

Watershed Summary Information

Accounting Unit Name:	Southeastern Lake Michigan
State(s):	MI IN
Political Boundaries:	St Joseph, Elkhart, Branch, Cass, Kalamazoo, Berrien, Lagrange, Noble, Calhoun, St Joseph, Van Buren, Hillsdale, Steuben, Kosciusko
Major Waterways:	St Joseph R Elkhart R Paw Paw R Dowagiac R Prairie R
Number of Stations in Watershed:	Tier1 - 17 Tier2 - 9 Tier3 - 6



Figure 55. Watershed Location Map

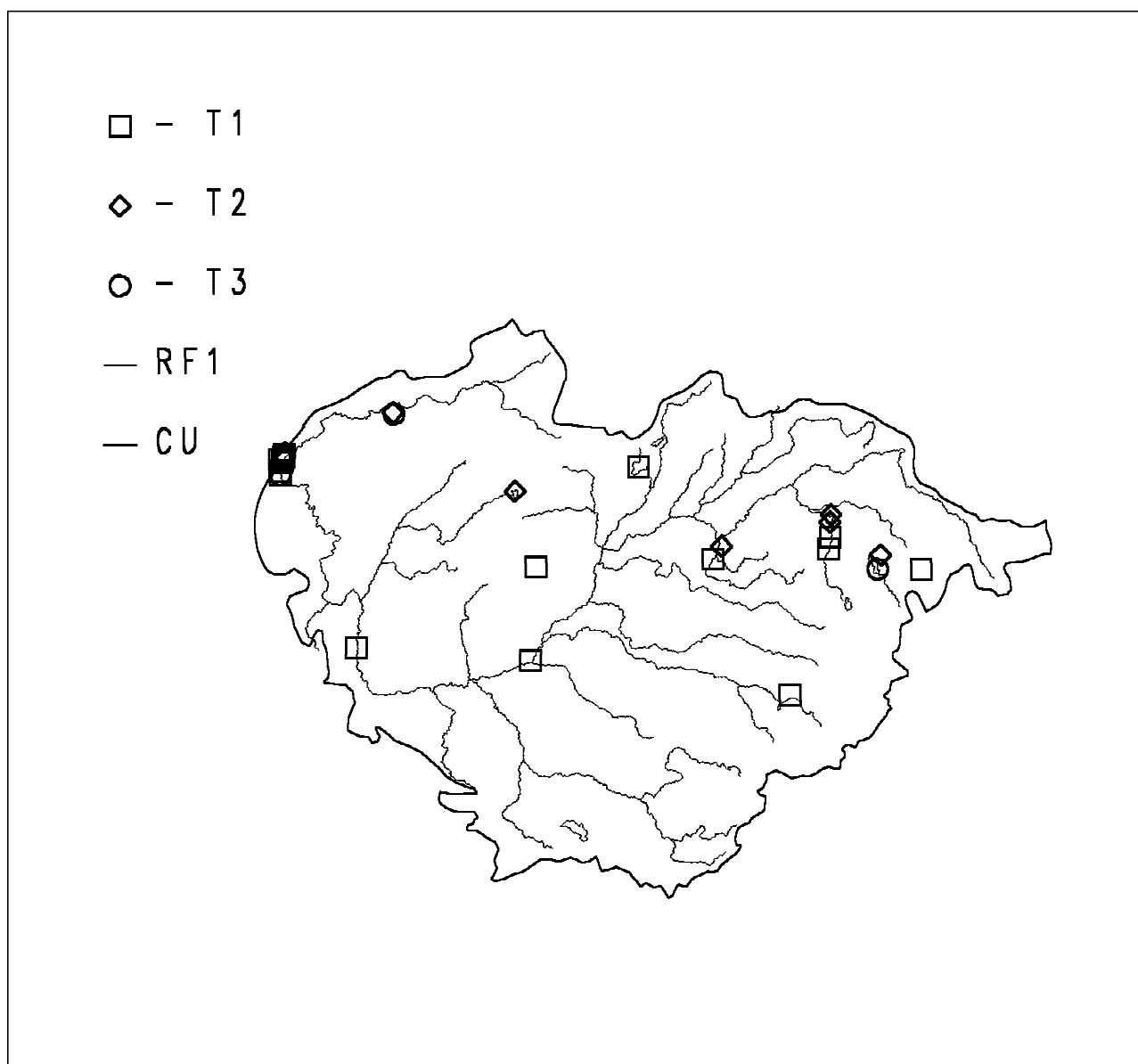


Figure 56. Major Waterways and Location of Sampling Stations

Data Source(s) Used in Evaluation

Source: **STORET** Agency: **1115GLSB**

Monitoring Program: **USEPA Region 5 Great Lakes Surveillance Branch Data**

Num. of Stations: 15 Date Range: 1981

Source: **STORET** Agency: **21IND**

Monitoring Program: **Indiana Board of Health General Water Quality & Bioassay Data**

Num. of Stations: 3 Date Range: 1980-88

Source: **STORET** Agency: **21MICH**

Monitoring Program: **Michigan Dept of Nat Res Surface Water Quality Data - Surface Water Quality Division**

Num. of Stations: 14 Date Range: 1980

Chemicals Responsible for Sampling Station Classification as Tier 1 or Tier 2

Classifying Parameter	Number of Stations							
	All Parameters				Aquatic Life		Human Health	
	Total	T.1&2	Tier1	Tier2	Tier1	Tier2	Tier1	Tier2
Lead	27	15	.	15	.	13	.	2
DDT	16	12	7	5	7	2	.	11
Copper	28	10	.	10	.	10	.	.
Zinc	28	9	.	9	.	9	.	.
Pyrene	10	8	5	3	5	3	.	.
Nickel	25	7	.	7	.	7	.	.
Anthracene	8	6	5	1	5	1	.	.
Phenanthrene	6	6	4	2	4	2	.	.
Fluoranthene	9	6	1	5	1	5	.	.
Bis(2-ethylhexyl)phthalate	7	5	3	2	3	2	.	3
Naphthalene	6	5	.	5	.	5	.	.
Benzo(a)anthracene/Chrysene	4	4	2	2	2	2	.	4
BHC	4	4	1	3	1	.	.	4
Cadmium	27	4	.	4	.	4	.	.
Chlordane	16	4	.	4	.	1	.	4
Polychlorinated biphenyls	15	3	3	.	.	.	3	.
Diethyl phthalate	5	3	1	2	1	2	.	.
Anthracene&Phenanthrene	3	3	.	3	.	3	.	.
Arsenic	3	3	.	3	.	.	.	3
Dieldrin	15	3	.	3	.	.	.	3
Fluorene	5	3	.	3	.	3	.	.
Heptachlor epoxide	3	3	.	3	.	.	.	3
Chromium	28	2	1	1	1	1	.	.
Acenaphthene	4	2	.	2	.	2	.	.
Di-n-butyl phthalate	5	2	.	2	.	2	.	.
Hexachlorobenzene	16	2	.	2	.	1	.	2

Sediment Chemistry Data: Chemical Summary

Sediment Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Acenaphthene	2	335.00	335.00	2	500.00	170.00
Anthracene	6	7200.00	3850.00	6	16200.00	700.00
Anthracene&Phenanthrene	3	423.33	250.00	3	920.00	100.00
Benzo(a)anthracene/Chrysene	4	181500.0	4500.00	4	716000.0	1000.00
Bis(2-ethylhexyl)phthalate	6	2398.33	1555.00	6	7600.00	80.00
BHC	2	1850.00	1850.00	2	3400.00	300.00
Cadmium	24	529.17	0.00	8	4000.00	300.00

Sediment Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Chlordane	13	46.15	0.00	1	600.00	600.00
Chromium	25	30584.00	8400.00	23	420000.0	4700.00
Copper	25	86720.00	17000.00	22	1600000	2000.00
Di-n-butyl phthalate	4	2000.00	1150.00	4	5500.00	200.00
Dieldrin	12	0.00	0.00	0	.	.
Diethyl phthalate	3	800.00	500.00	3	1600.00	300.00
DDT	49	23.37	0.00	14	400.00	12.00
Fluoranthene	7	3660.00	830.00	7	18900.00	80.00
Fluorene	3	143.33	80.00	3	300.00	50.00
Hexachlorobenzene	13	30.77	0.00	1	400.00	400.00
Lead	24	44250.00	33000.00	21	140000.0	7000.00
Mercury	12	0.00	0.00	0	.	.
Naphthalene	5	134.00	90.00	5	270.00	50.00
Nickel	25	22200.00	8100.00	22	170000.0	5000.00
Phenanthrene	6	8433.33	8750.00	6	16200.00	200.00
Polychlorinated biphenyls	36	0.00	0.00	0	.	.
Pyrene	8	19255.00	5750.00	8	73500.00	490.00
Silver	10	60.00	0.00	2	300.00	300.00
Trichlorobenzene, 1,2,4-	1	40.00	40.00	1	40.00	40.00
Zinc	25	141120.0	80000.00	25	1000000	7000.00

Tissue Residue Data: Chemical Summary

Tissue Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Acenaphthene	2	0.00	0.00	0	.	.
Acetone	2	155.00	155.00	2	160.00	150.00
Aldrin	4	0.00	0.00	0	.	.
Anthracene	2	0.00	0.00	0	.	.
Arsenic	18	75.28	67.50	18	199.00	31.00
Benzene	2	0.00	0.00	0	.	.
Benzo(a)anthracene	2	0.00	0.00	0	.	.
Benzo(a)pyrene	2	0.00	0.00	0	.	.
Benzo(b)fluoranthene	2	0.00	0.00	0	.	.
Benzo(k)fluoranthene	2	0.00	0.00	0	.	.
Benzoic acid	2	0.00	0.00	0	.	.
Benzyl alcohol	2	0.00	0.00	0	.	.
Bis(2-chloroethyl)ether	2	0.00	0.00	0	.	.
Bis(2-ethylhexyl)phthalate	1	0.00	0.00	0	.	.
Bromodichloromethane	2	0.00	0.00	0	.	.
Bromomethane	2	0.00	0.00	0	.	.
Bromophenyl phenyl ether, 4-	2	0.00	0.00	0	.	.
Butyl benzyl phthalate	2	0.00	0.00	0	.	.

Tissue Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
BHC	94	15.62	2.00	70	159.00	1.00
Cadmium	22	96.14	30.00	15	820.00	14.00
Carbon disulfide	2	24.50	24.50	2	26.00	23.00
Chlordane	166	349.29	85.50	162	5791.00	2.00
Chlorobenzene	2	0.00	0.00	0	.	.
Chloroethane	2	0.00	0.00	0	.	.
Chloroethene	2	0.00	0.00	0	.	.
Chloromethane	2	0.00	0.00	0	.	.
Chloronaphthalene, 2-	2	0.00	0.00	0	.	.
Chlorophenol, 2-	2	0.00	0.00	0	.	.
Chromium	18	339.33	295.00	16	854.00	180.00
Chrysene	2	0.00	0.00	0	.	.
Copper	18	1129.22	970.00	18	2400.00	600.00
Cresol, o	2	0.00	0.00	0	.	.
Cresol, p-	2	0.00	0.00	0	.	.
Di-n-butyl phthalate	1	3800.00	3800.00	1	3800.00	3800.00
Di-n-octyl phthalate	2	0.00	0.00	0	.	.
Dibenzo(a,h)anthracene	2	0.00	0.00	0	.	.
Dibenzofuran	2	0.00	0.00	0	.	.
Dibromochloromethane	2	0.00	0.00	0	.	.
Dichlorobenzene, 1,2-	2	0.00	0.00	0	.	.
Dichlorobenzene, 1,3-	2	0.00	0.00	0	.	.
Dichlorobenzene, 1,4-	2	0.00	0.00	0	.	.
Dichlorobenzidine, 3,3'-	2	0.00	0.00	0	.	.
Dichloroethane 1,1-	2	0.00	0.00	0	.	.
Dichloroethane 1,2-	2	0.00	0.00	0	.	.
Dichloroethene, 1,1-	2	0.00	0.00	0	.	.
Dichlorophenol, 2,4-	2	0.00	0.00	0	.	.
Dichloropropane, 1,2-	2	0.00	0.00	0	.	.
Dieldrin	32	413.09	78.00	28	5460.00	1.00
Diethyl phthalate	2	0.00	0.00	0	.	.
Dimethyl phthalate	2	0.00	0.00	0	.	.
Dinitrophenol, 2,4-	2	0.00	0.00	0	.	.
Dinitrotoluene, 2,4-	2	0.00	0.00	0	.	.
Dinitrotoluene, 2,6-	2	0.00	0.00	0	.	.
DDT	132	446.14	48.50	112	10180.00	0.02
Endosulfan, alpha-	4	0.00	0.00	0	.	.
Endosulfan, beta-	4	0.00	0.00	0	.	.
Endrin	4	0.00	0.00	0	.	.
Fluoranthene	2	0.00	0.00	0	.	.
Fluorene	2	0.00	0.00	0	.	.
Heptachlor	4	0.00	0.00	0	.	.
Heptachlor epoxide	32	62.22	15.00	28	648.00	1.00
Hexachlorobenzene	36	15.36	3.00	29	93.00	1.00

Tissue Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Hexachlorobutadiene	2	0.00	0.00	0	.	.
Hexachloroethane	2	0.00	0.00	0	.	.
Indeno(1,2,3-cd)pyrene	2	0.00	0.00	0	.	.
Isophorone	2	0.00	0.00	0	.	.
Lead	22	1330.36	40.00	11	22700.00	80.00
Mercury	16	135.75	110.00	15	500.00	34.00
Methoxychlor	4	0.00	0.00	0	.	.
Methyl ethyl ketone	2	0.00	0.00	0	.	.
Methyl isobutyl ketone	2	0.00	0.00	0	.	.
Naphthalene	1	0.00	0.00	0	.	.
Nitrobenzene	2	0.00	0.00	0	.	.
Nitrophenol, 4	2	0.00	0.00	0	.	.
Nitrosodi-n-propylamine, N-	2	0.00	0.00	0	.	.
Nitrosodiphenylamine, N-	2	0.00	0.00	0	.	.
Pentachlorophenol	2	0.00	0.00	0	.	.
Phenol	2	0.00	0.00	0	.	.
Polychlorinated biphenyls	44	11631.39	3427.00	44	110300.0	53.00
Pyrene	2	0.00	0.00	0	.	.
Styrene	2	0.00	0.00	0	.	.
Tetrachloroethane, 1,1,2,2-	2	0.00	0.00	0	.	.
Tetrachloroethene	2	3.00	3.00	1	6.00	6.00
Tetrachloromethane	2	0.00	0.00	0	.	.
Toluene	1	5.00	5.00	1	5.00	5.00
Toxaphene	4	0.00	0.00	0	.	.
Tribromomethane/Bromoform	2	0.00	0.00	0	.	.
Trichlorobenzene, 1,2,4-	2	0.00	0.00	0	.	.
Trichloroethane, 1,1,1-	2	0.00	0.00	0	.	.
Trichloroethane, 1,1,2-	2	0.00	0.00	0	.	.
Trichloroethene	1	0.00	0.00	0	.	.
Trichloromethane/Chloroform	2	0.00	0.00	0	.	.
Trichlorophenol, 2,4,5-	2	0.00	0.00	0	.	.
Trichlorophenol, 2,4,6-	2	0.00	0.00	0	.	.
Vinyl acetate	2	0.00	0.00	0	.	.
Xylenes	2	18.50	18.50	2	19.00	18.00
Zinc	10	52320.00	36750.00	10	112000.0	19000.00