

**Analysis of Polychlorinated Biphenyl (PCB) Residues
in Fish Collected August 13-14, 2001
from the Bayou Creek System**

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FINAL REPORT

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INTRODUCTION

Fish were collected from Big and Little Bayou Creeks on August 13-14, 2001. The new reference station, upstream of BB1 and designated BB1A, also was collected. In addition, Massac Creek (MC) was sampled and served as a reference station independent of the Bayou Creek system. Fillet samples were analyzed for Aroclors 1248, 1254, and 1260 for all fish collected. A total of 120 fish were analyzed from Big and Little Bayou Creeks and the reference station. This included 5 fish from Massac Creek, 88 fish from Big Bayou Creek and 27 fish from Little Bayou Creek. The fish from Big Bayou Creek consisted of 39 longear sunfish (*Lepomis megalotis*) (LS), 17 bluegills (*Lepomis macrochirus*) (BG), 15 green sunfish (*Lepomis cyanellus*) (GS), 1 rock bass (*Ambloplites rupestris*) (RB), 11 largemouth bass (*Micropterus salmoides*) (LMB), and 5 brown bullhead catfish (*Ictalurus nebulosus*) (BBH). From Little Bayou Creek, the fish consisted of 7 LS, 7 BG, 9 GS, 1 LMB, 1 white crappie (*Pomoxis annularis*) (CRAPPIE), and 2 yellow bullhead catfish (*Ictalurus natalis*) (YBH).

METHODS

Fish collection

Fish were collected by use of back-pack shocker and seining. In addition, runs and pools were collected using a new shocking system mounted on a small barge. This unit has three to four times the wattage of the back-pack unit. Collections were conducted by UK personnel. Fish that did not meet our requirements were returned to the stream. Collected fish were wrapped in

aluminum foil, tagged, bagged in plastic containers by collecting station, and placed on ice (4 °C) for transport to the laboratory. Fish species were identified and stored in the freezer (-15 °C) until extraction.

Tissue extraction

Fish were measured for length and whole body weight, and fillets were taken with solvent-cleaned surgical instruments. The fillets were then weighed and macerated as described below. Otoliths (sagittae) were removed from each specimen for age determinations (Boxrucker, 1986).

PCBs in fish tissues were extracted and analyzed as described by Birge and Price (2001), using standard U.S. EPA methods (Watts, 1980; U.S. EPA, 1997; Erickson, 1997).

Analysis by Gas Chromatography

Samples were analyzed for Aroclors 1248, 1254, and 1260 according to SW-846 Method 8082 (U.S. EPA, 1997) and previously described by Birge and Price (2001).

Quality Assurance

Permanent bench records were kept of all assays and annotated as required under Good Laboratory Practices (*Federal Register*, 40 CFR, Part 160, August 17, 1989). All printouts and graphic recordings were filed and are open for inspection. These bench records will be archived within two years after the

close of the project but retrievable upon request. Chain of Custody was maintained for all samples collected.

RESULTS

A total of 120 fish were analyzed during this survey, which included 39 LS, 17 BG, 15 GS, 1 RB, 11 LMB and 5 BBH for Big Bayou Creek; and 7 LS, 7 BG, 9 GS, 1 LMB, 1 CRAPPIE, and 2 YBH for Little Bayou Creek (Tables 1 and 2, respectively). Largemouth bass were found in Big Bayou Creek at stations BB3, BB4, BB5, BB6, and BB7 (3, 1, 2, 3, 1, 1 specimens, respectively) and one was taken from Little Bayou Creek at station LB4. As we have observed in past collections, fish were relatively young. All fish from MC were 1+ year or less, the majority of fish (57 out of 88 fish) in Big Bayou Creek were 1 to 1+ year old. The same trend was observed in Little Bayou Creek, where 20 of 27 fish were 1 to 1+ year old. Only 18 out of 88 fish in Big Bayou were ≥ 2 years old, and 5 out of 27 fish from Little Bayou were ≥ 2 years old. The means \pm standard deviations for length, whole body weight, lipid, and Aroclor concentrations are given in Table 3. Mean lengths for sunfish from Big Bayou Creek were 101, 95, and 91 mm for LS, BG, and GS, respectively. In Little Bayou Creek, the mean sunfish lengths were 97, 84 and 86 mm for LS, BG, and GS, respectively. Largemouth bass in Big Bayou Creek ranged from 94 to 261 mm, with an average length of 127 mm (Tables 1 and 3).

In Big Bayou Creek, Aroclor 1248 was quantifiable in 45 of 88 fish collected (51%), Aroclor 1254 was found in 13 out of 88 fish (15%), and Aroclor 1260 was quantifiable in 15 out of 88 fish (20%) (Table 1). A green sunfish at

station BB2 had the highest concentrations of Aroclor 1248 (0.63 µg/g), and Aroclor 1254 (0.63 µg/g). The value for total PCB in this specimen was 1.44 µg/g. Mean concentrations of Aroclor for selected species are represented graphically in Figures 1 through 4. Significant PCB contamination in longear sunfish from Big Bayou Creek involved specimens taken from station BB5 and below (Figure 1). However, bluegill from 7 of 9 stations on Big Bayou Creek were contaminated with PCBs (Figure 3). PCBs also affected largemouth bass taken from 5 of 9 stations.

Concerning Little Bayou Creek, stations LB2 and LB4 were most impacted (Figures 5, 6). Of the fish collected from Little Bayou Creek, Aroclor 1248 was quantifiable in 8 of 27 fish (30%); Aroclor 1254 was found in 5 of 27 fish (19%); and 4 of 27 specimens contained Aroclor 1260 (15%) (Table 2). The highest total PCB was detected in a yellow bullhead from LB2 (1.375 µg/g). This included 0.34, 0.62, 0.42 µg/g for Aroclors 1248, 1254, and 1260, respectively. A longear sunfish and a largemouth bass from LB4 contained total PCB levels above 0.50 µg/g (0.52 and 0.61; Table 2). These and other values may be of possible human health concern as determined under the Great Lakes PCB Protocol used by the State of Kentucky. Additional fish were collected August 4-6, 2002 and are currently being processed.

Table 1. PCB concentrations in fish from Massac Creek and Big Bayou Creek collected August 13-14, 2001.

Station	Date	Type	Length (mm)	Age (Years)	Whole Body Wt. (g)	Fillet Wt. (g)	mg fat /g tissue	Aroclor Conc. ($\mu\text{g/g}$)			
								1248	1254	1260	Total
MC	08/14/01	GS1	110	1+	24.700	3.533	2.14	<0.057	<0.057	<0.057	<0.057
MC	08/14/01	GS2	86	>1	11.400	1.596	2.29	<0.125	<0.125	<0.125	<0.125
MC	08/14/01	GS3	95	1	18.000	2.812	2.77	<0.071	<0.071	<0.071	<0.071
MC	08/14/01	GS4	78	>1	8.300	1.017	1.97	<0.197	<0.197	<0.197	<0.197
MC	08/14/01	LS1	93	1+	15.500	2.029	2.24	<0.099	<0.099	<0.099	<0.099
BB1A	08/14/01	GS1	113	2+	26.600	1.683	5.44	<0.119	<0.119	<0.119	<0.119
BB1A	08/14/01	LS1	101	1+	16.600	2.225	2.94	<0.090	<0.090	<0.090	<0.090
BB1A	08/14/01	LS2	95	1+	17.900	2.839	2.36	<0.070	<0.070	<0.070	<0.070
BB1A	08/14/01	LS3	93	1+	14.700	1.742	2.64	<0.115	<0.115	<0.115	<0.115
BB1A	08/14/01	LS4	87	1	12.900	1.729	2.52	<0.116	<0.116	<0.116	<0.116
BB1A	08/14/01	LS5	81	1+	12.200	2.162	4.63	<0.093	<0.093	<0.093	<0.093
BB1	08/14/01	GS1	90	>1	12.800	1.771	2.40	0.107*	<0.113	<0.113	<0.113
BB1	08/14/01	GS2	81	1	9.200	1.202	1.58	0.163*	<0.166	<0.166	<0.166
BB1	08/14/01	GS3	100	1+	18.200	2.638	2.29	<0.076	<0.076	<0.076	<0.076
BB1	08/14/01	BG1	102	1+	17.500	2.407	2.58	0.231	<0.083	0.117	0.348
BB1	08/14/01	BG2	105	1	21.200	3.046	2.46	0.055*	<0.066	<0.066	<0.066
BB1	08/14/01	BG3	108	1+	22.100	3.310	3.19	0.096	<0.060	<0.060	0.096
BB1	08/14/01	LS2	81	>1	10.600	1.267	2.29	<0.158	<0.158	<0.158	<0.158
BB1	08/14/01	LMB1	261	2+	61.500	11.454	2.55	0.112	0.079	0.063	0.254
BB1	08/14/01	LMB2	129	2	24.500	4.670	2.07	<0.043	<0.043	<0.043	<0.043
BB1	08/14/01	LMB3	125	2+	24.500	4.904	2.67	<0.041	0.083	0.059	0.142

* PCBs detected, however the value was below Minimum Quantitation Limit (MQL) and not used in calculations.

Table 1, Continued. PCB concentrations in fish from Massac Creek and Big Bayou Creek collected August 13-14, 2001.

Station	Date	Type	Length (mm)	Age (Years)	Whole Body Wt. (g)	Fillet Wt. (g)	mg fat /g tissue	Aroclor Conc. (µg/g)			
								1248	1254	1260	Total
BB2	08/14/01	GS1	71	>1	6.800	1.029	1.55	0.633	0.631	0.175	1.438
BB2	08/14/01	BG1	98	1	16.200	2.472	2.69	0.207	0.106	<0.081	0.313
BB2	08/14/01	BG2	80	>1	9.000	1.356	2.58	0.156	0.079*	<0.147	0.156
BB2	08/14/01	BG3	80	>1	8.700	1.497	2.91	<0.134	<0.134	<0.134	<0.134
BB2	08/14/01	LS1	97	1+	16.700	2.474	1.96	<0.081	<0.081	<0.081	<0.081
BB3	08/14/01	GS1	74	2+	7.500	1.100	4.05	<0.182	<0.182	<0.182	<0.182
BB3	08/14/01	BG1	100	2	17.200	2.092	2.39	<0.096	<0.096	<0.096	<0.096
BB3	08/14/01	LS1	104	1+	24.000	3.479	1.90	<0.057	<0.057	<0.057	<0.057
BB3	08/14/01	LS2	90	1+	14.800	1.862	3.17	<0.107	<0.107	<0.107	<0.107
BB3	08/14/01	LS3	92	1+	16.700	2.135	4.22	<0.094	<0.094	<0.094	<0.094
BB3	08/14/01	LS4	95	1+	18.300	2.882	1.87	0.068*	<0.069	<0.069	<0.069
BB3	08/14/01	LMB1	97	1+	13.500	1.849	3.06	0.089*	0.050*	0.021*	<0.108
BB4	08/14/01	GS1	95	1+	15.200	2.169	1.98	0.044*	<0.092	<0.092	<0.092
BB4	08/14/01	GS2	89	1+	13.700	2.209	2.35	0.073*	<0.091	0.016*	<0.091
BB4	08/14/01	GS3	84	1+	11.500	1.863	3.17	0.140	<0.107	0.028*	0.140
BB4	08/14/01	BG1	76	1	7.200	0.862	2.44	0.237	<0.232	0.055*	0.237
BB4	08/14/01	BG2	83	1+	8.500	1.154	1.56	<0.173	<0.173	<0.173	<0.173
BB4	08/14/01	LS1E	86	1+	12.000	1.548	2.84	0.087*	<0.129	<0.129	<0.129
BB4	08/14/01	LS2E	101	2+	20.900	2.281	0.96	<0.088	<0.088	<0.088	<0.088
BB4	08/14/01	LS3E	111	2	30.000	3.886	1.63	0.034*	<0.051	<0.051	<0.051
BB4	08/14/01	RB1	112	2+	32.000	4.143	1.61	0.054	0.030*	0.013*	0.054
BB4	08/14/01	LMB1	133	2	35.500	5.933	4.07	0.086	<0.034	0.118	0.204
BB4	08/14/01	LMB2	94	1	10.000	1.650	2.33	0.105*	<0.121	0.053*	<0.121
BB4	08/14/01	BBH1	132	---	38.500	3.360	11.07	0.080	<0.060	0.048*	0.080
BB4	08/14/01	BBH2	134	---	35.200	3.092	4.53	0.075	<0.065	0.064*	0.075

* PCBs detected, however the value was below Minimum Quantitation Limit (MQL) and not used in calculations.

Table 1, continued. PCB concentrations in fish from Massac Creek and Big Bayou Creek collected August 13-14, 2001.

Station	Date	Type	Length (mm)	Age (Years)	Whole Body Wt. (g)	Fillet Wt. (g)	mg fat /g tissue	Aroclor Conc. (µg/g)			
								1248	1254	1260	Total
BB5	08/14/01	GS1	80	1+	5.800	0.727	2.89	0.317	<0.275	<0.275	0.317
BB5	08/14/01	BG1	130	1+	43.100	7.380	2.76	0.124	0.181	0.121	0.426
BB5	08/14/01	BG2	121	1+	34.300	5.038	3.02	0.090	<0.040	0.008*	0.090
BB5	08/14/01	BG3	88	1+	11.500	1.546	3.46	0.172	<0.129	<0.129	0.172
BB5	08/14/01	LS1	89	1+	13.100	1.964	3.03	0.142	<0.102	<0.102	0.142
BB5	08/14/01	LS1E	100	2	21.000	2.819	3.02	0.067*	<0.071	<0.071	<0.071
BB5	08/14/01	LS2	91	1+	12.600	1.867	7.71	0.175	<0.107	0.021*	0.175
BB5	08/14/01	LS3	84	1	11.500	1.590	2.14	0.163	<0.126	<0.126	0.163
BB5	08/14/01	LMB1	112	1+	19.600	3.267	3.83	0.119	<0.061	0.050*	0.119
BB5	08/14/01	LMB2	106	1	15.900	3.124	3.15	0.124	<0.064	0.079	0.203
BB5	08/14/01	LMB3	96	1	11.800	2.147	3.68	0.147	<0.093	0.068*	0.147
BB6	08/14/01	GS1	105	2	24.300	3.472	2.53	0.081	<0.058	0.011*	0.081
BB6	08/14/01	GS2	91	1	13.300	2.007	3.96	0.129	<0.100	<0.100	0.129
BB6	08/14/01	BG1	120	2	29.200	3.871	2.48	0.208	0.096	0.064	0.367
BB6	08/14/01	BG2	92	2	15.200	2.261	4.00	0.143	<0.088	<0.088	0.143
BB6	08/14/01	LS1E	101	1+	21.400	3.016	2.57	0.162	0.065*	<0.066	0.162
BB6	08/14/01	LS2E	94	1+	19.700	2.611	3.50	0.093	0.063*	<0.057	0.093
BB6	08/14/01	LS3E	80	>1	8.000	1.358	4.93	0.074*	<0.147	<0.147	<0.147
BB6	08/14/01	LS4E	103	2	26.900	3.498	3.43	0.066	<0.058	<0.058	0.066
BB6	08/14/01	LMB1	125	1+	30.800	5.716	6.41	0.134	0.122	0.069	0.324
BB6	08/14/01	BBH1	130	---	34.000	3.882	12.69	0.116	0.055	0.130	0.300
BB6	08/14/01	BBH2	130	---	31.000	3.752	10.83	0.188	0.071	0.049	0.308
BB6	08/14/01	BBH3	93	---	11.500	1.216	3.04	<0.164	<0.164	<0.164	<0.164

* PCBs detected, however the value was below Minimum Quantitation Limit (MQL) and not used in calculations.

Table 1, continued. PCB concentrations in fish from Massac Creek and Big Bayou Creek collected August 13-14, 2001.

Station	Date	Type	Length (mm)	Age (Years)	Whole Body Wt. (g)	Fillet Wt. (g)	mg fat /g tissue	Aroclor Conc. (µg/g)			
								1248	1254	1260	Total
BB7	08/14/01	GS1	96	1+	17.300	1.950	1.90	0.108	<0.103	<0.103	0.108
BB7	08/14/01	GS2	85	1+	14.400	1.652	3.39	0.127	<0.121	0.029*	0.127
BB7	08/14/01	GS3	104	2+	22.600	2.942	3.65	0.055*	<0.068	<0.068	<0.068
BB7	08/14/01	BG1	82	1	9.900	1.431	3.53	0.093*	<0.140	<0.140	<0.140
BB7	08/14/01	BG2	74	>1	8.300	1.563	7.33	0.176	<0.128	0.080*	0.176
BB7	08/14/01	LS1	74	1+	8.700	1.150	3.13	0.162*	<0.174	<0.174	<0.174
BB7	08/14/01	LS1E	120	2	40.000	5.503	0.94	0.058	0.078	0.052	0.188
BB7	08/14/01	LS2E	121	1+	38.900	4.915	1.26	0.116	<0.041	0.137	0.253
BB7	08/14/01	LS3E	124	1+	41.200	5.382	2.98	0.059	0.039	0.028*	0.098
BB7	08/14/01	LS4E	100	1	22.100	2.695	4.30	0.133	0.098	<0.074	0.251
BB7	08/14/01	LS5E	99	1	17.600	1.785	2.91	0.176	<0.112	<0.112	0.176
BB7	08/14/01	LMB1	122	1	34.500	5.410	5.06	0.105	0.054	0.075	0.233
BB8	08/14/01	BG1	80	>1	9.400	1.658	4.49	0.132	<0.121	0.045	0.176
BB8	08/14/01	LS1	96	1+	18.900	2.344	2.65	0.091	<0.085	<0.085	0.091
BB8	08/14/01	LS2	95	1	19.500	3.185	5.49	0.108	<0.063	0.021*	0.108
BB8	08/14/01	LS1E	104	1+	20.850	2.753	9.77	<0.073	<0.073	<0.073	<0.073
BB8	08/14/01	LS2E	112	1+	43.300	4.134	1.91	0.054	<0.048	<0.048	0.054
BB8	08/14/01	LS3E	110	1	50.500	5.474	0.86	0.035*	0.028*	0.017*	<0.037
BB8	08/14/01	LS4E	119	1+	41.700	6.089	2.71	0.058	0.035	0.025*	0.093
BB8	08/14/01	LS5E	124	1+	38.960	5.826	2.89	<0.034	<0.034	<0.034	<0.034
BB8	08/14/01	LS6E	126	2	45.300	3.612	1.09	<0.055	<0.055	<0.055	<0.055
BB8	08/14/01	LS7E	122	1+	43.000	6.364	2.73	0.055	0.026*	0.007*	0.055
BB8	08/14/01	LS8E	120	1+	40.830	6.191	3.36	<0.032	<0.032	<0.032	<0.032
BB8	08/14/01	LS9E	105	1+	23.800	2.818	4.31	0.094	0.032*	<0.071	0.094

* PCBs detected, however the value was below Minimum Quantitation Limit (MQL) and not used in calculations.

Table 2. PCB concentrations in fish from Little Bayou Creek collected August 13-14, 2001.

Station	Date	Type	Length (mm)	Age (Years)	Whole Body Wt. (g)	Fillet Wt. (g)	mg fat /g tissue	Aroclor Conc. ($\mu\text{g/g}$)			
								1248	1254	1260	Total
LB2	08/13/01	GS1	93	1+	16.200	2.112	1.73	0.050*	<0.095	<0.095	<0.095
LB2	08/13/01	GS2	86	1+	10.900	1.524	1.94	0.072*	<0.131	<0.131	<0.131
LB2	08/13/01	GS3	77	1	7.000	0.929	1.94	0.119*	<0.215	<0.215	<0.215
LB2	08/13/01	BG1	90	1+	11.100	1.759	1.59	0.069*	<0.114	<0.114	<0.114
LB2	08/13/01	BG2	95	2	13.400	1.905	0.58	0.058*	<0.105	<0.105	<0.105
LB2	08/13/01	LS1E	116	1+	25.000	3.389	3.01	0.095	<0.059	0.049*	0.095
LB2	08/13/01	LS2E	104	2+	21.400	2.617	1.85	0.110	0.065*	0.069*	0.110
LB2	08/13/01	YBH1	164	---	66.100	8.381	3.70	0.339	0.615	0.421	1.375
LB3	08/13/01	GS1	73	1	8.000	1.118	2.15	0.162*	<0.179	<0.179	<0.179
LB3	08/13/01	GS2	81	1+	9.400	1.019	4.96	0.093*	<0.196	<0.196	<0.196
LB3	08/13/01	GS3	72	1+	6.500	0.890	2.08	<0.225	<0.225	<0.225	<0.225
LB3	08/13/01	BG1	90	1+	10.600	1.305	1.26	<0.153	<0.153	<0.153	<0.153
LB3	08/13/01	BG2	72	1	5.400	0.884	3.51	<0.226	<0.226	<0.226	<0.226
LB3	08/13/01	CRAPPIE1	55	1+	2.900	0.322	1.55	<0.621	<0.621	<0.621	<0.621
LB3	08/13/01	YBH1	147	---	47.900	5.176	3.72	0.082	0.074	0.060	0.216

* PCBs detected, however the value was below Minimum Quantitation Limit (MQL) and not used in calculations.

Table 2, continued. PCB concentrations in fish from Little Bayou Creek collected August 13-14, 2001.

Station	Date	Type	Length (mm)	Age (Years)	Whole Body Wt. (g)	Fillet Wt. (g)	mg fat /g tissue	Aroclor Conc. ($\mu\text{g/g}$)			
								1248	1254	1260	Total
LB4	08/13/01	GS1	103	2+	17.800	2.824	3.28	0.104	<0.071	0.026*	0.104
LB4	08/13/01	GS2	102	2+	15.900	2.450	2.69	0.076*	<0.082	<0.082	<0.082
LB4	08/13/01	GS3	88	1+	12.600	1.731	3.24	0.112*	<0.116	0.032*	<0.116
LB4	08/13/01	BG1	85	1+	9.400	1.444	2.94	0.104*	<0.139	<0.139	<0.139
LB4	08/13/01	BG2	79	1	7.600	1.258	2.62	0.128*	<0.159	<0.159	<0.159
LB4	08/13/01	BG3	78	1	7.100	1.204	2.45	0.133*	<0.166	<0.166	<0.166
LB4	08/13/01	LS1E	95	1	19.500	2.296	2.42	0.183	0.220	0.121	0.524
LB4	08/13/01	LS2E	103	1+	11.900	1.543	2.79	0.312	<0.130	<0.130	0.312
LB4	08/13/01	LS3E	87	1+	18.700	2.010	1.89	0.165	0.187	0.079*	0.352
LB4	08/13/01	LS4E	91	1	12.600	1.451	4.14	0.258	0.189	<0.138	0.447
LB4	08/13/01	LS5E	85	1	10.400	1.151	3.91	0.231	0.155*	<0.174	0.231
LB4	08/13/01	LMB1	118	2	20.600	3.396	2.72	<0.059	0.358	0.249	0.606

* PCBs detected, however the value was below Minimum Quantitation Limit (MQL) and not used in calculations.

Table 3. Means \pm standard deviations for measured parameters of fish from the Bayou Creek system, collected August 13-14, 2001.

System	Fish Type	Length (mm)	Whole Body Wt. (g)	Lipid (mg/g)	Mean Aroclor Conc. ($\mu\text{g/g}$)			
					1248	1254	1260	Total
MC	LS	93	15.50	2.24	N.D.	N.D.	N.D.	N.D.
	GS	92 \pm 14	15.60 \pm 7.29	2.29 \pm 0.35	N.D.	N.D.	N.D.	N.D.
BBC	LS	101 \pm 14	23.79 \pm 12.09	3.07 \pm 1.74	0.11 \pm 0.05	0.06 \pm 0.03	0.10 \pm 0.06	0.13 \pm 0.06
	BG	95 \pm 17	16.97 \pm 10.29	3.17 \pm 1.27	0.16 \pm 0.05	0.13 \pm 0.05	0.09 \pm 0.04	0.23 \pm 0.11
	GS	91 \pm 12	14.61 \pm 6.30	2.88 \pm 1.08	0.22 \pm 0.20	0.63	0.18	0.33 \pm 0.49
	LMB	127 \pm 47	25.65 \pm 14.85	3.53 \pm 1.29	0.12 \pm 0.02	0.09 \pm 0.03	0.08 \pm 0.02	0.20 \pm 0.07
	BBH	124 \pm 17	30.04 \pm 10.71	8.43 \pm 4.33	0.12 \pm 0.05	0.06 \pm 0.01	0.09 \pm 0.06	0.19 \pm 0.13
LBC	LS	97 \pm 11	17.07 \pm 5.50	2.86 \pm 0.90	0.19 \pm 0.08	0.20 \pm 0.02	0.12	0.30 \pm 0.16
	BG	84 \pm 8	9.23 \pm 2.73	8.43 \pm 4.33	N.D.	N.D.	N.D.	N.D.
	GS	86 \pm 12	11.59 \pm 4.25	2.67 \pm 1.03	0.10	N.D.	N.D.	0.10
	LMB	118	20.60	2.72	N.D.	0.36	0.25	0.61
	YBH	156 \pm 12	57.00 \pm 12.87	3.71 \pm 0.01	0.21 \pm 0.18	0.34 \pm 0.38	0.24 \pm 0.26	0.80 \pm 0.82

Figure 1. Mean PCB concentrations in longear sunfish from Big Bayou Creek, collected August 13-14, 2001.

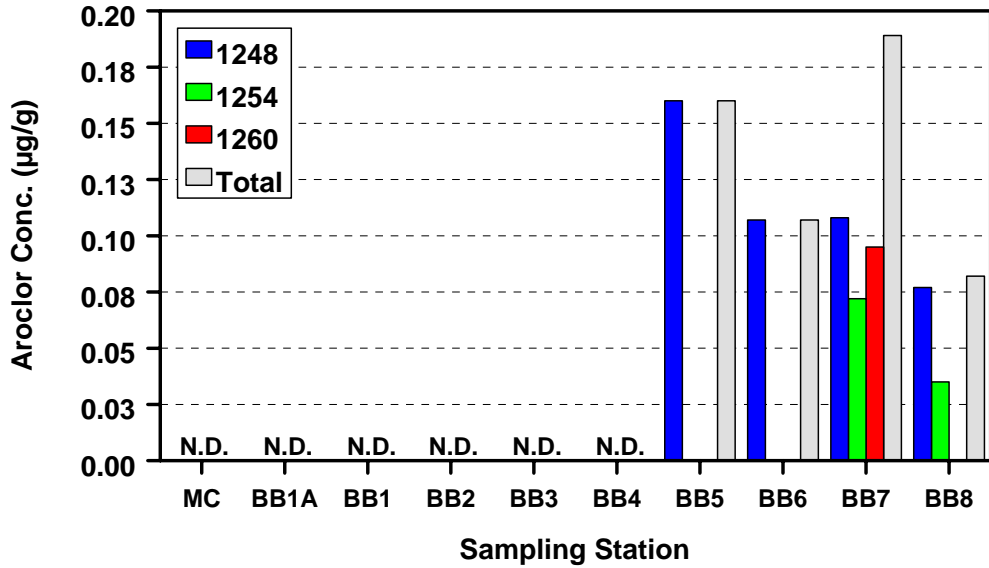


Figure 2. Mean PCB concentrations in green sunfish from Big Bayou Creek, collected August 13-14, 2001.

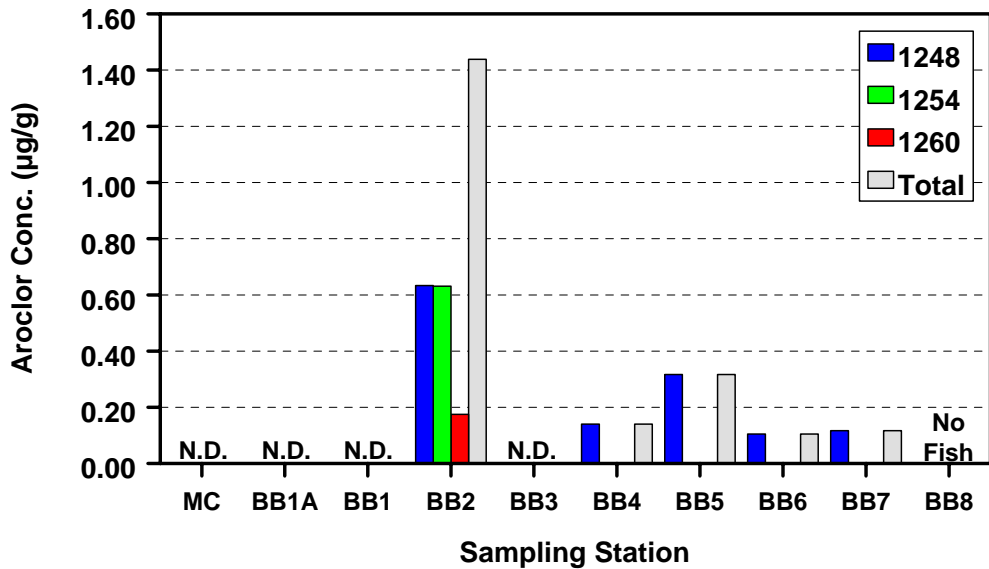


Figure 3. Mean PCB concentrations in bluegill from Big Bayou Creek, collected August 13-14, 2001.

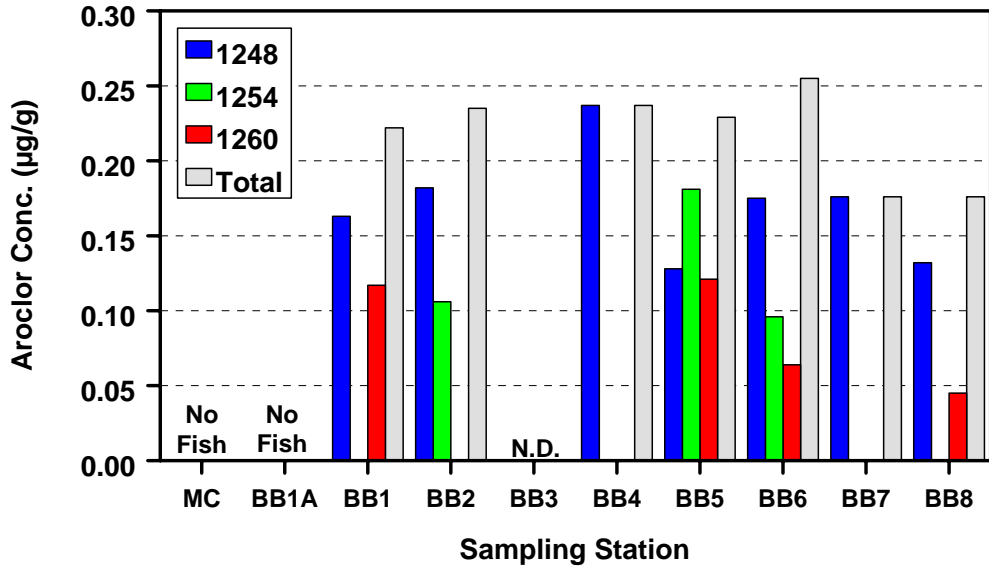


Figure 4. Mean PCB concentrations in largemouth bass from Big Bayou Creek, collected August 13-14, 2001.

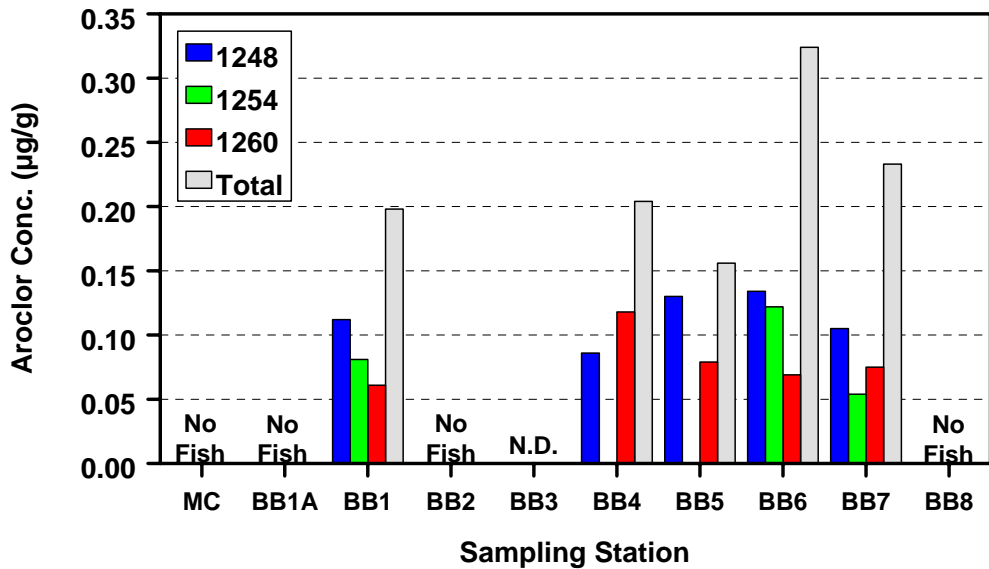


Figure 5. Mean PCB concentrations in longear sunfish from Little Bayou Creek, collected August 13-14, 2001.

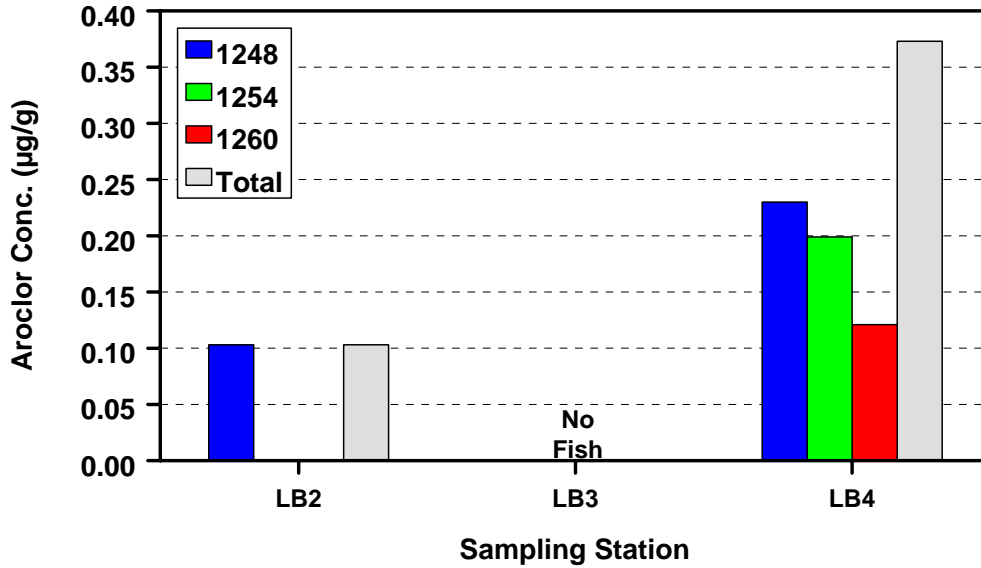
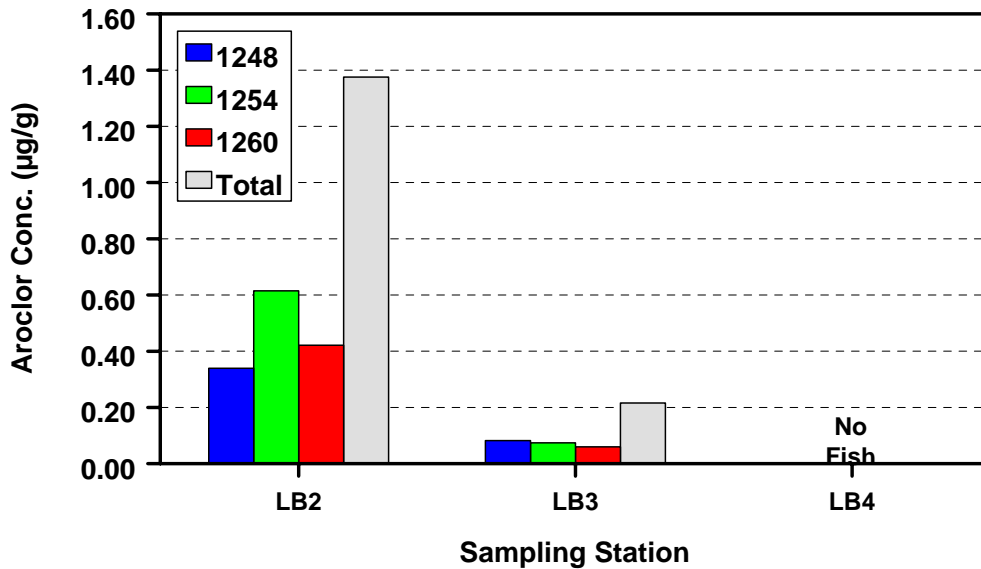


Figure 6. Mean PCB concentrations in yellow bullheads from Little Bayou Creek, collected August 13-14, 2001.



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