

Watershed Summary Information

| | |
|---|--|
| Accounting Unit Name: | Lower Tennessee |
| State(s): | TN KY |
| Political Boundaries: | Benton, Humphreys, Henry, Stewart, Houston, Calloway, Carroll, Marshall, Livingston, Lyon, Trigg, Henderson, Dickson |
| Major Waterways: | Tennessee R Whiteoak Cr Big Sandy Cr Trace Cr Kentucky L |
| Number of Stations in Watershed: | Tier1 - 15 Tier2 - 14 Tier3 - 1 |

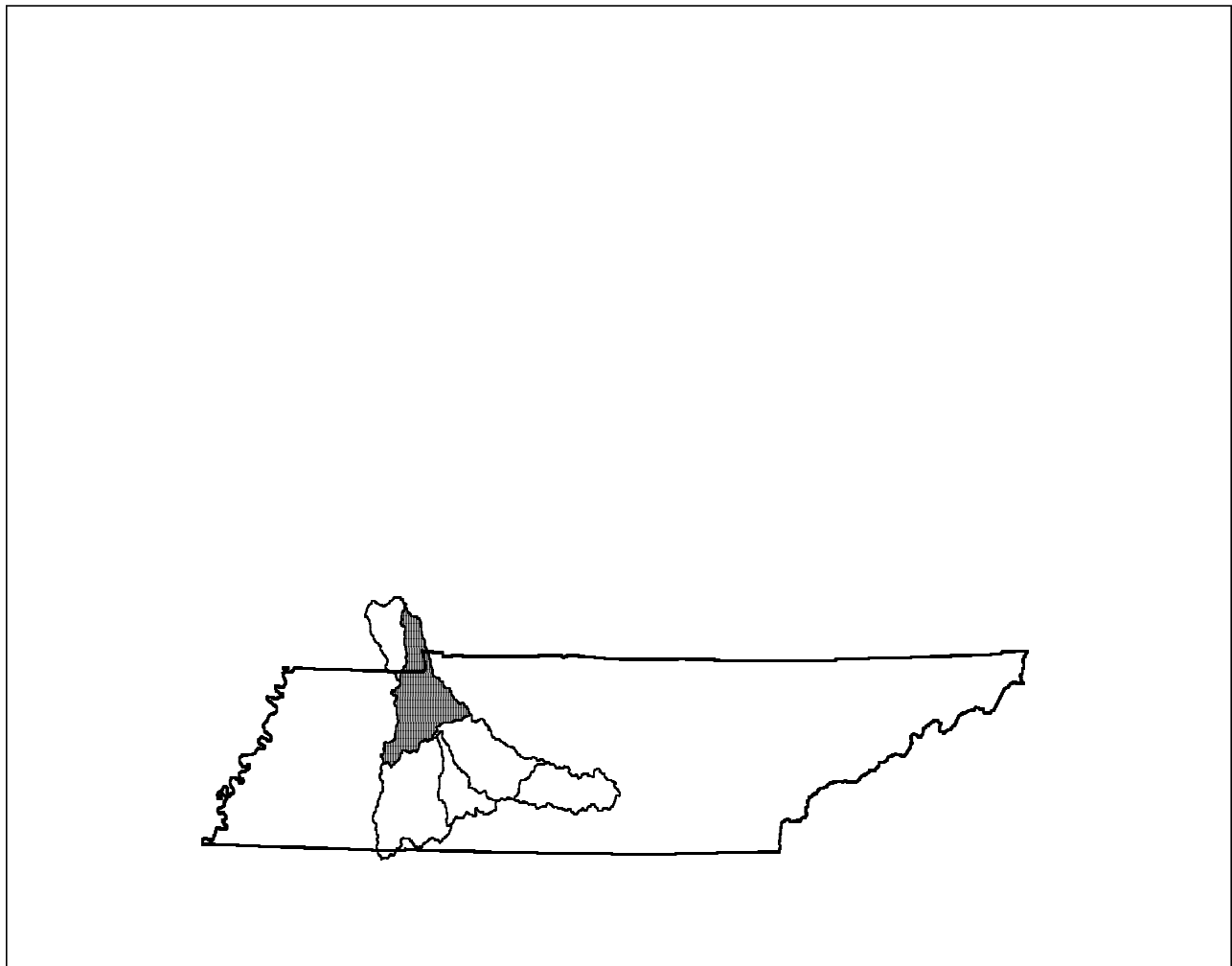


Figure 111. Watershed Location Map

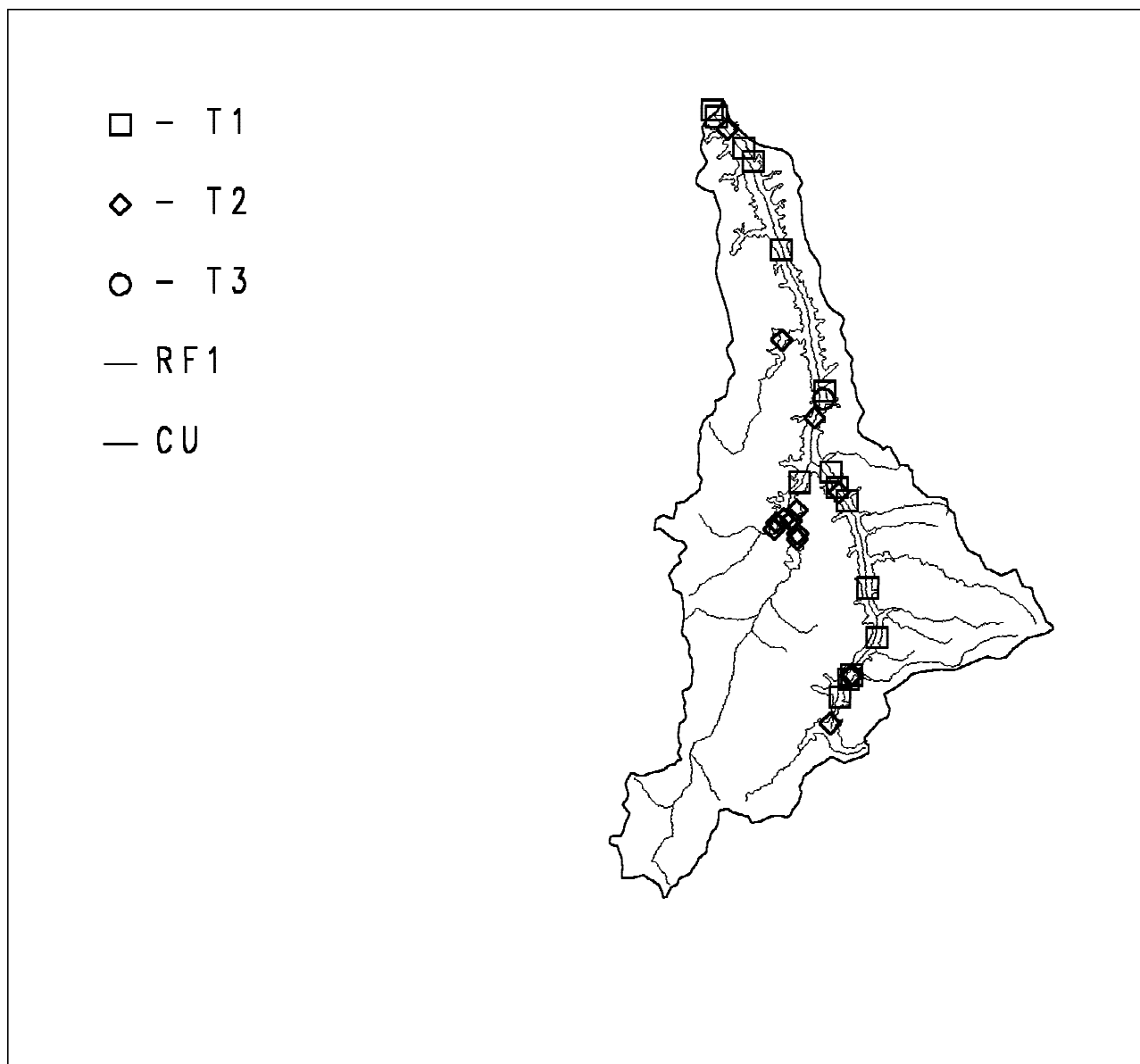


Figure 112. Major Waterways and Location of Sampling Stations

Data Source(s) Used in Evaluation

Source: **STORET** Agency: **131TVAC**

Monitoring Program: **Tennessee Valley Authority Water, Sediment And Tissue Data**

Num. of Stations: 28 Date Range: 1982-93

Source: **STORET** Agency: **21TNWQ**

Monitoring Program: **Tennessee Dept of Public Health Water, Sediment & Tissue Data**

Num. of Stations: 2 Date Range: 1980-82

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 |
| Nickel | 28 | 15 | . | 15 | . | 15 | . | . |
| Polychlorinated biphenyls | 29 | 14 | 14 | . | . | . | 14 | . |
| Arsenic | 23 | 9 | . | 9 | . | 1 | . | 8 |
| Cadmium | 29 | 9 | . | 9 | . | 9 | . | . |
| Mercury | 30 | 9 | . | 9 | . | 9 | . | . |
| Bis(2-ethylhexyl)phthalate | 12 | 3 | 1 | 2 | 1 | 2 | . | 1 |
| Copper | 29 | 2 | . | 2 | . | 2 | . | . |
| DDT | 29 | 2 | . | 2 | . | . | . | 2 |
| Lead | 29 | 2 | . | 2 | . | 2 | . | . |
| Chlordane | 29 | 1 | . | 1 | . | . | . | 1 |
| Zinc | 28 | 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 | 9 | 0.00 | 0.00 | 0 | . | . |
| Acenaphthylene | 9 | 0.00 | 0.00 | 0 | . | . |
| Acrylonitrile | 9 | 0.00 | 0.00 | 0 | . | . |
| Aldrin | 22 | 0.00 | 0.00 | 0 | . | . |
| Anthracene | 9 | 0.00 | 0.00 | 0 | . | . |
| Antimony | 9 | 374.44 | 360.00 | 9 | 500.00 | 300.00 |
| Arsenic | 10 | 2023.00 | 1400.00 | 10 | 8000.00 | 270.00 |
| Benzene | 9 | 0.00 | 0.00 | 0 | . | . |
| Benzo(a)anthracene | 9 | 0.00 | 0.00 | 0 | . | . |
| Benzo(a)pyrene | 9 | 0.00 | 0.00 | 0 | . | . |
| Benzo(b)fluoranthene | 9 | 0.00 | 0.00 | 0 | . | . |
| Benzo(ghi)perylene | 9 | 0.00 | 0.00 | 0 | . | . |
| Benzo(k)fluoranthene | 9 | 0.00 | 0.00 | 0 | . | . |
| Bis(2-ethylhexyl)phthalate | 9 | 1054.44 | 0.00 | 3 | 7770.00 | 680.00 |
| Bromophenyl phenyl ether, 4- | 9 | 0.00 | 0.00 | 0 | . | . |
| Butyl benzyl phthalate | 9 | 0.00 | 0.00 | 0 | . | . |
| BHC | 88 | 0.00 | 0.00 | 0 | . | . |
| Cadmium | 23 | 1652.17 | 0.00 | 9 | 6000.00 | 2000.00 |
| Chlordane | 22 | 0.00 | 0.00 | 0 | . | . |
| Chlorobenzene | 9 | 0.00 | 0.00 | 0 | . | . |
| Chromium | 17 | 25647.06 | 24000.00 | 17 | 51000.00 | 14000.00 |
| Chrysene | 9 | 0.00 | 0.00 | 0 | . | . |
| Copper | 23 | 16260.87 | 17000.00 | 23 | 27000.00 | 7000.00 |
| Di-n-butyl phthalate | 9 | 0.00 | 0.00 | 0 | . | . |
| Di-n-octyl phthalate | 9 | 0.00 | 0.00 | 0 | . | . |

| Sediment Parameter | Total Observations | | | Detected Observations | | |
|-----------------------------|--------------------|---------------|-----------------|-----------------------|--------------|--------------|
| | Num. | Mean (ppb) | Median (ppb) | Num. | Max (ppb) | Min (ppb) |
| Dibenzo(a,h)anthracene | 9 | 0.00 | 0.00 | 0 | . | . |
| Dibromochloromethane | 9 | 0.00 | 0.00 | 0 | . | . |
| Dichlorobenzene, 1,2- | 9 | 0.00 | 0.00 | 0 | . | . |
| Dichlorobenzene, 1,3- | 9 | 0.00 | 0.00 | 0 | . | . |
| Dichlorobenzene, 1,4- | 9 | 0.00 | 0.00 | 0 | . | . |
| Dichloroethane 1,1- | 9 | 0.00 | 0.00 | 0 | . | . |
| Dichloroethane 1,2- | 9 | 0.00 | 0.00 | 0 | . | . |
| Dichloroethene, trans-1,2- | 9 | 0.00 | 0.00 | 0 | . | . |
| Dichloromethane | 9 | 0.00 | 0.00 | 0 | . | . |
| Dichloropropane, 1,2- | 9 | 0.00 | 0.00 | 0 | . | . |
| Dieldrin | 22 | 0.00 | 0.00 | 0 | . | . |
| Diethyl phthalate | 9 | 0.00 | 0.00 | 0 | . | . |
| Dimethyl phthalate | 9 | 0.00 | 0.00 | 0 | . | . |
| Dimethylphenol, 2,4- | 9 | 0.00 | 0.00 | 0 | . | . |
| DDT | 66 | 0.00 | 0.00 | 0 | . | . |
| Endosulfan, alpha- | 22 | 0.00 | 0.00 | 0 | . | . |
| Endosulfan, beta- | 22 | 0.00 | 0.00 | 0 | . | . |
| Endrin | 22 | 0.00 | 0.00 | 0 | . | . |
| Ethylbenzene | 9 | 0.00 | 0.00 | 0 | . | . |
| Fluoranthene | 9 | 0.00 | 0.00 | 0 | . | . |
| Fluorene | 9 | 0.00 | 0.00 | 0 | . | . |
| Heptachlor | 22 | 0.00 | 0.00 | 0 | . | . |
| Heptachlor epoxide | 22 | 0.00 | 0.00 | 0 | . | . |
| Hexachlorobenzene | 9 | 0.00 | 0.00 | 0 | . | . |
| Hexachlorobutadiene | 9 | 0.00 | 0.00 | 0 | . | . |
| Hexachloroethane | 9 | 0.00 | 0.00 | 0 | . | . |
| Indeno(1,2,3-cd)pyrene | 9 | 0.00 | 0.00 | 0 | . | . |
| Isophorone | 9 | 0.00 | 0.00 | 0 | . | . |
| Lead | 23 | 19097.39 | 20000.00 | 23 | 62000.00 | 20.00 |
| Mercury | 23 | 164.35 | 150.00 | 17 | 450.00 | 110.00 |
| Methoxychlor | 7 | 0.00 | 0.00 | 0 | . | . |
| Naphthalene | 9 | 0.00 | 0.00 | 0 | . | . |
| Nickel | 23 | 21869.57 | 22000.00 | 23 | 39000.00 | 10000.00 |
| Nitrosodiphenylamine, N- | 9 | 0.00 | 0.00 | 0 | . | . |
| Pentachlorophenol | 9 | 0.00 | 0.00 | 0 | . | . |
| Phenanthrene | 9 | 0.00 | 0.00 | 0 | . | . |
| Phenol | 9 | 0.00 | 0.00 | 0 | . | . |
| Polychlorinated biphenyls | 156 | 0.00 | 0.00 | 0 | . | . |
| Pyrene | 9 | 0.00 | 0.00 | 0 | . | . |
| Silver | 10 | 0.00 | 0.00 | 0 | . | . |
| Tetrachloroethane, 1,1,2,2- | 9 | 0.00 | 0.00 | 0 | . | . |
| Tetrachloroethene | 9 | 0.00 | 0.00 | 0 | . | . |
| Tetrachloromethane | 9 | 0.00 | 0.00 | 0 | . | . |
| Toluene | 9 | 0.00 | 0.00 | 0 | . | . |

| Sediment Parameter | Total Observations | | | Detected Observations | | |
|-----------------------------|--------------------|------------|--------------|-----------------------|-----------|-----------|
| | Num. | Mean (ppb) | Median (ppb) | Num. | Max (ppb) | Min (ppb) |
| Toxaphene | 22 | 0.00 | 0.00 | 0 | . | . |
| Tribromomethane/Bromoform | 9 | 0.00 | 0.00 | 0 | . | . |
| Trichlorobenzene, 1,2,4- | 9 | 0.00 | 0.00 | 0 | . | . |
| Trichloroethane, 1,1,1- | 9 | 0.00 | 0.00 | 0 | . | . |
| Trichloroethane, 1,1,2- | 9 | 0.00 | 0.00 | 0 | . | . |
| Trichloroethene | 9 | 0.00 | 0.00 | 0 | . | . |
| Trichlorofluoromethane | 9 | 0.00 | 0.00 | 0 | . | . |
| Trichloromethane/Chloroform | 9 | 0.00 | 0.00 | 0 | . | . |
| Zinc | 23 | 101956.5 | 91000.00 | 23 | 370000.0 | 44000.00 |

Tissue Residue Data: Chemical Summary

| Tissue Parameter | Total Observations | | | Detected Observations | | |
|------------------------------|--------------------|------------|--------------|-----------------------|-----------|-----------|
| | Num. | Mean (ppb) | Median (ppb) | Num. | Max (ppb) | Min (ppb) |
| Acenaphthene | 3 | 0.00 | 0.00 | 0 | . | . |
| Acrolein | 3 | 0.00 | 0.00 | 0 | . | . |
| Acrylonitrile | 3 | 0.00 | 0.00 | 0 | . | . |
| Aldrin | 23 | 0.00 | 0.00 | 0 | . | . |
| Anthracene | 3 | 0.00 | 0.00 | 0 | . | . |
| Antimony | 27 | 0.00 | 0.00 | 0 | . | . |
| Arsenic | 37 | 56.49 | 20.00 | 19 | 310.00 | 20.00 |
| Benzene | 3 | 0.00 | 0.00 | 0 | . | . |
| Benzidine | 3 | 0.00 | 0.00 | 0 | . | . |
| Benzo(a)anthracene | 3 | 0.00 | 0.00 | 0 | . | . |
| Benzo(a)pyrene | 3 | 0.00 | 0.00 | 0 | . | . |
| Benzo(b)fluoranthene | 3 | 0.00 | 0.00 | 0 | . | . |
| Benzo(k)fluoranthene | 3 | 0.00 | 0.00 | 0 | . | . |
| Beryllium | 27 | 0.00 | 0.00 | 0 | . | . |
| Bis(2-chloroethyl)ether | 3 | 0.00 | 0.00 | 0 | . | . |
| Bis(2-ethylhexyl)phthalate | 3 | 0.00 | 0.00 | 0 | . | . |
| Bromodichloromethane | 3 | 0.00 | 0.00 | 0 | . | . |
| Bromomethane | 3 | 0.00 | 0.00 | 0 | . | . |
| Bromophenyl phenyl ether, 4- | 3 | 0.00 | 0.00 | 0 | . | . |
| Butyl benzyl phthalate | 3 | 0.00 | 0.00 | 0 | . | . |
| BHC | 87 | 0.11 | 0.00 | 1 | 10.00 | 10.00 |
| Cadmium | 36 | 38.61 | 1.50 | 18 | 200.00 | 3.00 |
| Chlordane | 42 | 10.00 | 0.00 | 11 | 210.00 | 10.00 |
| Chlorobenzene | 3 | 0.00 | 0.00 | 0 | . | . |
| Chloroethane | 3 | 0.00 | 0.00 | 0 | . | . |
| Chloroethene | 3 | 0.00 | 0.00 | 0 | . | . |
| Chloroethylvinyl ether, 2- | 3 | 0.00 | 0.00 | 0 | . | . |
| Chloromethane | 3 | 0.00 | 0.00 | 0 | . | . |
| Chloronaphthalene, 2- | 3 | 0.00 | 0.00 | 0 | . | . |

| Tissue Parameter | Total Observations | | | Detected Observations | | |
|-----------------------------|--------------------|---------------|-----------------|-----------------------|--------------|--------------|
| | Num. | Mean (ppb) | Median (ppb) | Num. | Max (ppb) | Min (ppb) |
| Chlorophenol, 2- | 3 | 0.00 | 0.00 | 0 | . | . |
| Chromium | 33 | 93.33 | 60.00 | 27 | 220.00 | 30.00 |
| Chrysene | 3 | 0.00 | 0.00 | 0 | . | . |
| Copper | 33 | 393.33 | 0.00 | 14 | 2200.00 | 200.00 |
| Di-n-butyl phthalate | 3 | 0.00 | 0.00 | 0 | . | . |
| Di-n-octyl phthalate | 3 | 0.00 | 0.00 | 0 | . | . |
| Dibenzo(a,h)anthracene | 3 | 0.00 | 0.00 | 0 | . | . |
| Dibromochloromethane | 3 | 0.00 | 0.00 | 0 | . | . |
| Dichlorobenzene, 1,2- | 3 | 0.00 | 0.00 | 0 | . | . |
| Dichlorobenzene, 1,3- | 3 | 0.00 | 0.00 | 0 | . | . |
| Dichlorobenzene, 1,4- | 3 | 0.00 | 0.00 | 0 | . | . |
| Dichlorobenzidine, 3,3'- | 3 | 0.00 | 0.00 | 0 | . | . |
| Dichloroethane 1,1- | 3 | 0.00 | 0.00 | 0 | . | . |
| Dichloroethane 1,2- | 3 | 0.00 | 0.00 | 0 | . | . |
| Dichloroethene, trans-1,2- | 3 | 0.00 | 0.00 | 0 | . | . |
| Dichloroethene, 1,1- | 3 | 0.00 | 0.00 | 0 | . | . |
| Dichloromethane | 3 | 86.67 | 100.00 | 3 | 110.00 | 50.00 |
| Dichlorophenol, 2,4- | 3 | 0.00 | 0.00 | 0 | . | . |
| Dichlorophenoxyacetic acid, | 3 | 0.00 | 0.00 | 0 | . | . |
| Dichloropropane, 1,2- | 3 | 0.00 | 0.00 | 0 | . | . |
| Dieldrin | 23 | 0.00 | 0.00 | 0 | . | . |
| Diethyl phthalate | 3 | 0.00 | 0.00 | 0 | . | . |
| Dimethyl phthalate | 3 | 0.00 | 0.00 | 0 | . | . |
| Dimethylphenol, 2,4- | 3 | 0.00 | 0.00 | 0 | . | . |
| Dinitrophenol, 2,4- | 3 | 0.00 | 0.00 | 0 | . | . |
| Dinitrotoluene, 2,4- | 3 | 0.00 | 0.00 | 0 | . | . |
| Dinitrotoluene, 2,6- | 3 | 0.00 | 0.00 | 0 | . | . |
| DDT | 75 | 98.40 | 0.00 | 34 | 460.00 | 20.00 |
| Endosulfan, alpha- | 22 | 3.64 | 0.00 | 3 | 30.00 | 20.00 |
| Endosulfan, beta- | 22 | 0.00 | 0.00 | 0 | . | . |
| Endrin | 23 | 5.22 | 0.00 | 8 | 30.00 | 10.00 |
| Ethylbenzene | 3 | 10.00 | 10.00 | 3 | 10.00 | 10.00 |
| Fluoranthene | 3 | 0.00 | 0.00 | 0 | . | . |
| Fluorene | 3 | 0.00 | 0.00 | 0 | . | . |
| Heptachlor | 22 | 0.00 | 0.00 | 0 | . | . |
| Heptachlor epoxide | 22 | 0.00 | 0.00 | 0 | . | . |
| Hexachlorobenzene | 3 | 0.00 | 0.00 | 0 | . | . |
| Hexachlorobutadiene | 6 | 0.00 | 0.00 | 0 | . | . |
| Hexachloroethane | 3 | 0.00 | 0.00 | 0 | . | . |
| Indeno(1,2,3-cd)pyrene | 3 | 0.00 | 0.00 | 0 | . | . |
| Isophorone | 3 | 0.00 | 0.00 | 0 | . | . |
| Lead | 36 | 148.06 | 65.00 | 32 | 600.00 | 20.00 |
| Mercury | 58 | 145.17 | 135.00 | 42 | 490.00 | 50.00 |
| Methoxychlor | 1 | 0.00 | 0.00 | 0 | . | . |

| Tissue Parameter | Total Observations | | | Detected Observations | | |
|-----------------------------|--------------------|---------------|-----------------|-----------------------|--------------|--------------|
| | Num. | Mean (ppb) | Median (ppb) | Num. | Max (ppb) | Min (ppb) |
| Mirex/Dechlorane | 10 | 0.00 | 0.00 | 0 | . | . |
| Naphthalene | 3 | 0.00 | 0.00 | 0 | . | . |
| Nickel | 27 | 0.00 | 0.00 | 0 | . | . |
| Nitrobenzene | 3 | 0.00 | 0.00 | 0 | . | . |
| Nitrophenol, 4 | 3 | 0.00 | 0.00 | 0 | . | . |
| Nitrosodi-n-propylamine, N- | 3 | 0.00 | 0.00 | 0 | . | . |
| Nitrosodiphenylamine, N- | 3 | 0.00 | 0.00 | 0 | . | . |
| Pentachlorophenol | 3 | 0.00 | 0.00 | 0 | . | . |
| Polychlorinated biphenyls | 178 | 104.16 | 0.00 | 49 | 2300.00 | 100.00 |
| Pyrene | 3 | 0.00 | 0.00 | 0 | . | . |
| Selenium | 30 | 271.33 | 115.00 | 24 | 1000.00 | 50.00 |
| Silver | 20 | 0.00 | 0.00 | 0 | . | . |
| Tetrachloroethane, 1,1,2,2- | 3 | 0.00 | 0.00 | 0 | . | . |
| Tetrachloroethene | 3 | 0.00 | 0.00 | 0 | . | . |
| Tetrachloromethane | 3 | 0.00 | 0.00 | 0 | . | . |
| Toluene | 3 | 10.00 | 10.00 | 3 | 10.00 | 10.00 |
| Toxaphene | 22 | 0.00 | 0.00 | 0 | . | . |
| Tribromomethane/Bromoform | 3 | 0.00 | 0.00 | 0 | . | . |
| Trichlorobenzene, 1,2,4- | 3 | 0.00 | 0.00 | 0 | . | . |
| Trichloroethane, 1,1,1- | 3 | 10.00 | 10.00 | 2 | 20.00 | 10.00 |
| Trichloroethane, 1,1,2- | 3 | 0.00 | 0.00 | 0 | . | . |
| Trichloroethene | 3 | 10.00 | 10.00 | 3 | 10.00 | 10.00 |
| Trichlorofluoromethane | 3 | 0.00 | 0.00 | 0 | . | . |
| Trichloromethane/Chloroform | 3 | 20.00 | 20.00 | 3 | 20.00 | 20.00 |
| Trichlorophenol, 2,4,6- | 3 | 0.00 | 0.00 | 0 | . | . |
| Zinc | 27 | 10677.78 | 6900.00 | 27 | 26000.00 | 4800.00 |