

Polychlorinated dibenzo-*p*-dioxins (CDDs) and dibenzofurans (CDFs) in largemouth bass taken from Eighteenmile Creek, Niagara County, NY on July 7-8, 1992.

Parameter	Concentration (pg/g wet weight in standard fillet)			
	Below Burt Dam		Above Burt Dam	
Tag number	9T3039	9T3042	9T3069	9T3070
DEC lab ID number	1579-92-H	1580-92-H	1559-92-H	1560-92-H
DOH lab ID number	940542	940543	940544	940545
Length (mm)	359	353	372	357
Weight (g)	680	737	680	680
2,3,7,8-TCDD	6.3	3.2	1.2	1.2
1,2,3,7,8-PeCDD	1.7	0.92	<0.26	1.3
1,2,3,4,7,8-HxCDD	<0.51	<0.23	<0.37	<0.26
1,2,3,6,7,8-HxCDD	0.89	0.66	1.5	1.3
1,2,3,7,8,9-HxCDD	<0.44	<0.2	<0.32	<0.22
1,2,3,4,6,7,8-HpCDD	1.1	1.3	<0.57	<0.41
OCDD	<1.7	2.6	<1.3	2.2
2,3,7,8-TCDF	6.4	4.2	3.2	3.0
1,2,3,7,8-PeCDF	0.55	0.41	0.36	0.32
2,3,4,7,8-PeCDF	3.5	1.9	1.3	0.86
1,2,3,4,7,8-HxCDF	0.62	0.71	1.0	0.86
1,2,3,6,7,8-HxCDF	<0.29	0.36	0.52	0.42
2,3,4,6,7,8-HxCDF	0.81	0.54	0.52	0.53
1,2,3,7,8,9-HxCDF	<0.32	<0.14	<0.24	<0.15
1,2,3,4,6,7,8-HpCDF	0.88	0.75	0.76	0.75
1,2,3,4,7,8,9-HpCDF	<0.56	<0.25	<0.39	<0.25
OCDF	2.8	1.7	<0.87	1.9
2,3,7,8-TCDD TEQs (DL = 0) <sup>1</sup>	10.58	5.76	2.55	3.57

2,3,7,8-TCDD TEQs (½ DL) <sup>1</sup>	10.66	5.79	2.73	3.60
∑TCDDs	6.3	3.2	1.2	1.2
∑PeCDDs	1.7	0.92	<0.26	1.3
∑HxCDDs	0.89	0.66	1.5	1.3
∑HpCDDs	1.1	1.3	<0.57	1.1
∑TCDFs	16	71	15	20
∑PeCDFs	6.6	11	2.7	1.5
∑HxCDFs	3.0	4.5	3.8	3.0
∑HpCDFs	2.2	1.4	1.9	1.7

<sup>1</sup> Computed 2,3,7,8-TCDD toxic equivalents (TEQs) used the World Health Organization's toxicity equivalency factors for mammals and humans (Van den Berg *et al.*, 1998). DL = detection limit; these limits are indicated by less than (<) signs within the table.

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\* HALE CREEK FIELD STATION \*  
\* MERCURY ANALYSIS REPORT \*  
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LAB ID NUMBER	TAG NUMBER	SPECIES	COLLECT. DATE	LOCATION	AGE SEX	LENGTH MM	WEIGHT GRAMS	Hg PPM	RUN	SAMPLE REMARKS
LOCATION = 18 MILE CR >										
SPECIES = BLC										
1554-92-H	COMP A	BLC	920700	18 MILE CR >		-999	-999	0.091		
1555-92-H	COMP B	BLC	920700	18 MILE CR >		-999	-999	0.061		
-----										
MINIMUM						-999	-999	0.061		
MAXIMUM						-999	-999	0.091		
AVERAGE						-999	-999	0.076		
NUMBER									2	

LOCATION = 18 MILE CR >										
SPECIES = WS										
1556-92-H	9T3019	WS	920707	18 MILE CR >		460	1020	0.114		
1557-92-H	COMP A	WS	920707	18 MILE CR >		-999	-999	0.112		
1558-92-H	COMP B	WS	920707	18 MILE CR >		-999	-999	0.121		
-----										
MINIMUM						-999	-999	0.112		
MAXIMUM						460	1020	0.121		
AVERAGE						-513	-326	0.116		
NUMBER									3	

LOCATION = 18 MILE CR >										
SPECIES = LMB										
1559-92-H1	9T3069	LMB	920708	18 MILE CR >		372	680	0.201	1	DUPLICATE
1559-92-H2	9T3069	LMB	920708	18 MILE CR >		372	680	0.212	2	DUPLICATE
1560-92-H	9T3070	LMB	920708	18 MILE CR >		357	680	0.260		
1561-92-H	9T3071	LMB	920708	18 MILE CR >		345	624	0.147		
1562-92-H	9T3072	LMB	920708	18 MILE CR >		353	680	0.125		
1563-92-H	9T3073	LMB	920708	18 MILE CR >		340	595	0.141		
1564-92-H	9T3074	LMB	920708	18 MILE CR >		335	539	0.121		
1565-92-H	COMP A	LMB	920708	18 MILE CR >		-999	-999	0.107		
1566-92-H	COMP B	LMB	920708	18 MILE CR >		-999	-999	0.040		
-----										
MINIMUM						-999	-999	0.040		
MAXIMUM						372	680	0.260		
AVERAGE						53	276	0.150		
NUMBER									9	

NOTES:

1. STANDARD FILLETS WERE ANALYZED.
2. ANALYZED BY METHOD Hg1.102.
3. LAB NUMBERS ENDING IN -H2 ARE DUPLICATE ANALYSES.
4. NEGATIVE NUMBERS INDICATE NEGATIVE RESULTS.
5. STORED IN FILE C:TSM929HG.DBF
6. ANALYTICAL RESULT = -9.999 INDICATES SAMPLE WAS NOT ANALYZED.

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LAB ID NUMBER	TAG NUMBER	SPECIES	COLLECT. DATE	LOCATION	AGE SEX	LENGTH MM	WEIGHT GRAMS	Hg PPM	RUN	SAMPLE REMARKS
LOCATION = 18 MILE CR >										
SPECIES = NOP										
1567-92-H	9T3030	NOP	920707	18 MILE CR >		786	2950	0.344		
1568-92-H	9T3031	NOP	920707	18 MILE CR >		720	2270	0.138		
1569-92-H	9T3066	NOP	920708	18 MILE CR >		593	1390	0.088		
-----						---	----	-----		
MINIMUM						593	1390	0.088		
MAXIMUM						786	2950	0.344		
AVERAGE						700	2203	0.190		
NUMBER									3	

LOCATION = 18 MILE CR >										
SPECIES = RB										
1570-92-H	9T3067	RB	920708	18 MILE CR >		143	57	0.062		
1571-92-H	COMP A	RB	920700	18 MILE CR >		-999	-999	0.153		
-----						---	----	-----		
MINIMUM						-999	-999	0.062		
MAXIMUM						143	57	0.153		
AVERAGE						-428	-471	0.108		
NUMBER									2	

LOCATION = 18 MILE CR >										
SPECIES = CHC										
1572-92-H	COMP A	CHC	920700	18 MILE CR >		-999	-999	0.155		
-----						---	----	-----		
MINIMUM						-999	-999	0.155		
MAXIMUM						-999	-999	0.155		
AVERAGE						-999	-999	0.155		
NUMBER									1	

- NOTES:
1. STANDARD FILLETS WERE ANALYZED.
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  4. NEGATIVE NUMBERS INDICATE NEGATIVE RESULTS.
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  6. ANALYTICAL RESULT = -9.999 INDICATES SAMPLE WAS NOT ANALYZED.

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LAB ID NUMBER	TAG NUMBER	SPECIES	COLLECT. DATE	LOCATION	AGE SEX	LENGTH MM	WEIGHT GRAMS	Hg PPM	RUN	SAMPLE REMARKS
LOCATION = 18 MILE CR >										
SPECIES = WEYE										
1573-92-H	9T3101	WEYE	920708	18 MILE CR >		493	1105	0.215		
-----						493	1105	0.215		
MINIMUM						493	1105	0.215		
MAXIMUM						493	1105	0.215		
AVERAGE						493	1105	0.215		
NUMBER									1	

LOCATION = 18 MILE CR <										
SPECIES = SMB										
1574-92-H	COMP A	SMB	920706	18 MILE CR <		-999	-999	0.245		
1575-92-H	COMP B	SMB	920706	18 MILE CR <		-999	-999	0.246		
-----						-999	-999	0.245		
MINIMUM						-999	-999	0.245		
MAXIMUM						-999	-999	0.246		
AVERAGE						-999	-999	0.246		
NUMBER									2	

LOCATION = 18 MILE CR <										
SPECIES = LMB										
1576-92-H	9T3007	LMB	920706	18 MILE CR <		337	624	0.259		
1577-92-H1	9T3037	LMB	920707	18 MILE CR <		339	595	0.332	1	DUPLICATE
1577-92-H2	9T3037	LMB	920707	18 MILE CR <		339	595	0.344	2	DUPLICATE
1578-92-H	9T3038	LMB	920707	18 MILE CR <		341	709	0.384		
1579-92-H	9T3039	LMB	920707	18 MILE CR <		359	680	0.511		
1580-92-H	9T3042	LMB	920707	18 MILE CR <		353	737	0.368		
1581-92-H	9T3045	LMB	920707	18 MILE CR <		336	709	0.517		
1582-92-H	COMP A	LMB	920707	18 MILE CR <		-999	-999	0.228		
1583-92-H	COMP B	LMB	920707	18 MILE CR <		-999	-999	0.180		
-----						-999	-999	0.180		
MINIMUM						-999	-999	0.180		
MAXIMUM						359	737	0.517		
AVERAGE						45	295	0.347		
NUMBER									9	

NOTES:

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2. ANALYZED BY METHOD Hg1.102.
3. LAB NUMBERS ENDING IN -H2 ARE DUPLICATE ANALYSES.
4. NEGATIVE NUMBERS INDICATE NEGATIVE RESULTS.
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LAB ID NUMBER	TAG NUMBER	SPECIES	COLLECT. DATE	LOCATION	AGE SEX	LENGTH MM	WEIGHT GRAMS	Hg PPM	RUN	SAMPLE REMARKS
LOCATION = 18 MILE CR <										
SPECIES = BB										
1584-92-H	COMP A	BB	920707	18 MILE CR <		-999	-999	0.311		
1585-92-H	COMP B	BB	920707	18 MILE CR <		-999	-999	0.272		
1586-92-H	COMP C	BB	920707	18 MILE CR <		-999	-999	0.254		
-----										
MINIMUM						-999	-999	0.254		
MAXIMUM						-999	-999	0.311		
AVERAGE						-999	-999	0.279		
NUMBER									3	

LOCATION = 18 MILE CR <										
SPECIES = CARP										
1587-92-H	9T3017	CARP	920706	18 MILE CR <		700	4935	0.195		
1588-92-H	COMP A	CARP	920706	18 MILE CR <		-999	-999	0.188		
1589-92-H	COMP B	CARP	920706	18 MILE CR <		-999	-999	0.242		
-----										
MINIMUM						-999	-999	0.188		
MAXIMUM						700	4935	0.242		
AVERAGE						-433	979	0.208		
NUMBER									3	

- NOTES:
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  4. NEGATIVE NUMBERS INDICATE NEGATIVE RESULTS.
  5. STORED IN FILE C:TSM929HG.DBF
  6. ANALYTICAL RESULT = -9.999 INDICATES SAMPLE WAS NOT ANALYZED.

Lab#s 1548-92-H

↳ 158992-H

Logged in 12/29/92 *ffz*

Rec'd 12/24/92 *ffz*

1

1992 Region 9 - Compositing Information

RIBS - Buffalo River near Ohio Street in City of Buffalo

	<u>Species</u>	<u>Tag Numbers</u>	<u>Composite</u>
1548-92-H	Brown bullhead	9T3109, 10, 11, 13, 15	A
1549		9T3108, 12, 14	B
1550		9T3116-27	C
1551	Pumpkinseed	9T3091, 92, 93, 95, 97, 99	A
52		9T3086, 89, 90, 94, 96, 98, 100, 102	B
53		9T3087, 103-107	C

TSMP - Eighteenmile Creek

- above Burt Dam

Black crappie	9T3058, 60, 80	A	1554-92-11
	9T3059, 61-63, 81-85	B	55
White sucker	9T3019	Ind.	56
	9T3023, 28	A	57
	9T3020-22, 24, 26, 27, 29	B	58
Largemouth bass	9T3069 - subsample for PCDD/PCDF	Ind.	59
	9T3070 - subsample for PCDD/PCDF	Ind.	60
	9T3071	Ind.	61
	9T3072	Ind.	62
	9T3073	Ind.	63
	9T3074	Ind.	64
	9T3075, 77, 78	A	65
	9T3064, 65	B	66
Northern pike	9T3030	Ind.	67
	9T3031	Ind.	68
	9T3066	Ind.	69
Rock bass	9T3067	Ind.	70
	9T3025, 79	A	71
Channel catfish	9T3033, 68	A	72
Walleye	9T3101	Ind.	73
- below Burt Dam			
Smallmouth bass	9T3002, 5, 6, 35	A	74
	9T3001, 3, 4, 36	B	75

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HALF CREEK F.S.

Largemouth bass	9T3007	Ind.	1576-92-H
	9T3037	Ind.	77
	9T3038	Ind.	78
	9T3039 - subsample for PCDD/PCDF	Ind.	79
	9T3042 - subsample for PCDD/PCDF	Ind.	80
	9T3045	Ind.	81
	9T3040, 43, 44	A	82
	9T3008, 9, 41	B	83
Brown bullhead	9T3011, 15, 50	A	84
	9T3012-14, 46, 48, 49	B	85
	9T3010, 47	C	86
Carp	9T3017	Ind.	87
	9T3016, 51-56	A	88
	9T3018, 57	B	89



LCS

M E M O R A N D U M

March 18, 1994

TO: John Spagnoli  
 Larry Nelson  
 Steve Mooradian  
 Bruce Shupp  
 Bob Lange  
 Gerry LeTendre  
 Gary Neuderfer  
 Gerry Mikol  
 Peter Mack  
 Frank Estabrooks  
 Fred Luckey

FROM: Lawrence C. Skinner

RE: Eighteenmile Creek

Eighteenmile Creek in Niagara County is an Area of Concern designated by the International Joint Commission. Sampling of fish for chemical residue analyses was requested for above and below the Burt Dam in 1992 due to the lack of a substantial body of recent data and because of a need for such data in support of the Remedial Action Plan process.

The attached summary table provides data for PCB and organochlorine pesticides. Mercury is yet to be analyzed but must be delayed due to on-going work on an USEPA grant project. Largemouth bass will be subsampled and sent to the NYS Department of Health Laboratory for analysis of dioxins and furans.

The data shows the following points:

Above Burt Dam:

1. Substantial concentrations of PCB are found in virtually all seven fish species sampled. PCB exceeds the US Food and Drug Administration (FDA) tolerance of 2.0 ppm and exceeds the Great Lakes Water Quality Objective for PCB residues in fish necessary for wildlife protection (i.e. 0.1 ppm).
2. Residues of DDT and metabolites are below the US Environmental Protection Agency action limit of 5.0 ppm and the Great Lakes objective of 1.0 ppm. However, the Newell et al (1987) criteria of 0.2 ppm for protection of piscivorous wildlife is exceeded by most fish species.

3. Mirex is present in channel catfish at levels approximating the detection limit. The presence of any mirex causes a violation of Great Lakes water quality objectives. Mirex presence is likely a result of aerial transport from Lake Ontario or the Niagara Frontier. (see mirex below Burt Dam).
4. The remaining chemical compounds do not exceed any applicable action limit, standard, criteria, or objective.

Below Burt Dam

5. The influence of Lake Ontario and salmonid migrations is apparent for downstream of Burt Dam. This is most evident in the presence of mirex, photomirex and chlordane compounds that are present in significantly greater concentrations in fish below Burt Dam compared to fish above Burt Dam.
6. As with fish upstream, PCB concentrations substantially exceed the two guidelines of concern. In the only species for which comparisons can be made, largemouth bass in the lower reach contain significantly greater PCB concentrations than fish in the upper reach on a wet weight basis. However, this finding is an artifact of differing lipid concentrations thus suggesting that the principal PCB source is upstream of Burt Dam.
7. DDT residues downstream of the Burt dam are consistent with those upstream.
8. Reported concentrations of mirex residues (mirex plus photomirex) exceed the EPA action limit of 0.1 ppm total mirex in four samples. These samples are:

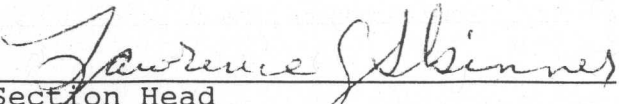
Brown bullhead	0.138 ppm	(1 composite of 3 fish)
Largemouth bass	0.114 and 0.174 ppm	(2 individual fish)
Smallmouth bass	0.131	(1 composite of 4 fish)

As noted previously, the presence of any mirex in fish causes a violation of the Great Lakes water quality objective.

9. The remaining chemical compounds do not exceed any applicable action limit, standard, criteria, or objective. However, the continued presence of chlordane compounds in quantities greater than detection limits will be troublesome to some people.

These data are being provided to the NYS Department of Health for evaluation for human health advisory purposes. Since

PCB exceeds the FDA tolerance in most fish species at both locations sampled, it is likely that health advisories will be forthcoming.

  
Section Head  
Environmental Monitoring Section

Attachment

LCS:cb

cc: J. Colquhoun

R. Sloan

S. Jackling

T. Forti

LS8.MEM/CB26

Table : Concentrations of chemical residues in fish from Eighteenmile Creek, Niagara County; July 1992 collections<sup>a</sup>.

Location	Species	No. of Fish	No. of Samples	Length (mm)		Weight (g)		Lipid (%)	
				Mean±SD	Min-Max	Mean±SD	Min-Max	Mean±SD	Min-Max
Upstream of Burt Dam	Black crappie	12	2	190±16	166-225	116±26	85-170	3.08	1.86-3.49
	Channeled catfish	2	1	465	460-470	1036	965-1107	7.48	7.48
	Largemouth bass	6	6	350±13	335-372	633±58	539-680	0.79±0.15	0.51-0.95
		3	1	313±7	305-317	520±71	454-596	1.14	1.14
		2	1	153	140-165	57	57-57	1.12	1.12
	Northern pike	3	3	700±98	593-786	2203±782	1390-2950	1.76±0.57	1.34-2.41
	Rock bass	1	1	143	143	57	57	2.09	2.09
	Walleye	2	1	230	225-234	241	227-255	0.29	0.29
	White sucker	1	1	493	493	1105	1105	1.68	1.68
		1	1	460	460	1020	1020	1.33	1.33
		9	2	402±13	390-430	703±85	596-880	1.67	1.60-1.69
	Downstream of Burt Dam	Brown bullhead	11	3	348±20	313-375	596±93	426-709	1.48
Carp		1	1	700	700	4935	4935	20.20	20.20
Largemouth bass		9	2	574±63	452-632	2787±787	1334-3859	10.23	3.15-12.25
		6	6	344±10	336-353	676±55	595-737	2.83±0.80	1.48-3.58
		3	1	319±6	313-323	530±33	511-568	1.78	1.78
		3	1	252±33	230-290	265±140	170-426	1.58	1.58
	Smallmouth bass	8	2	361±19	329-390	731±149	511-880	3.73	2.59-4.86

<sup>a</sup> Mean ± standard deviation given where fish are analyzed individually and sample size warrants. For composite samples, a weighted average is given based on the number of fish in the composites.

Table : (Cont.)

Species	Concentration (ug/g wet weight) in standard filets									
	Aroclor 1016/1242		Aroclor 1254/1260		P,P'-DDE		P,P'-DDD			
	MeantSD	Min-Max	MeantSD	Min-Max	MeantSD	Min-Max	MeantSD	Min-Max		
Black crappie	5.24	4.11-5.61	1.30	1.26-1.31	0.108	0.099-0.111	0.057	0.051-0.059		
Channel catfish	9.84	9.84	5.47	5.47	0.446	0.446	0.177	0.177		
Largemouth bass	1.94±0.741	1.40-3.26	0.966±0.344	0.73-1.60	0.086±0.031	0.058-0.143	0.028±0.013	0.020-0.051		
	2.29	2.29	1.27	1.27	0.178	0.178	0.047	0.047		
	2.91	2.91	2.04	2.04	0.171	0.171	0.055	0.055		
Northern pike	3.48±1.93	1.77-5.57	1.68±0.570	1.31-2.34	0.152	0.114-0.227	0.058	0.050-0.082		
Rock bass	3.23	3.23	0.984	0.984	0.041	0.041	0.021	0.021		
	0.225	0.225	0.188	0.188	0.019	0.019	0.006	0.006		
Walleye	4.65	4.65	2.09	2.09	0.184	0.184	0.056	0.056		
White sucker	1.98	1.98	0.81	0.81	0.108	0.108	0.046	0.046		
	2.31	1.84-2.44	1.32	1.15-1.37	0.094	0.087-0.096	0.038	0.030-0.040		
Brown bullhead	0.482	0.230-0.550	1.02	0.308-1.50	0.226	0.060-0.325	0.070	0.014-0.086		
Carp	3.51	3.51	2.85	2.85	0.671	0.671	0.278	0.278		
	4.29	1.07-5.21	2.95	1.44-3.38	0.555	0.299-0.628	0.220	0.101-0.283		
Largemouth bass	3.02±2.05	1.56-6.92	3.16±3.13	1.54-9.53	0.376±0.159	0.241-0.660	0.104±0.048	0.070-0.200		
	1.86	1.86	1.17	1.17	0.156	0.156	0.050	0.050		
	0.991	0.991	0.729	0.729	0.136	0.136	0.037	0.037		
Smallmouth bass	0.445	0.396-0.494	1.06	0.752-1.36	0.181	0.116-0.245	0.043	0.030-0.055		



Table : (Cont.)

Species	Concentration (ug/g wet weight) in standard filets													
	P,p'-DDT		Mirex		Photomirex		HCE							
	Mean±SD	Min-Max	Mean±SD	Min-Max	Mean±SD	Min-Max	Mean±SD	Min-Max						
Black crappie	0.030	0.025-0.032	<0.002	<0.002-<0.002	<0.005	<0.005-<0.005	<0.002	<0.002-<0.002						
Channel catfish	0.086	0.086	0.002	0.002	<0.005	<0.005	0.016	0.016						
Largemouth bass	0.016±0.005	0.011-0.024	<0.002	<0.002-<0.002	<0.005	<0.005-<0.005	<0.002	<0.002-0.002						
	0.033	0.033	<0.002	<0.002	<0.005	<0.005	0.002	0.002						
	0.027	0.027	<0.002	<0.002	<0.005	<0.005	0.002	0.002						
Northern pike	0.037±0.017	0.020-0.054	<0.002	<0.002-<0.002	<0.005	<0.005-<0.005	0.004±0.002	0.003-0.006						
Rock bass	0.016	0.016	<0.002	<0.002	<0.005	<0.005	0.005	0.005						
	0.004	0.004	<0.002	<0.002	<0.005	<0.005	<0.002	<0.002						
Walleye	0.032	0.032	<0.002	<0.002	<0.005	<0.005	0.004	0.004						
White sucker	0.16	0.16	<0.002	<0.002	<0.005	<0.005	<0.002	<0.002						
	0.025	0.018-0.027	<0.002	<0.002-<0.002	<0.005	<0.005-<0.005	0.003	0.003-0.003						
Brown bullhead	0.038	0.007-0.057	0.055	0.012-0.095	0.025	0.005-0.043	0.003	<0.002-0.005						
Carp	0.097	0.097	0.062	0.062	<0.005	<0.005	0.036	0.036						
	0.073	0.036-0.083	0.063	0.054-0.065	0.008	0.007-0.011	0.017	0.005-0.021						
Largemouth bass	0.082±0.046	0.057-0.173	0.070±0.027	0.047-0.122	0.033±0.010	0.023-0.052	0.007±0.003	0.004-0.010						
	0.028	0.028	0.015	0.015	0.006	0.006	0.004	0.004						
	0.027	0.027	0.016	0.016	0.007	0.007	0.003	0.003						
Smallmouth bass	0.064	0.040-0.068	0.070	0.048-0.091	0.030	0.019-0.040	0.007	0.003-0.011						

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HALE CREEK FIELD STATION  
18 MILE CREEK  
COLLECTED 1992  
PPM - WET WEIGHT

LAB #	TAG #	DATE	LOCATION	LENGTH	WEIGHT	%MOISTURE	%LIPID	AR1016/ 1248	AR1254/ 1260	P,P DDE	P,P DDD	P,P DDT	MIREX	PHOTO MIREX	HCB	trans CHLORDANE	cis CHLORDANE	trans NONACHLOR	OXY CHLORDANE	DIELDRIN
		YYmmdd		mm	g															
SPP= BLC																				
1554-92-H	COMP A	920700	18 MILE CR >DAM	211	151	79.0	1.86	4.111	1.261	0.099	0.051	0.025	-0.002	-0.005	-0.002	-0.005	-0.005	-0.005	-0.010	-0.005
1554-92-H2	COMP A	920700	18 MILE CR >DAM	211	151	79.0	1.86	3.961	1.244	0.095	0.049	0.024	-0.002	-0.005	-0.002	-0.005	-0.005	-0.005	-0.010	-0.005
1555-92-H	COMP B	920700	18 MILE CR >DAM	183	104	65.8	3.49	5.610	1.313	0.111	0.059	0.032	-0.002	-0.005	-0.002	-0.005	-0.005	-0.005	-0.010	-0.005
n=3																				
SPP= CHC																				
1572-92-H	COMP A	920700	18 MILE CR >DAM	465	1035	76.3	7.48	9.840	5.467	0.446	0.177	0.086	0.002	-0.005	0.016	0.016	0.025	0.017	-0.010	-0.005
1572-92-H2	COMP A	920700	18 MILE CR >DAM	465	1035	76.3	7.48	9.996	5.515	0.448	0.180	0.084	0.002	-0.005	0.017	0.016	0.027	0.017	-0.010	-0.005
n=2																				
SPP= LMB																				
1559-92-H	9T3069	920708	18 MILE CR >DAM	372	680	75.0	0.81	2.388	1.076	0.097	0.035	0.021	-0.002	-0.005	0.002	-0.005	-0.005	-0.005	-0.010	-0.005
1560-92-H	9T3070	920708	18 MILE CR >DAM	357	680	71.7	0.95	3.264	1.595	0.143	0.051	0.024	-0.002	-0.005	0.002	-0.005	0.005	-0.005	-0.010	-0.005
1561-92-H	9T3071	920708	18 MILE CR >DAM	345	624	64.9	0.76	1.560	0.771	0.075	0.023	0.014	-0.002	-0.005	-0.002	-0.005	-0.005	-0.005	-0.010	-0.005
1562-92-H	9T3072	920708	18 MILE CR >DAM	353	680	77.0	0.51	1.401	0.741	0.058	0.018	0.011	-0.002	-0.005	-0.002	-0.005	-0.005	-0.005	-0.010	-0.005
1563-92-H	9T3073	920708	18 MILE CR >DAM	340	595	69.0	0.80	1.606	0.881	0.074	0.023	0.015	-0.002	-0.005	-0.002	-0.005	-0.005	-0.005	-0.010	-0.005
1564-92-H	9T3074	920708	18 MILE CR >DAM	335	539	69.1	0.90	1.441	0.731	0.066	0.020	0.013	-0.002	-0.005	-0.002	-0.005	-0.005	-0.005	-0.010	-0.005
1565-92-H	COMP A	920708	18 MILE CR >DAM	313	520	79.1	1.14	2.288	1.267	0.178	0.047	0.033	-0.002	-0.005	0.002	-0.005	-0.005	-0.005	-0.010	-0.005
1565-92-H2	COMP A	920708	18 MILE CR >DAM	313	520	79.1	1.14	2.306	1.276	0.180	0.047	0.033	-0.002	-0.005	0.002	-0.005	-0.005	-0.005	-0.010	-0.005
1566-92-H	COMP B	920708	18 MILE CR >DAM	152	57	76.8	1.12	2.911	2.042	0.171	0.055	0.027	-0.002	-0.005	0.002	-0.005	0.005	-0.005	-0.010	-0.005
n=9																				
SPP= LMB																				
MAXIMUM																				
MINIMUM																				

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HALE CREEK FIELD STATION  
18 MILE CREEK  
COLLECTED 1992  
PPM - WET WEIGHT

LAB #	TAG #	DATE	LOCATION	LENGTH	WEIGHT	%MOISTURE	%LIPID	AR1016/ 1248	AR1254/ 1260	P,P DDE	P,P DDD	P,P DDT	MIREX	PHOTO MIREX	HCB	trans CHLORDANE	cis CHLORDANE	trans NONACHLOR	OXY CHLORDANE	DIELDRIN
SPP= NOP																				
1567-92-H	9T3030	920707	18 MILE CR >DAM	786	2950	78.0	1.53	1.772	1.311	0.114	0.050	0.054	-0.002	-0.005	0.003	-0.005	0.006	0.008	-0.010	-0.005
1568-92-H	9T3031	920707	18 MILE CR >DAM	720	2270	76.6	2.41	5.565	2.335	0.227	0.082	0.038	-0.002	-0.005	0.006	-0.005	0.013	0.006	-0.010	-0.005
1569-92-H	9T3066	920708	18 MILE CR >DAM	593	1390	78.0	1.34	3.095	1.388	0.114	0.042	0.020	-0.002	-0.005	0.003	-0.005	0.006	-0.005	-0.010	-0.005
SPP= RB																				
1570-92-H	9T3067	920708	18 MILE CR >DAM	143	57	78.4	2.09	3.227	0.984	0.041	0.021	0.016	-0.002	-0.005	0.005	-0.005	0.008	-0.005	-0.010	-0.005
1571-92-H	COMP A	920700	18 MILE CR >DAM	230	241	81.1	0.29	0.225	0.188	0.019	0.006	0.004	-0.002	-0.005	-0.002	-0.005	-0.005	-0.005	-0.010	-0.005
SPP= WEYE																				
1573-92-H	9T3101	920708	18 MILE CR >DAM	493	1105	76.8	1.68	4.649	2.087	0.184	0.056	0.032	-0.002	-0.005	0.004	-0.005	0.008	0.006	-0.010	-0.005
SPP= WS																				
1556-92-H	9T3019	920707	18 MILE CR >DAM	460	1020	79.6	1.33	1.984	0.814	0.108	0.046	0.016	-0.002	-0.005	-0.002	-0.005	-0.005	-0.005	-0.010	-0.005
1557-92-H	COMP A	920707	18 MILE CR >DAM	422	836	77.7	1.60	1.842	1.145	0.087	0.030	0.018	-0.002	-0.005	0.003	-0.005	-0.005	-0.005	-0.010	-0.005
1558-92-H	COMP B	920707	18 MILE CR >DAM	396	664	78.8	1.69	2.442	1.371	0.096	0.040	0.027	-0.002	-0.005	0.003	-0.005	-0.005	-0.005	-0.010	-0.005
SPP= MS																				
1559-92-H	COMP A	920707	18 MILE CR >DAM	460	1020	79.6	1.69	2.442	1.371	0.108	0.046	0.027	-0.002	-0.005	0.003	-0.005	-0.005	-0.005	-0.010	-0.005
1560-92-H	COMP B	920707	18 MILE CR >DAM	396	664	77.7	1.33	1.842	0.814	0.087	0.030	0.016	-0.002	-0.005	-0.002	-0.005	-0.005	-0.005	-0.010	-0.005

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HALE CREEK FIELD STATION  
18 MILE CREEK  
COLLECTED 1992  
PPM - WET WEIGHT

-AB #	TAG #	DATE	LOCATION	LENGTH	WEIGHT	%MOISTURE	%LIPID	AR1016/ 1248	AR1254/ 1260	P,P DDE	P,P DDD	P,P DDT	MIREX	PHOTO MIREX	HCB	trans CHLORDANE	cis CHLORDANE	trans NONACHLOR	OXY CHLORDANE	DIELDRLN
1584-92-H	COMP A	920707	18 MILE CR <DAM	370	690	73.0	2.23	0.515	1.496	0.325	0.075	0.057	0.095	0.043	0.005	-0.005	0.013	0.040	-0.010	-0.005
1584-92-H2	COMP A	920707	18 MILE CR <DAM	370	690	73.0	2.23	0.510	1.532	0.328	0.083	0.068	0.099	0.043	0.005	-0.005	0.013	0.040	-0.010	-0.005
1585-92-H	COMP B	920707	18 MILE CR <DAM	348	595	70.4	1.45	0.550	1.024	0.231	0.086	0.039	0.050	0.022	0.003	-0.005	0.006	0.017	-0.010	-0.005
1586-92-H	COMP C	920707	18 MILE CR <DAM	315	454	69.9	0.45	0.230	0.308	0.060	0.014	0.007	0.012	0.005	-0.002	-0.005	-0.005	-0.005	-0.010	-0.005
SPP= BB																				
				MAXIMUM	370	690	73.0	2.23	0.550	1.532	0.328	0.086	0.099	0.043	0.005	-0.005	0.013	0.040	-0.010	-0.005
				MINIMUM	315	454	69.9	0.45	0.230	0.060	0.014	0.007	0.012	0.005	-0.002	-0.005	-0.005	-0.005	-0.010	-0.005

-AB #	TAG #	DATE	LOCATION	LENGTH	WEIGHT	%MOISTURE	%LIPID	AR1016/ 1248	AR1254/ 1260	P,P DDE	P,P DDD	P,P DDT	MIREX	PHOTO MIREX	HCB	trans CHLORDANE	cis CHLORDANE	trans NONACHLOR	OXY CHLORDANE	DIELDRLN	
1587-92-H	9T3017	920706	18 MILE CR <DAM	700	4935	64.7	20.20	3.506	2.852	0.671	0.278	0.097	0.062	-0.005	0.036	0.010	0.055	0.037	-0.010	-0.005	
1588-92-H	COMP A	920706	18 MILE CR <DAM	604	3106	68.4	12.25	5.213	3.379	0.628	0.283	0.083	0.065	0.007	0.021	0.007	0.032	0.028	-0.010	-0.005	
1589-92-H	COMP B	920706	18 MILE CR <DAM	471	1658	78.0	3.15	1.067	1.442	0.299	0.101	0.036	0.054	0.011	0.005	-0.005	0.007	0.010	-0.010	-0.005	
SPP= CARP																					
				MAXIMUM	700	4935	78.0	20.20	5.213	3.379	0.671	0.283	0.097	0.065	0.011	0.036	0.010	0.055	0.037	-0.010	-0.005
				MINIMUM	471	1658	64.7	3.15	1.067	0.299	0.101	0.036	0.054	0.054	-0.005	0.005	-0.005	0.007	0.010	-0.010	-0.005

-AB #	TAG #	DATE	LOCATION	LENGTH	WEIGHT	%MOISTURE	%LIPID	AR1016/ 1248	AR1254/ 1260	P,P DDE	P,P DDD	P,P DDT	MIREX	PHOTO MIREX	HCB	trans CHLORDANE	cis CHLORDANE	trans NONACHLOR	OXY CHLORDANE	DIELDRLN
1576-92-H	9T3007	920706	18 MILE CR <DAM	337	624	78.5	3.37	3.422	2.007	0.260	0.080	0.063	0.054	0.029	0.008	0.007	0.014	0.028	-0.010	-0.005
1577-92-H	9T3037	920707	18 MILE CR <DAM	339	595	78.1	1.48	2.808	2.338	0.286	0.070	0.057	0.047	0.023	0.004	-0.005	0.009	0.021	-0.010	-0.005
1578-92-H	9T3038	920707	18 MILE CR <DAM	341	709	77.4	3.32	1.628	1.645	0.451	0.091	0.059	0.078	0.036	0.007	0.006	0.012	0.027	-0.010	-0.005
1579-92-H	9T3039	920707	18 MILE CR <DAM	359	680	78.2	3.58	1.555	1.901	0.355	0.093	0.088	0.122	0.052	0.010	0.008	0.017	0.048	-0.010	-0.005
1580-92-H	9T3042	920707	18 MILE CR <DAM	353	737	79.0	2.28	1.802	1.536	0.241	0.088	0.054	0.057	0.029	0.005	0.005	0.010	0.026	-0.010	-0.005
1581-92-H	9T3045	920707	18 MILE CR <DAM	336	709	78.8	2.97	6.924	9.525	0.660	0.200	0.173	0.064	0.026	0.008	0.006	0.017	0.030	-0.010	-0.005
1582-92-H	COMP A	920707	18 MILE CR <DAM	319	529	78.6	1.78	1.864	1.172	0.156	0.050	0.028	0.015	0.006	0.004	-0.005	0.007	0.009	-0.010	-0.005
1583-92-H	COMP B	920707	18 MILE CR <DAM	252	264	78.9	1.58	0.991	0.729	0.136	0.037	0.027	0.016	0.007	0.003	-0.005	0.006	0.009	-0.010	-0.005
SPP= LMB																				
				MAXIMUM	359	737	79.0	3.58	6.924	0.660	0.200	0.173	0.122	0.052	0.010	0.008	0.017	0.048	-0.010	-0.005
				MINIMUM	252	264	77.4	1.48	0.991	0.136	0.037	0.027	0.015	0.006	0.003	-0.005	0.006	0.009	-0.010	-0.005

-AB #	TAG #	DATE	LOCATION	LENGTH	WEIGHT	%MOISTURE	%LIPID	AR1016/ 1248	AR1254/ 1260	P,P DDE	P,P DDD	P,P DDT	MIREX	PHOTO MIREX	HCB	trans CHLORDANE	cis CHLORDANE	trans NONACHLOR	OXY CHLORDANE	DIELDRLN
1574-92-H	COMP A	920706	18 MILE CR <DAM	376	864	74.8	4.86	0.494	1.362	0.245	0.055	0.068	0.091	0.040	0.011	0.010	0.013	0.040	-0.010	-0.005
1575-92-H	COMP B	920706	18 MILE CR <DAM	346	596	76.5	2.59	0.396	0.752	0.116	0.030	0.040	0.048	0.019	0.003	0.005	0.006	0.016	-0.010	-0.005
SPP= SMB																				
				MAXIMUM	376	864	76.5	4.86	1.362	0.245	0.055	0.068	0.091	0.040	0.011	0.010	0.013	0.040	-0.010	-0.005
				MINIMUM	346	596	74.8	2.59	0.396	0.116	0.030	0.040	0.048	0.019	0.003	0.005	0.006	0.016	-0.010	-0.005

n=2  
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