Buffalo-Eighteenmile 04120103

Watershed Summary Information

Accounting Unit Name: Eastern Lake Erie

State(s): NY

Political Boundaries: Erie, Wyoming, Chautauqua

Major Waterways: Buffalo Cr
Cazenovia Cr
Cayuga Cr
Eighteenmile Cr
Cazenovia Cr, E Br

Number of Stations in Watershed: Tier1 - 59
Tier2 - 33
Tier3 - 9

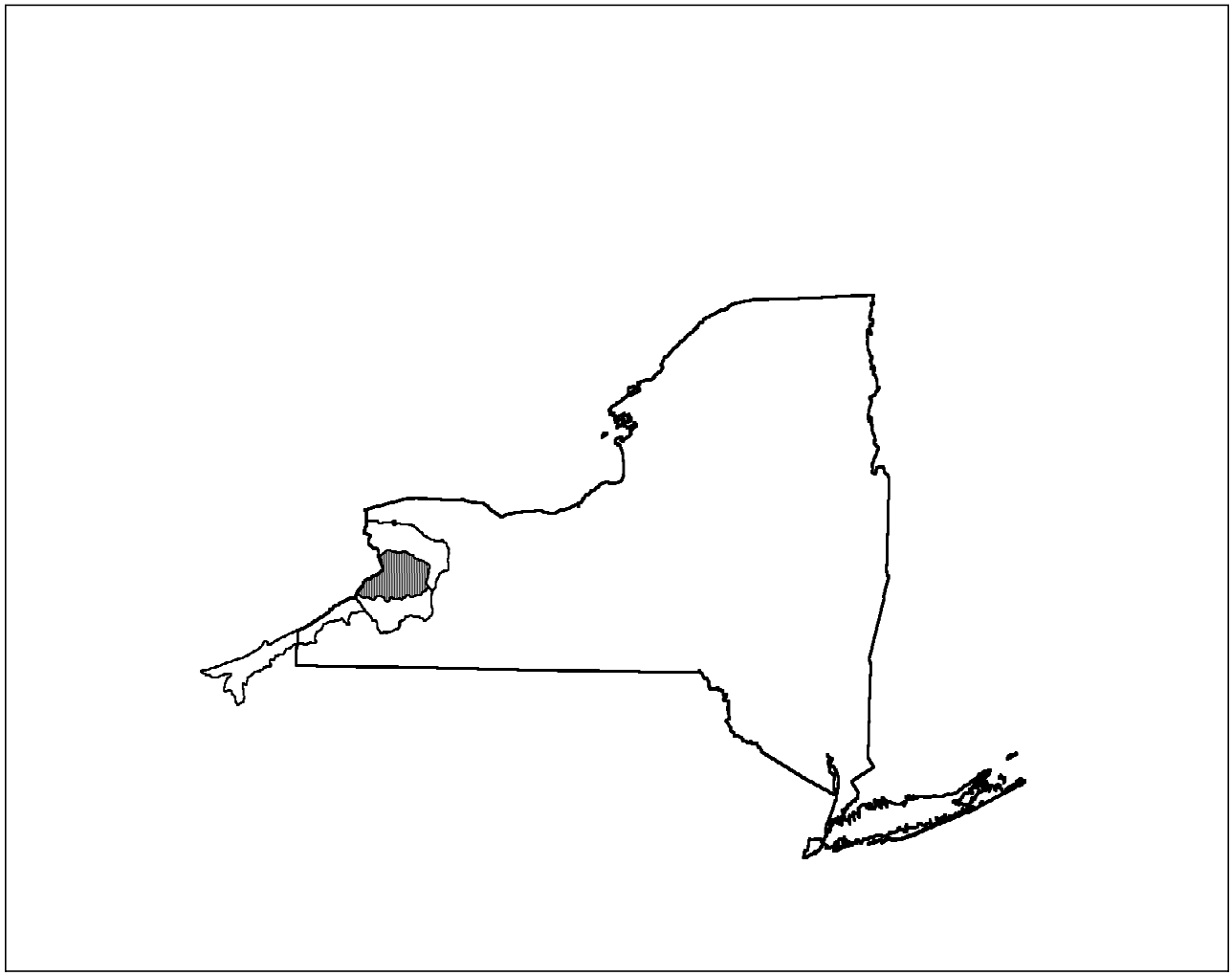

Figure 77. Watershed Location Map

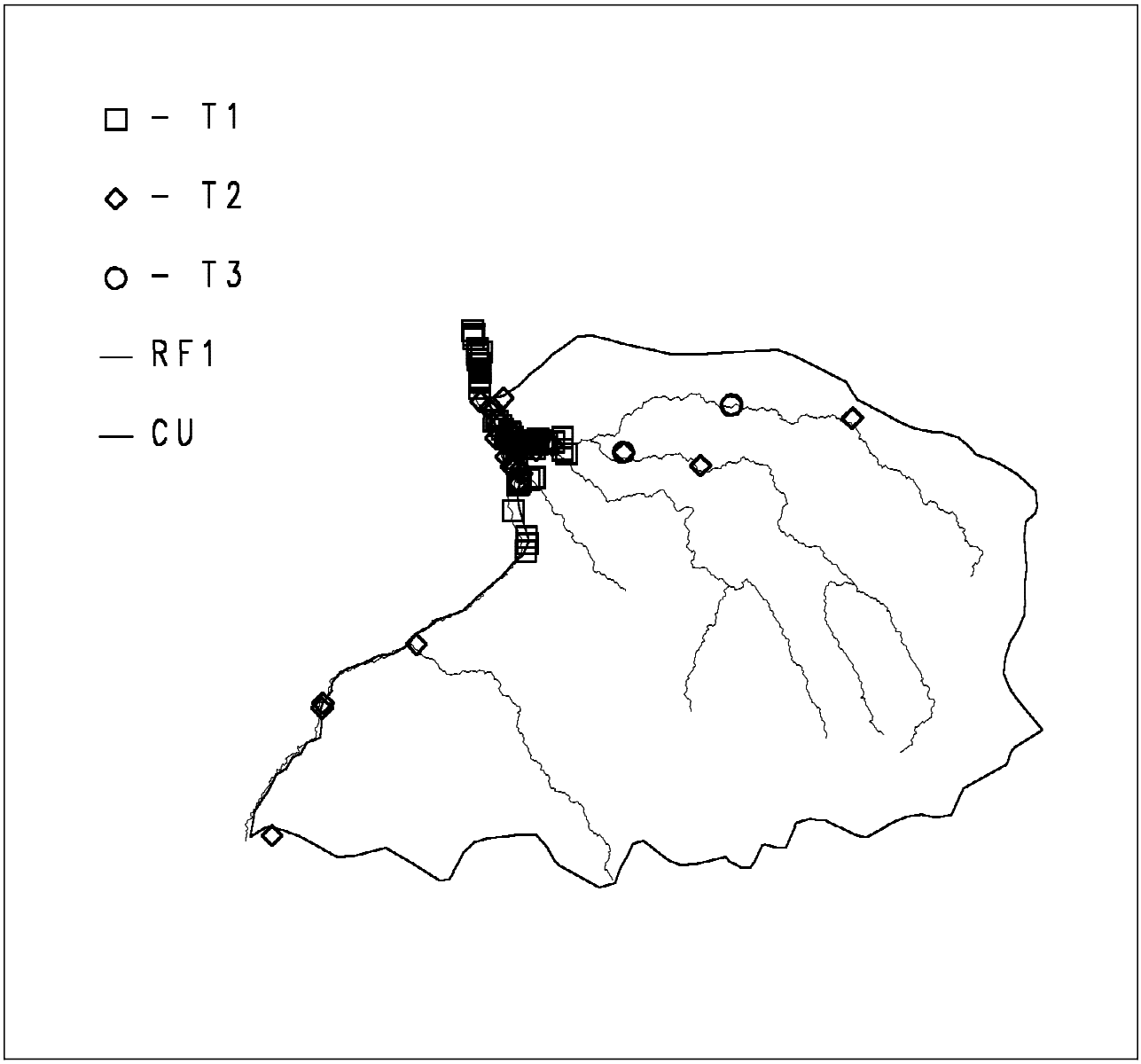

Figure 78. Major Waterways and Location of Sampling Stations

Data Source(s) Used in Evaluation

Source: **ODES** Agency: **AR**
Monitoring Program: **GLNPO/ARCS**
Num. of Stations: 15 Date Range: 1989

Source: **STORET** Agency: **11BIOACC**
Monitoring Program: **USEPA National Bioaccumulation Study**
Num. of Stations: 2 Date Range: 1987

Source: **STORET** Agency: **11COEBUF**
Monitoring Program: **Corps of Engineers Data Buffalo District**
Num. of Stations: 22 Date Range: 1989

Source: **STORET** Agency: **1115GLSB**
Monitoring Program: **USEPA Region 5 Great Lakes Surveillance Branch Data**
Num. of Stations: 49 Date Range: 1981-82

Source: **STORET** Agency: **112WRD**
Monitoring Program: **US Geological Survey Data**
Num. of Stations: 7 Date Range: 1982-88

Source: **STORET** Agency: **21NYDECA**
Monitoring Program: **NY Dept of Env. Cons. Water Quality Network Data**
Num. of Stations: 6 Date Range: 1987-93

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
Copper	93	82	.	82	.	82	.	.
Nickel	91	80	.	80	.	80	.	.
Lead	91	76	.	76	.	76	.	.
Zinc	92	73	.	73	.	73	.	.
Mercury	85	65	20	45	20	45	.	.
Polychlorinated biphenyls	86	60	29	31	27	26	2	58
DDT	85	55	29	26	29	26	.	27
Cadmium	92	53	.	53	.	53	.	.
Pyrene	76	51	30	21	30	21	.	.
Fluoranthene	79	43	22	21	22	21	.	.
Anthracene&Phenanthrene	42	42	33	9	33	9	.	.
BHC	81	42	11	31	11	31	.	29
Chlordane	82	38	.	38	.	38	.	17
Heptachlor epoxide	80	37	.	37	.	.	.	37
Bis(2-ethylhexyl)phthalate	36	36	20	16	20	16	.	19
Chromium	89	36	3	33	3	33	.	.
Benzo(a)anthracene/Chrysene	35	35	34	1	34	1	.	35
Naphthalene	62	33	12	21	12	21	.	.
Arsenic	34	26	.	26	.	26	.	.
Benzo(a)pyrene	48	25	14	11	14	11	.	25
Acenaphthene	48	24	5	19	5	19	.	.
Benzo(b)fluoranthene	21	19	.	19	.	7	.	19
Fluorene	46	18	9	9	9	9	.	.
Methoxychlor	37	14	.	14	.	14	.	.
Silver	57	13	5	8	5	8	.	.
Dieldrin	49	12	.	12	.	8	.	11
Endosulfan, beta-	71	12	.	12	.	12	.	.
Anthracene	36	11	4	7	4	7	.	.
Methylnaphthalene, 2-	15	11	2	9	2	9	.	.
Benzo(a)anthracene	34	10	2	8	2	8	.	7

Classifying Parameter	Number of Stations							
	All Parameters				Aquatic Life		Human Health	
	Total	T.1&2	Tier1	Tier2	Tier1	Tier2	Tier1	Tier2
Chrysene	34	10	1	9	1	9	.	.
Dichlorobenzene, 1,4-	15	9	5	4	5	4	.	3
Indeno(1,2,3-cd)pyrene	36	8	.	8	.	5	.	8
Benzo(ghi)perylene	37	6	.	6	.	6	.	.
Diethyl phthalate	11	5	3	2	3	2	.	.
Butyl benzyl phthalate	17	5	.	5	.	5	.	.
Toluene	41	5	.	5	.	5	.	.
Acenaphthylene	28	4	2	2	2	2	.	.
Dichlorobenzenes	4	4	2	2	2	2	.	1
Di-n-butyl phthalate	37	4	1	3	1	3	.	.
Dibenzofuran	14	4	1	3	1	3	.	1
Di-n-octyl phthalate	10	4	.	4	.	4	.	.
Dichlorobenzene, 1,2-	3	3	3	.	3	.	.	.
Phenanthrene	36	3	3	.	3	.	.	.
Xylenes	4	3	1	2	1	2	.	.
Dichlorobenzene, 1,3-	28	3	.	3	.	3	.	.
SEM_est	10	3	.	3	.	3	.	.
Benzene	28	2	.	2	.	2	.	1
Cresol, p-	3	2	.	2	.	2	.	.
Ethylbenzene	26	2	.	2	.	2	.	.
Hexachlorobenzene	20	2	.	2	.	2	.	1
Nitrosodiphenylamine, N-	2	2	.	2	.	2	.	.
Dioxins	12	1	1	.	.	.	1	.
Tetrachloroethene	24	1	1	.	1	.	.	1
Trichlorobenzene, 1,2,4-	3	1	1	.	1	.	.	1
Benzo(k)fluoranthene	34	1	.	1	.	1	.	.
Biphenyl	3	1	.	1	.	1	.	.
Chlorobenzene	28	1	.	1	.	1	.	.
Dichloromethane	54	1	.	1	.	.	.	1
Dimethylphenol, 2,4-	1	1	.	1	.	1	.	.
Endosulfan, alpha-	42	1	.	1	.	1	.	.
Endrin	23	1	.	1	.	1	.	.
Pentachlorobenzene	3	1	.	1	.	1	.	1

Sediment Chemistry Data: Chemical Summary

Sediment Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Acenaphthene	50	1080.06	10.00	29	42200.00	0.41
Acenaphthylene	28	164.31	0.00	5	2100.00	0.77
Acrylonitrile	22	0.00	0.00	0	.	.
Aldrin	43	0.00	0.00	0	.	.
Anthracene	36	443.85	0.33	31	4900.00	0.12

Sediment Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Anthracene&Phenanthrene	45	4703.56	2500.00	45	23500.00	400.00
Arsenic	34	10217.65	10000.00	32	34000.00	4300.00
Benzene	30	71.87	0.00	8	1840.00	14.00
Benzo(a)anthracene	34	269.11	0.97	32	3500.00	0.37
Benzo(a)anthracene/Chrysene	37	17662.16	11900.00	37	80000.00	1100.00
Benzo(a)pyrene	48	11187.53	225.00	47	106500.0	0.37
Benzo(b)fluoranthene	21	18621.90	1200.00	20	124700.0	220.00
Benzo(ghi)perylene	37	1118.25	0.54	25	13200.00	0.40
Benzo(k)fluoranthene	34	469.41	0.00	10	9500.00	340.00
Biphenyl	1	17000.00	17000.00	1	17000.00	17000.00
Bis(2-ethylhexyl)phthalate	36	10609.44	3400.00	36	59000.00	200.00
Butyl benzyl phthalate	17	1692.94	300.00	13	15000.00	10.00
BHC	217	11.94	0.00	51	734.00	0.02
Cadmium	98	1977.19	900.00	77	25000.00	35.00
Chlordane	96	10.63	0.00	46	301.00	1.00
Chlorobenzene	31	1288.69	0.02	16	30970.00	0.02
Chlorpyrifos/Dursban	7	0.00	0.00	0	.	.
Chromium	91	72354.95	40000.00	89	1000000	2000.00
Chrysene	34	359.98	0.99	33	4000.00	0.21
Copper	99	106701.0	46000.00	98	1600000	2500.00
Cresol, p-	3	1833.33	2300.00	3	3000.00	200.00
Di-n-butyl phthalate	40	1041.43	483.00	40	17400.00	70.00
Di-n-octyl phthalate	10	7817.00	930.00	7	38000.00	210.00
Diazinon/Spectracide	2	0.00	0.00	0	.	.
Dibenzo(a,h)anthracene	23	0.17	0.00	3	2.19	0.57
Dibenzofuran	14	3221.64	91.50	9	40000.00	60.00
Dibromochloromethane	30	3.67	0.00	8	50.00	1.00
Dichlorobenzene, 1,2-	6	31683.33	4750.00	6	171900.0	400.00
Dichlorobenzene, 1,3-	31	871.18	0.25	23	10000.00	0.02
Dichlorobenzene, 1,4-	16	705.62	485.00	13	3000.00	54.00
Dichlorobenzenes	6	2575.00	570.00	6	11700.00	140.00
Dichloroethane 1,1-	4	10.50	9.00	4	20.00	4.00
Dichloroethane 1,2-	25	2.76	0.00	3	37.00	2.00
Dichloroethene, trans-1,2-	22	0.00	0.00	0	.	.
Dichloromethane	57	321.82	10.00	35	6900.00	2.00
Dichloropropane, 1,2-	25	0.32	0.00	3	4.00	2.00
Dieldrin	50	6.14	0.00	10	110.00	1.00
Diethyl phthalate	11	423.64	100.00	11	1700.00	30.00
Dimethyl phthalate	10	0.00	0.00	0	.	.
Dimethylphenol, 2,4-	1	4000.00	4000.00	1	4000.00	4000.00
Dioxins	20	0.00	0.00	10	0.04	0.00
DCPA/Dacthal	16	8.06	5.00	16	36.00	2.00
DDT	322	79.12	6.00	211	16090.00	0.06
Endosulfan, alpha-	46	0.39	0.00	4	15.00	0.11

Sediment Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Endosulfan, beta-	78	10.21	0.00	35	153.00	1.00
Endrin	25	11.04	0.00	4	267.00	1.00
Ethion/Bladen	2	0.00	0.00	0	.	.
Ethylbenzene	28	35.04	0.00	6	890.00	1.00
Fluoranthene	81	6149.44	1800.00	80	63900.00	0.45
Fluorene	48	421.88	0.46	25	3400.00	0.37
Heptachlor	34	0.00	0.00	0	.	.
Heptachlor epoxide	85	20.47	2.00	47	301.00	0.05
Hexachlorobenzene	20	130.70	4.00	20	1140.00	1.00
Indeno(1,2,3-cd)pyrene	36	875.21	0.62	30	13000.00	0.30
Lead	96	196889.6	74000.00	89	3300000	10000.00
Malathion	2	0.00	0.00	0	.	.
Mercury	91	892.68	300.00	80	24000.00	8.70
Methoxychlor	39	64.36	0.00	18	640.00	2.00
Methylnaphthalene, 2-	15	427.87	100.00	11	2400.00	45.00
Mirex/Dechlorane	12	0.00	0.00	0	.	.
Naphthalene	65	3732.56	70.00	46	177500.0	0.36
Nickel	96	32012.50	31000.00	95	120000.0	4600.00
Nitrosodiphenylamine, N-	4	5325.00	3600.00	4	13900.00	200.00
Pentachlorobenzene	3	180166.7	300.00	3	540000.0	200.00
Phenanthrene	36	1569.33	1.54	35	23300.00	0.27
Phenol	2	170.00	170.00	2	300.00	40.00
Polychlorinated biphenyls	367	144.35	0.00	117	7500.00	1.00
Pyrene	78	5514.07	1700.00	77	49600.00	0.26
Silver	57	978.95	210.00	34	8500.00	120.00
SEM_est	10	6.59	5.12	10	18.48	0.84
Tetrachloroethane, 1,1,2,2-	26	3.04	0.00	4	36.00	9.00
Tetrachloroethene	25	78.36	0.00	3	1940.00	4.00
Toluene	43	661.41	2.87	28	11390.00	0.04
Toxaphene	43	0.00	0.00	0	.	.
Tribromomethane/Bromoform	31	4.10	0.00	9	70.00	3.00
Trichlorobenzene, 1,2,4-	3	62900.00	5100.00	3	182300.0	1300.00
Trichloroethane, 1,1,1-	24	0.83	0.00	2	10.00	10.00
Trichloroethane, 1,1,2-	22	0.00	0.00	0	.	.
Trichloroethene	25	2.40	0.00	3	50.00	4.00
Trichlorofluoromethane	22	0.00	0.00	0	.	.
Trichloromethane/Chloroform	38	53.87	0.00	16	600.00	2.00
Xylenes	6	361.00	60.00	6	1920.00	20.00
Zinc	97	369680.4	200000.0	97	3300000	22000.00

Tissue Residue Data: Chemical Summary

Tissue Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Biphenyl	2	0.00	0.00	0	.	.
BHC	4	6.18	4.35	3	16.00	4.13
Chlordane	4	12.43	10.62	3	28.50	3.13
Chlorpyrifos/Dursban	2	6.00	6.00	1	12.00	12.00
Dicofol/Kelthane	2	0.00	0.00	0	.	.
Dieldrin	2	18.05	18.05	2	22.40	13.70
Dioxins	4	0.00	0.00	3	0.01	0.00
DDT	1	43.60	43.60	1	43.60	43.60
Endrin	2	0.00	0.00	0	.	.
Heptachlor	2	0.00	0.00	0	.	.
Heptachlor epoxide	2	0.00	0.00	0	.	.
Hexachlorobenzene	2	4.27	4.27	1	8.54	8.54
Hexachlorobutadiene	2	0.00	0.00	0	.	.
Isopropalin	2	0.00	0.00	0	.	.
Mercury	1	50.00	50.00	1	50.00	50.00
Methoxychlor	2	0.00	0.00	0	.	.
Mirex/Dechlorane	2	0.00	0.00	0	.	.
Pentachlorobenzene	2	2.91	2.91	1	5.82	5.82
Pentachloronitrobenzene/Quin	2	0.00	0.00	0	.	.
Polychlorinated biphenyls	2	1804.30	1804.30	2	3029.00	579.60
Tetrachlorobenzene, 1,2,4,5-	2	0.00	0.00	0	.	.
Trichlorobenzene, 1,2,4-	2	0.00	0.00	0	.	.
Trifluralin/Treflan	2	0.00	0.00	0	.	.

Biotoxicity Data

Lat.	Long.	Date	Species Name	Phase	% Mortality		Sign.
					Test	Control	
Monitoring Program: GLNPO/ARCS							
42.8606	78.8489	89-10-07	Chironomus Tentans	S	6.70	13.30	no
			Hyallella Azteca	S	23.75	5.00	no
			Hyallella Azteca	S	28.75	20.00	no
42.8606	78.8703	89-10-08	Chironomus Tentans	S	6.70	13.30	no
			Hyallella Azteca	S	15.00	5.00	no
			Hyallella Azteca	S	17.50	20.00	no
42.8614	78.8336	89-10-07	Chironomus Tentans	S	0.00	13.30	no
			Hyallella Azteca	S	16.25	5.00	no
			Hyallella Azteca	S	31.25	20.00	no
42.8614	78.8456	89-10-08	Chironomus Tentans	S	6.70	13.30	no
			Hyallella Azteca	S	6.25	20.00	no
			Hyallella Azteca	S	7.50	5.00	no

Lat.	Long.	Date	Species Name	Phase	% Mortality		Sign.
					Test	Control	
42.8778	78.8844	89-10-06	Chironomus Tentans	S	6.70	13.30	no
			Hyallella Azteca	S	25.00	5.00	no
			Hyallella Azteca	S	36.25	20.00	no