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Technical Report 87-4 (BEP)
Division of Fish and Wildlife

**Toxic Substances
in Fish and Wildlife
Analyses since May 1, 1982
Volume 6**

September, 1987

New York State/Department of Environmental Conservation

TOXIC SUBSTANCES IN FISH AND WILDLIFE:

Analyses since May 1, 1982

Volume 6

Compiled by

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Bureau of Environmental Protection
from data generated through

Division of Fish and Wildlife

and

Division of Marine Resources

Division of Fish and Wildlife
Bureau of Environmental Protection
New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233

September 30, 1987

1980 STATEWIDE TOXIC SUBSTANCES MONITORING PROGRAM

Part I-A

LOCATION	SPECIES	NO. OF FISH ANALYZED	NO. OF ANALYSES	AVERAGE LENGTH (mm)	LENGTH RANGE (mm)	AVERAGE WEIGHT (g)	WEIGHT RANGE (g)	AVERAGE PCB (ppm)	PCB RANGE (ppm)	AVERAGE DDT (ppm)	DDT RANGE (ppm)
Buffalo River	Carp	13	2	504	432-602	2247	1451-3266	0.75	0.69-0.82	0.30	0.29- 0.30
Canadice Lake	Lake trout	14	4	569	477-708	1953	1040-3760	4.46	1.37-9.18	0.17	0.08- 0.34
Canandaigua Lake	Rainbow trout	3	1	483	475-490	1289	1175-1361	0.67	--	0.29	--
	Lake trout	10	3	519	412-676	1232	520-3400	1.43	1.20-2.91	0.97	0.79- 2.46
Keuka Lake	Rainbow trout	4	1	495	458-518	1353	990-1758	0.12	--	2.50	--
	Lake trout	31	8	582	375-797	2080	413-5850	0.44	0.08-1.97	6.20	2.04-19.75
Seneca Lake	Rainbow trout	9	2	459	416-508	957	757-1134	0.13	0.12-0.14	0.19	0.18- 0.20
	Lake trout	55	8	609	334-764	2441	328-9340	0.66	0.15-2.12	1.10	0.27- 2.07
Cayuga Lake	Lake trout	23	4	500	385-686	1313	485-2830	0.44	0.23-0.60	0.35	0.14- 0.43
Skaneateles Lake	Lake trout	30	2	434	380-494	671	383- 896	0.41	0.34-0.46	0.56	0.46- 0.63
Onondaga Lake	Smallmouth bass	22	2	333	261-403	470	190- 821	0.20	0.17-0.21	0.09	0.07- 0.10
Chateaugay River	Brown trout	16	2	263	227-316	185	108- 280	0.15	--	0.05	--
<u>Mohawk River</u>											
Delta Lake	Walleye	20	2	356	292-411	410	210- 650	0.01	< 0.01-0.02	< 0.01	< 0.01- 0.01
Rome	Walleye	14	2	365	312-429	469	275- 825	0.26	0.24-0.30	0.03	0.02- 0.03
Utica	Walleye	5	2	399	315-511	697	295-1502	0.67	0.39-0.85	0.01	< 0.01-<0.01
	Yellow perch	6	1	241	202-276	170	90- 275	0.47	--	< 0.01	--
Little Falls	Smallmouth bass	11	3	266	200-412	152	104- 608	1.14	0.62-1.61	0.04	< 0.01- 0.06

*Analysis included DDT and its metabolites.

1980 STATEWIDE TOXIC SUBSTANCES MONITORING PROGRAM

Part I-B

LOCATION	SPECIES	AVERAGE DIELDRIN* (ppm)	DIELDRIN RANGE (ppm)	AVERAGE ENDRIN (ppm)	ENDRIN RANGE (ppm)	AVERAGE HEPTACHLOR** (ppm)	HEPTACHLOR RANGE (ppm)	AVERAGE LINDANE*** (ppm)	LINDANE RANGE (ppm)	AVG. MIREX (ppm)	MIREX RANGE (ppm)
Buffalo River	Carp	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01
Canadice Lake	Lake trout	<0.03	<0.01- 0.12	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	0.01	<0.01- 0.01	<0.01	<0.01-<0.01
Canandaigua Lake	Rainbow trout	<0.01	--	<0.01	--	<0.01	--	<0.01	--	<0.01	--
	Lake trout	<0.01	<0.01- 0.02	<0.01	<0.01-<0.01	<0.01	<0.01- 0.02	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01
Keuka Lake	Rainbow trout	0.02	--	<0.01	--	<0.01	--	<0.01	--	<0.01	--
	Lake trout	0.04	0.01- 0.08	<0.01	<0.01- 0.02	<0.01	<0.01- 0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01
Seneca Lake	Rainbow trout	0.02	0.01- 0.02	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01
	Lake trout	0.04	0.01- 0.08	<0.01	<0.01- 0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01
Cayuga Lake	Lake trout	0.01	0.01- 0.02	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01
Skaneateles Lake	Lake trout	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01
Onondaga Lake	Smallmouth bass	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01
Chateaugay River	Brown trout	<0.01	--	<0.01	--	<0.01	--	<0.01	--	<0.01	--
<u>Mohawk River</u>											
Delta Lake	Walleye	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01
Rome	Walleye	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01
Utica	Walleye	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01
	Yellow perch	<0.01	--	<0.01	--	<0.01	--	<0.01	--	<0.01	--
Little Falls	Smallmouth bass	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01

** Analysis included heptachlor epoxide

*** Analysis included other associated compounds of HCH

1980 STATEWIDE TOXIC SUBSTANCES MONITORING PROGRAM

Part I-C

<u>LOCATION</u>	<u>SPECIES</u>	<u>AVERAGE MERCURY (ppm)</u>	<u>MERCURY RANGE (ppm)</u>	<u>AVERAGE CHLORDANE (ppm)</u>	<u>CHLORDANE RANGE (ppm)</u>
Buffalo River	Carp	0.15	0.14-0.16	0.05	0.05-0.06
Canadice Lake	Lake trout	0.27	0.18-0.38	0.05	0.03-0.08
Canandaigua Lake	Rainbow trout	0.25	--	0.02	--
	Lake trout	0.31	0.28-0.54	0.08	0.05-0.16
Keuka Lake	Rainbow trout	0.22	--	0.03	--
	Lake trout	0.37	0.23-0.57	0.08	0.03-0.32
Seneca Lake	Rainbow trout	0.16	0.16-0.16	0.02	0.02-0.02
	Lake trout	0.45	0.10-0.66	0.11	0.03-0.18
Cayuga Lake	Lake trout	0.34	0.26-0.48	0.07	0.04-0.09
Skaneateles Lake	Lake trout	0.70	0.59-0.78	0.05	0.04-0.06
Onondaga Lake	Smallmouth bass	0.92	0.70-1.02	0.01	0.01-0.01
Chateaugay River	Brown trout	0.18	--	< 0.01	--
<u>Mohawk River</u>					
Delta Lake	Walleye	0.33	0.22-0.39	< 0.01	< 0.01- 0.01
Rome	Walleye	0.18	0.18-0.18	0.01	0.01-0.01
Utica	Walleye	0.19	0.14-0.27	< 0.01	< 0.01-0.01
	Yellow perch	0.10	--	0.01	--
Little Falls	Smallmouth bass	0.27	0.22-0.40	0.02	0.02-0.02

1984 STATEWIDE TOXIC SUBSTANCES MONITORING PROGRAM

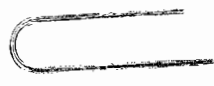
Part I-A

LOCATION	SPECIES	NO. OF FISH ANALYZED	NO. OF ANALYSES	AVERAGE LENGTH (mm)	LENGTH RANGE (mm)	AVERAGE WEIGHT (g)	WEIGHT RANGE (g)	AVERAGE PCB (ppm)	PCB RANGE (ppm)	AVERAGE DDT (ppm)	DDT RANGE (ppm)
Lake Erie											
-Buffalo Harbor (Spring)	Yellow perch	4	2	272	256-310	226	160-330	0.35	0.09-1.14	0.05	0.02-0.17
-Lackawanna (Spring)	Yellow perch	10	2	257	217-287	183	120-280	0.16	0.12-0.22	0.03	0.02-0.05
	Smallmouth bass	3	2	497	493-505	1906	1795-2130	0.51	0.49-0.52	0.14	0.09-0.24
(Fall)	Yellow perch	3	2	237	210-286	165	112-269	0.11	0.09-0.16	0.02	0.02-0.03
	Smallmouth bass	5	3	367	315-438	817	468-1260	0.38	0.25-0.64	0.26	0.11-0.83
-Dunkirk (Spring)	Yellow perch	3	2	252	190-345	246	86-524	0.40	0.18-0.84	0.08	0.04-0.16
	Walleye	5	3	564	522-605	1723	1420-2125	0.65	0.50-1.17	0.15	0.12-0.25
Buffalo River	Carp	3	1	741	688-815	7219	6647-7990	6.67	-	1.63	-
-Buffalo	Brown bullhead	7	1	322	313-345	514	500-700	0.87	-	0.30	-
Niagara River											
-Strawberry Island	Smallmouth bass	5	2	374	357-403	860	680-1220	2.99	1.42-9.27	0.15	0.10-0.34
	Rock bass	4	1	232	221-246	258	235-285	0.30	-	0.05	-
	Yellow perch	4	1	286	276-296	275	240-300	0.18	-	0.03	-
	Carp	2	1	630	627-632	3890	3580-4200	1.92	-	0.27	-
-Grand Island Bldg.	Smallmouth bass	17	3	347	250-390	719	360-1080	2.32	0.25-3.48	0.13	0.03-0.21
	Rock bass	12	1	223	210-235	243	210-270	0.78	-	0.06	-
	Yellow perch	4	1	318	300-337	408	350-440	0.39	-	0.05	-
	Smallmouth bass	2	2	344	342-345	690	680-700	1.76	1.05-2.47	0.13	0.12-0.13
-Gratwick Park	Rock bass	7	1	214	204-230	213	180-250	1.41	-	0.05	-
	Yellow perch	4	1	191	188-194	90	80-100	0.37	-	0.02	-
	Brown bullhead	2	1	308	306-310	450	400-500	2.10	-	0.07	-
	Carp	3	1	514	495-547	2040	1840-2460	2.52	-	0.16	-
-Lewiston	American eel	5	1	939	924-975	1934	1800-2100	5.29	-	0.81	-
	Smallmouth bass	4	2	358	334-379	750	610-900	3.16	2.08-4.25	0.38	0.22-0.55
	Rock bass	4	1	210	205-218	208	190-220	1.25	-	0.12	-
	Yellow perch	10	1	250	237-270	181	170-240	0.60	-	0.07	-
Irondequoit Bay	Carp	8	3	576	532-660	2581	2130-3560	3.61	3.26-4.43	0.85	0.72-1.15

1984 STATEWIDE TOXIC SUBSTANCES MONITORING PROGRAM

Part I-B

LOCATION	SPECIES	AVERAGE DIELDRIN (ppm)	DIELDRIN RANGE (ppm)	AVERAGE ENDRIN (ppm)	ENDRIN RANGE (ppm)	AVERAGE HCB (ppm)	HCB RANGE (ppm)	AVERAGE LINDANE (ppm)	LINDANE RANGE (ppm)	AVG. MIREX (ppm)	MIREX RANGE (ppm)
Lake Erie											
-Buffalo Harbor (Spring)	Yellow perch	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01
-Lackawanna (Spring)	Yellow perch	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-0.01	<0.01	<0.01-<0.01
(Fall)	Smallmouth bass	0.02	0.01-0.03	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	0.02	0.01-0.03	<0.01	<0.01-<0.01
	Yellow perch	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01
	Smallmouth bass	0.01	0.01-0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	0.01	<0.01-0.04	<0.01	<0.01-<0.01
-Dunkirk (Spring)	Yellow perch	0.01	<0.01-0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	0.02	0.01-0.03	<0.01	<0.01-<0.01
	Walleye	0.02	0.02-0.02	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	0.03	0.02-0.04	<0.01	<0.01-0.01
Buffalo River	Carp	0.04	-	<0.01	-	<0.01	-	0.04	-	<0.01	-
-Buffalo	Brown bullhead	0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01	-
Niagara River											
-Strawberry Island	Smallmouth bass	0.01	0.01-0.02	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	0.01	0.01-0.02	<0.01	<0.01-0.01
	Rock bass	<0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01	-
	Yellow perch	<0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01	-
	Carp	0.01	-	<0.01	-	<0.01	-	0.05	-	<0.01	-
-Grand Island Brdg.	Smallmouth bass	0.01	<0.01-0.01	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	<0.01	<0.01-0.01	<0.01	<0.01-<0.01
	Rock bass	<0.01	-	<0.01	-	<0.01	-	0.01	-	<0.01	-
	Yellow perch	<0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01	-
-Gratwick Park	Smallmouth bass	0.02	0.01-0.02	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	0.06	0.01-0.11	<0.01	<0.01-<0.01
	Rock bass	<0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01	-
	Yellow perch	<0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01	-
	Brown bullhead	0.01	-	<0.01	-	<0.01	-	0.01	-	<0.01	-
	Carp	0.01	-	<0.01	-	<0.01	-	0.01	-	<0.01	-
-Lewiston	American eel	0.08	-	<0.01	-	<0.01	-	0.05	-	0.17	-
	Smallmouth bass	0.02	0.01-0.02	<0.01	<0.01-<0.01	<0.01	<0.01-<0.01	0.01	0.01-0.02	0.07	0.03-0.11
	Rock bass	<0.01	-	<0.01	-	<0.01	-	<0.01	-	0.03	-
	Yellow perch	<0.01	-	<0.01	-	<0.01	-	<0.01	-	0.02	-
Irondequoit Bay	Carp	0.02	0.01-0.02	<0.01	<0.01-<0.01	<0.01	<0.01-0.01	0.01	0.01-0.01	0.04	0.04-0.06



1984 STATEWIDE TOXIC SUBSTANCES MONITORING PROGRAM

Part I-C

LOCATION	SPECIES	AVERAGE MERCURY (ppm)	MERCURY RANGE (ppm)	AVERAGE CHLORDANE (ppm)	CHLORDANE RANGE (ppm)	AVERAGE HEPTACHLOR EPOXIDE (ppm)	HEPTACHLOR EPOXIDE RANGE (ppm)
Lake Erie							
-Buffalo Harbor (Spring)	Yellow perch	NA*	-	0.02	0.01- 0.05	<0.01	<0.01-<0.01
-Lackawanna (Spring)	Yellow perch	NA	-	0.01	<0.01- 0.01	<0.01	<0.01-<0.01
	Smallmouth bass	NA	-	0.03	0.01- 0.04	<0.01	<0.01- 0.01
	(Fall)	NA	-	0.01	0.01- 0.01	<0.01	<0.01-<0.01
	Yellow perch	NA	-	0.07	0.05- 0.09	<0.01	<0.01- 0.01
-Dunkirk (Spring)	Smallmouth bass	NA	-	0.03	0.01- 0.05	<0.01	<0.01-<0.01
	Yellow perch	NA	-	0.10	0.09- 0.10	<0.01	<0.01- 0.01
	Walleye	NA	-				
Buffalo River	Carp	NA	-	0.53	-	0.01	-
-Buffalo	Brown bullhead	NA	-	0.10	-	<0.01	-
Niagara River							
-Strawberry Island	Smallmouth bass	NA	-	0.09	0.06- 0.18	<0.01	<0.01-<0.01
	Rock bass	NA	-	0.03	-	<0.01	-
	Yellow perch	NA	-	0.02	-	<0.01	-
	Carp	NA	-	0.14	-	0.01	-
-Grand Island Bridge	Smallmouth bass	NA	-	0.05	0.03- 0.07	<0.01	<0.01-<0.01
	Rock bass	NA	-	0.02	-	<0.01	-
	Yellow perch	NA	-	0.02	-	<0.01	-
-Gratwick Park	Smallmouth bass	NA	-	0.07	0.07- 0.08	<0.01	<0.01-<0.01
	Rock bass	NA	-	0.04	-	<0.01	-
	Yellow perch	NA	-	0.02	-	<0.01	-
	Brown bullhead	NA	-	0.05	-	<0.01	-
	Carp	NA	-	0.18	-	<0.01	-
-Lewiston	American eel	NA	-	0.63	-	<0.01	-
	Smallmouth bass	NA	-	0.09	0.06- 0.12	<0.01	<0.01-<0.01
	Rock bass	NA	-	0.03	-	<0.01	-
	Yellow perch	NA	-	0.01	-	<0.01	-
Irondequoit Bay	Carp	NA	-	0.68	0.22- 0.92	0.01	0.01- 0.01

*Not analyzed.