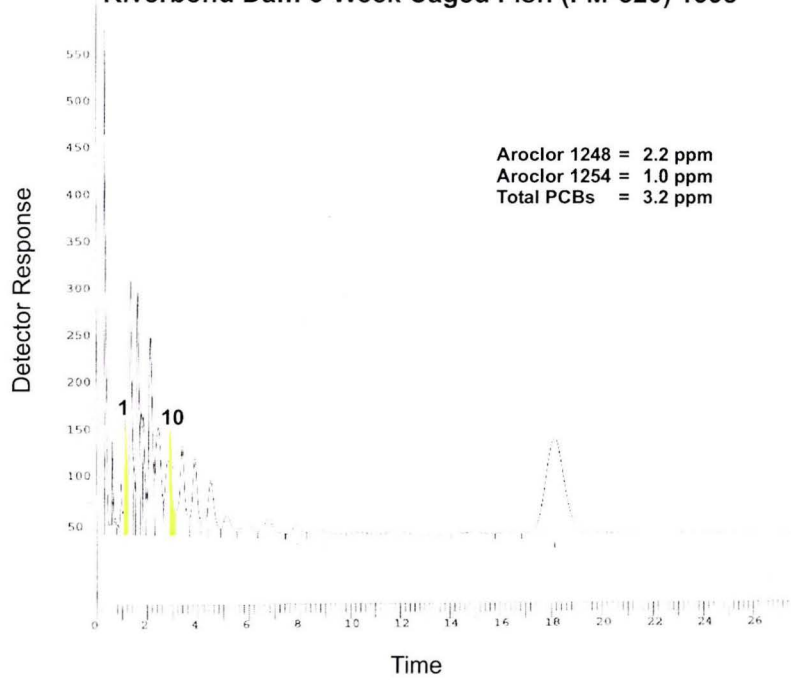
CAGED FISH MEAN
LIPID-NORMALIZED PCB CONCENTRATIONS
(MG/KG-LIPID) (1994-1999)

BBL

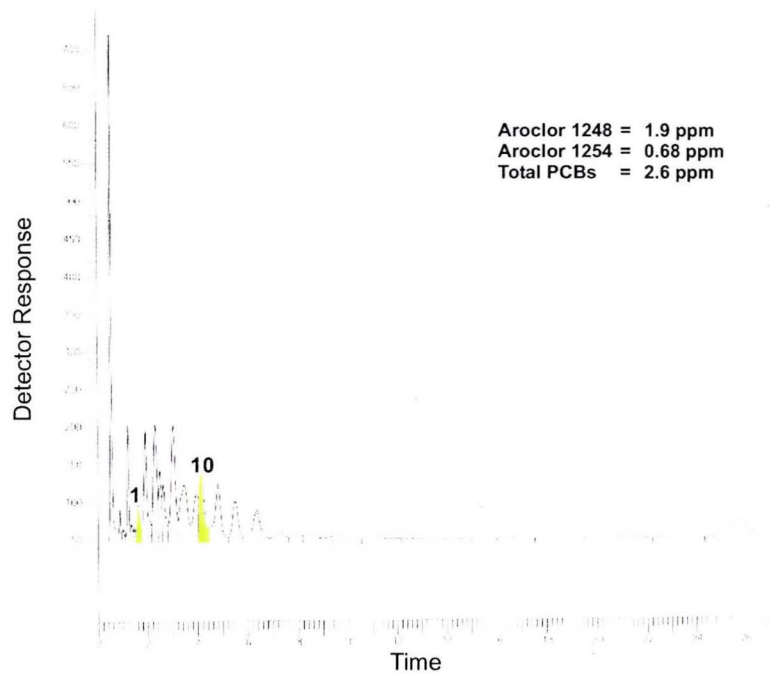
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FIGURE
7

Riverbend Dam 6-Week Caged Fish (FM-320) 1998



Riverbend Dam 6-Week Caged Fish (FM-364) 1999



SHEBOYGAN RIVER AND HARBOR
 INTERIM MONITORING PROGRAM

RIVERBEND DAM 6-WEEK CAGED FISH
 (1998 AND 1999)

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FIGURE

8