

**Watershed Summary Information**

<b>Accounting Unit Name:</b>	Upper Tennessee
<b>State(s):</b>	TN
<b>Political Boundaries:</b>	Anderson, Knox, Roane, Loudon, Union, Grainger, Campbell
<b>Major Waterways:</b>	Clinch R Bullrun Cr Poplar Cr Beaver Cr Melton Hill L
<b>Number of Stations in Watershed:</b>	Tier1 - 61 Tier2 - 14 Tier3 - 4

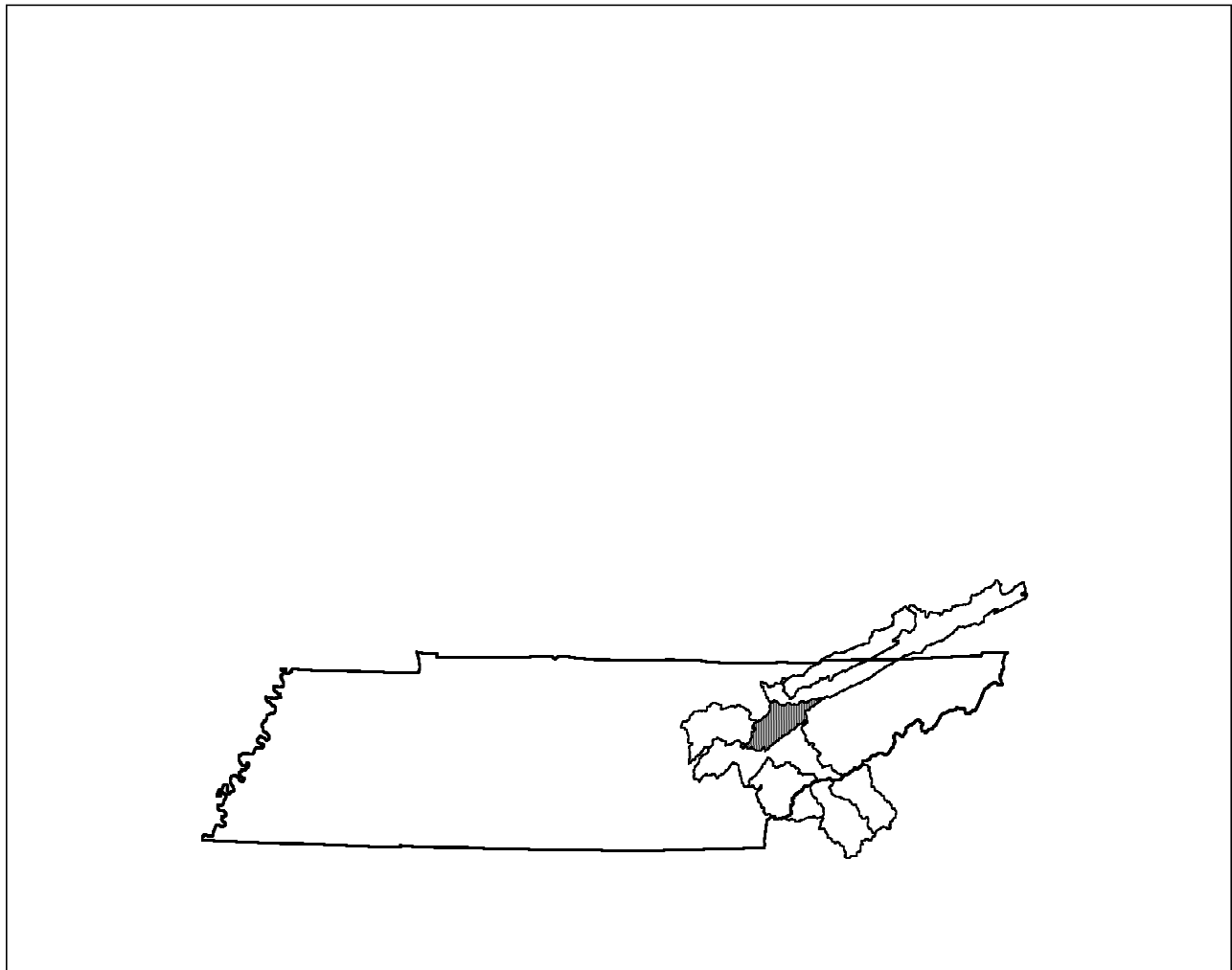


Figure 99. Watershed Location Map

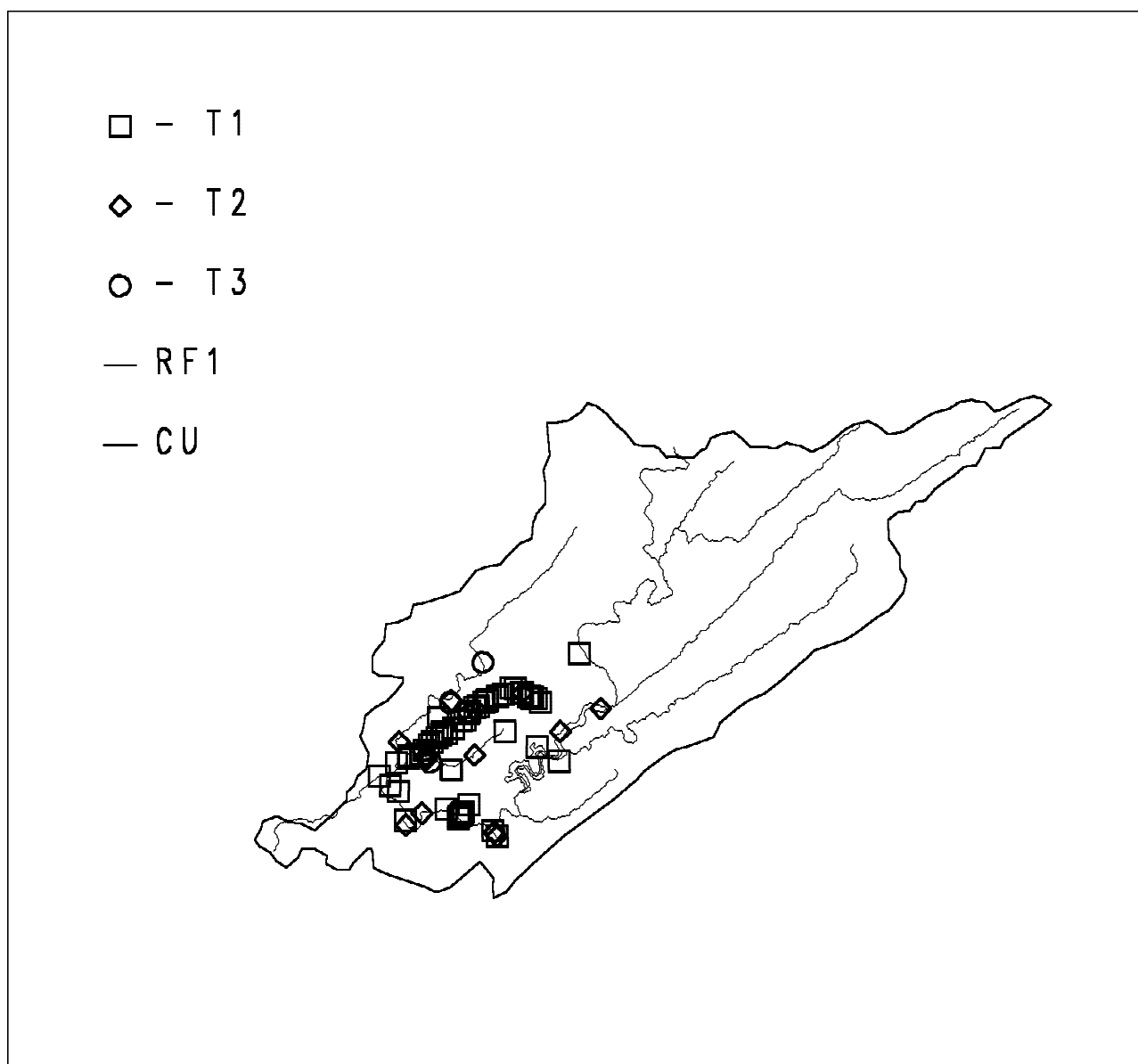


Figure 100. Major Waterways and Location of Sampling Stations

## Data Source(s) Used in Evaluation

Source: **STORET** Agency: **112WRD**  
 Monitoring Program: **US Geological Survey Data**  
 Num. of Stations: 2 Date Range: 1980

Source: **STORET** Agency: **131TVAC**  
 Monitoring Program: **Tennessee Valley Authority Water, Sediment And Tissue Data**  
 Num. of Stations: 7 Date Range: 1982-93

Source: **STORET** Agency: **132TVAC**  
 Monitoring Program: **WQ Monitoring Tenn Valley Authority**  
 Num. of Stations: 70 Date Range: 1983-84

## 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
Mercury	75	57	46	11	46	5	.	6
Nickel	60	38	.	38	.	38	.	.
Lead	56	37	.	37	.	36	.	1
Cadmium	62	27	.	27	.	27	.	.
Silver	58	26	19	7	19	7	.	.
Arsenic	58	26	.	26	.	16	.	10
Polychlorinated biphenyls	55	24	24	.	11	.	13	11
Bis(2-ethylhexyl)phthalate	44	23	3	20	3	20	.	4
Fluoranthene	44	18	1	17	1	17	.	.
Pyrene	44	15	2	13	2	13	.	.
Copper	28	11	.	11	.	11	.	.
Chromium	62	10	2	8	2	8	.	.
Phenanthrene	39	9	3	6	3	6	.	.
Zinc	28	5	.	5	.	5	.	.
Anthracene	44	4	2	2	2	2	.	.
Chlordane	22	4	.	4	.	2	.	4
Benzo(a)anthracene	44	3	1	2	1	2	.	3
Beryllium	13	3	.	3	.	.	.	3
Chrysene	44	2	1	1	1	1	.	.
Heptachlor epoxide	22	2	.	2	.	.	.	2
Naphthalene	44	1	1	.	1	.	.	.
Aldrin	22	1	.	1	.	.	.	1
Benzo(a)pyrene	44	1	.	1	.	1	.	1
Butyl benzyl phthalate	44	1	.	1	.	1	.	.
BHC	22	1	.	1	.	.	.	1
Tetrachloroethene	16	1	.	1	.	1	.	.
Toxaphene	22	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	45	0.00	0.00	0	.	.
Acenaphthylene	45	0.00	0.00	0	.	.
Acrylonitrile	11	0.00	0.00	0	.	.
Aldrin	18	0.00	0.00	0	.	.
Anthracene	45	152.89	0.00	4	4100.00	580.00
Antimony	11	209.09	200.00	8	500.00	200.00
Arsenic	45	8548.89	6800.00	45	35000.00	3600.00
Benzene	11	0.00	0.00	0	.	.
Benzo(a)anthracene	45	87.11	0.00	3	1800.00	920.00

Sediment Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Benzo(a)pyrene	45	20.00	0.00	1	900.00	900.00
Benzo(b)fluoranthene	45	0.00	0.00	0	.	.
Benzo(ghi)perylene	45	0.00	0.00	0	.	.
Benzo(k)fluoranthene	45	0.00	0.00	0	.	.
Bis(2-ethylhexyl)phthalate	45	1121.78	780.00	25	9500.00	700.00
Bromophenyl phenyl ether, 4-	45	0.00	0.00	0	.	.
Butyl benzyl phthalate	45	28.89	0.00	1	1300.00	1300.00
BHC	72	0.00	0.00	0	.	.
Cadmium	55	2005.45	1100.00	34	10000.00	500.00
Chlordane	18	3.17	0.00	2	32.00	25.00
Chlorobenzene	11	0.00	0.00	0	.	.
Chromium	55	54618.18	35000.00	54	290000.0	10000.00
Chrysene	45	122.67	0.00	2	4600.00	920.00
Copper	21	45761.90	41000.00	21	150000.0	10000.00
Di-n-butyl phthalate	45	13.33	0.00	1	600.00	600.00
Di-n-octyl phthalate	45	46.67	0.00	1	2100.00	2100.00
Dibenzo(a,h)anthracene	45	0.00	0.00	0	.	.
Dibromochloromethane	11	0.00	0.00	0	.	.
Dichlorobenzene, 1,2-	45	0.00	0.00	0	.	.
Dichlorobenzene, 1,3-	45	0.00	0.00	0	.	.
Dichlorobenzene, 1,4-	45	0.00	0.00	0	.	.
Dichloroethane 1,1-	11	0.00	0.00	0	.	.
Dichloroethane 1,2-	11	0.00	0.00	0	.	.
Dichloroethene, trans-1,2-	11	0.00	0.00	0	.	.
Dichloromethane	11	59.09	40.00	9	180.00	25.00
Dichloropropane, 1,2-	11	0.00	0.00	0	.	.
Dieldrin	18	0.00	0.00	0	.	.
Diethyl phthalate	45	0.00	0.00	0	.	.
Dimethyl phthalate	45	0.00	0.00	0	.	.
Dimethylphenol, 2,4-	11	0.00	0.00	0	.	.
DDT	54	0.00	0.00	0	.	.
Endosulfan, alpha-	18	0.00	0.00	0	.	.
Endosulfan, beta-	18	0.00	0.00	0	.	.
Endrin	18	0.00	0.00	0	.	.
Ethylbenzene	11	0.00	0.00	0	.	.
Fluoranthene	45	921.11	0.00	20	13000.00	590.00
Fluorene	45	0.00	0.00	0	.	.
Heptachlor	18	0.00	0.00	0	.	.
Heptachlor epoxide	18	0.00	0.00	0	.	.
Hexachlorobenzene	45	0.00	0.00	0	.	.
Hexachlorobutadiene	45	0.00	0.00	0	.	.
Hexachloroethane	45	0.00	0.00	0	.	.
Indeno(1,2,3-cd)pyrene	45	0.00	0.00	0	.	.
Isophorone	45	0.00	0.00	0	.	.

Sediment Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Lead	55	54909.09	39000.00	55	170000.0	18000.00
Mercury	314	23360.00	13000.00	304	240000.0	110.00
Methoxychlor	7	1.43	0.00	1	10.00	10.00
Naphthalene	45	26.67	0.00	1	1200.00	1200.00
Nickel	53	37264.15	28000.00	50	200000.0	5000.00
Nitrosodiphenylamine, N-	45	0.00	0.00	0	.	.
Pentachlorophenol	11	0.00	0.00	0	.	.
Phenanthrene	45	390.44	0.00	10	4500.00	580.00
Phenol	11	0.00	0.00	0	.	.
Polychlorinated biphenyls	365	62.60	0.00	22	4000.00	200.00
Pyrene	45	675.56	0.00	17	10000.00	620.00
Silver	46	5454.35	2500.00	30	45000.00	1000.00
Tetrachloroethane, 1,1,2,2-	11	0.00	0.00	0	.	.
Tetrachloroethene	11	6.18	0.00	1	68.00	68.00
Tetrachloromethane	11	0.00	0.00	0	.	.
Toluene	11	1.09	0.00	1	12.00	12.00
Toxaphene	18	0.00	0.00	0	.	.
Tribromomethane/Bromoform	11	0.00	0.00	0	.	.
Trichlorobenzene, 1,2,4-	45	0.00	0.00	0	.	.
Trichloroethane, 1,1,1-	11	0.00	0.00	0	.	.
Trichloroethane, 1,1,2-	11	0.00	0.00	0	.	.
Trichloroethene	11	0.00	0.00	0	.	.
Trichlorofluoromethane	11	0.00	0.00	0	.	.
Trichloromethane/Chloroform	11	0.00	0.00	0	.	.
Zinc	21	121428.6	110000.0	21	370000.0	53000.00

## Tissue Residue Data: Chemical Summary

Tissue Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Acenaphthene	47	0.00	0.00	0	.	.
Acrolein	49	0.00	0.00	0	.	.
Acrylonitrile	49	0.00	0.00	0	.	.
Aldrin	63	0.32	0.00	1	20.00	20.00
Anthracene	47	0.00	0.00	0	.	.
Antimony	66	30.30	0.00	2	1000.00	1000.00
Arsenic	117	68.89	0.00	48	400.00	20.00
Benzene	49	0.00	0.00	0	.	.
Benzidine	47	0.00	0.00	0	.	.
Benzo(a)anthracene	47	0.00	0.00	0	.	.
Benzo(a)pyrene	47	0.00	0.00	0	.	.
Benzo(b)fluoranthene	47	0.00	0.00	0	.	.
Benzo(k)fluoranthene	47	0.00	0.00	0	.	.

Tissue Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Beryllium	66	7.58	0.00	17	60.00	20.00
Bis(chloromethyl)ether	49	0.00	0.00	0	.	.
Bis(2-chloroethyl)ether	47	0.00	0.00	0	.	.
Bis(2-ethylhexyl)phthalate	47	0.00	0.00	0	.	.
Bromodichloromethane	49	0.00	0.00	0	.	.
Bromomethane	49	0.00	0.00	0	.	.
Bromophenyl phenyl ether, 4-	47	0.00	0.00	0	.	.
Butyl benzyl phthalate	47	0.00	0.00	0	.	.
BHC	252	0.36	0.00	3	60.00	10.00
Cadmium	118	64.52	0.00	57	1600.00	2.00
Chlordane	157	11.08	0.00	47	120.00	10.00
Chlorobenzene	49	0.00	0.00	0	.	.
Chloroethane	49	0.00	0.00	0	.	.
Chloroethene	49	0.00	0.00	0	.	.
Chloroethylvinyl ether, 2-	49	0.00	0.00	0	.	.
Chloromethane	49	0.00	0.00	0	.	.
Chloronaphthalene, 2-	47	0.00	0.00	0	.	.
Chlorophenol, 2-	47	0.00	0.00	0	.	.
Chromium	118	113.05	40.00	89	1500.00	20.00
Chrysene	47	0.00	0.00	0	.	.
Copper	66	786.36	420.00	54	10000.00	140.00
Di-n-butyl phthalate	47	27.66	0.00	1	1300.00	1300.00
Di-n-octyl phthalate	47	0.00	0.00	0	.	.
Dibenzo(a,h)anthracene	47	0.00	0.00	0	.	.
Dibromochloromethane	49	0.00	0.00	0	.	.
Dichlorobenzene, 1,2-	47	0.00	0.00	0	.	.
Dichlorobenzene, 1,3-	47	0.00	0.00	0	.	.
Dichlorobenzene, 1,4-	47	0.00	0.00	0	.	.
Dichlorobenzidine, 3,3'-	47	0.00	0.00	0	.	.
Dichlorodifluoromethane	49	0.00	0.00	0	.	.
Dichloroethane 1,1-	49	0.00	0.00	0	.	.
Dichloroethane 1,2-	49	0.00	0.00	0	.	.
Dichloroethene, trans-1,2-	49	0.00	0.00	0	.	.
Dichloroethene, 1,1-	49	0.00	0.00	0	.	.
Dichloromethane	49	18.98	0.00	2	480.00	450.00
Dichlorophenol, 2,4-	47	0.00	0.00	0	.	.
Dichloropropane, 1,2-	49	0.00	0.00	0	.	.
Dichloropropene, 1,3-	49	0.00	0.00	0	.	.
Dieldrin	63	0.00	0.00	0	.	.
Diethyl phthalate	47	0.00	0.00	0	.	.
Dimethyl phthalate	47	0.00	0.00	0	.	.
Dimethylphenol, 2,4-	47	0.00	0.00	0	.	.
Dinitrophenol, 2,4-	47	0.00	0.00	0	.	.
Dinitrotoluene, 2,4-	47	0.00	0.00	0	.	.

Tissue Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Dinitrotoluene, 2,6-	47	0.00	0.00	0	.	.
Diphenylhydrazine, 1,2-	47	0.00	0.00	0	.	.
DDT	189	23.81	0.00	60	220.00	20.00
Endosulfan, alpha-	63	2.22	0.00	4	50.00	20.00
Endosulfan, beta-	63	0.00	0.00	0	.	.
Endrin	63	0.00	0.00	0	.	.
Ethylbenzene	49	0.00	0.00	0	.	.
Fluoranthene	47	0.00	0.00	0	.	.
Fluorene	47	0.00	0.00	0	.	.
Heptachlor	63	0.00	0.00	0	.	.
Heptachlor epoxide	63	1.90	0.00	3	60.00	20.00
Hexachlorobenzene	47	0.00	0.00	0	.	.
Hexachlorobutadiene	47	0.00	0.00	0	.	.
Hexachloroethane	47	0.00	0.00	0	.	.
Indeno(1,2,3-cd)pyrene	47	0.00	0.00	0	.	.
Isophorone	47	0.00	0.00	0	.	.
Lead	66	151.82	70.00	61	1600.00	20.00
Mercury	118	387.37	225.00	77	1700.00	100.00
Mirex/Dechlorane	16	0.00	0.00	0	.	.
Naphthalene	47	0.00	0.00	0	.	.
Nickel	118	84.75	0.00	6	3000.00	1000.00
Nitrobenzene	47	0.00	0.00	0	.	.
Nitrophenol, 4	47	0.00	0.00	0	.	.
Nitrosodi-n-propylamine, N-	47	0.00	0.00	0	.	.
Nitrosodiphenylamine, N-	47	0.00	0.00	0	.	.
Pentachlorophenol	47	0.00	0.00	0	.	.
Phenol	47	0.00	0.00	0	.	.
Polychlorinated biphenyls	1096	209.74	0.00	231	11700.00	30.00
Pyrene	47	0.00	0.00	0	.	.
Selenium	66	471.21	405.00	65	1800.00	60.00
Silver	117	30.77	0.00	9	600.00	200.00
Tetrachloroethane, 1,1,2,2-	49	0.00	0.00	0	.	.
Tetrachloroethene	49	0.00	0.00	0	.	.
Tetrachloromethane	49	0.00	0.00	0	.	.
Toluene	49	0.00	0.00	0	.	.
Toxaphene	63	7.94	0.00	1	500.00	500.00
Tribromomethane/Bromoform	49	0.00	0.00	0	.	.
Trichlorobenzene, 1,2,4-	47	0.00	0.00	0	.	.
Trichloroethane, 1,1,1-	49	0.00	0.00	0	.	.
Trichloroethane, 1,1,2-	49	0.00	0.00	0	.	.
Trichloroethene	49	0.00	0.00	0	.	.
Trichlorofluoromethane	49	7.47	0.00	7	66.00	50.00
Trichloromethane/Chloroform	49	0.84	0.00	2	21.00	20.00
Trichlorophenol, 2,4,6-	47	0.00	0.00	0	.	.

Tissue Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Zinc	66	7704.55	7200.00	66	16000.00	4900.00