

## Watershed Summary Information

|   |  |
|---|--|
| <b>Accounting Unit Name:</b>            | Middle Tennessee-Hiwassee  |
| <b>State(s):</b>                        | TN NC GA   |
| <b>Political Boundaries:</b>            | Cherokee, Bradley, Union, Clay, McMinn, Polk, Towns, Monroe, Meigs, Hamilton, Rhea |
| <b>Major Waterways:</b>                 | Hiwassee R<br>Nottely R<br>Spring Cr<br>Hiwassee L<br>Chatugue L                   |
| <b>Number of Stations in Watershed:</b> | Tier1 - 13<br>Tier2 - 17<br>Tier3 - 3  |

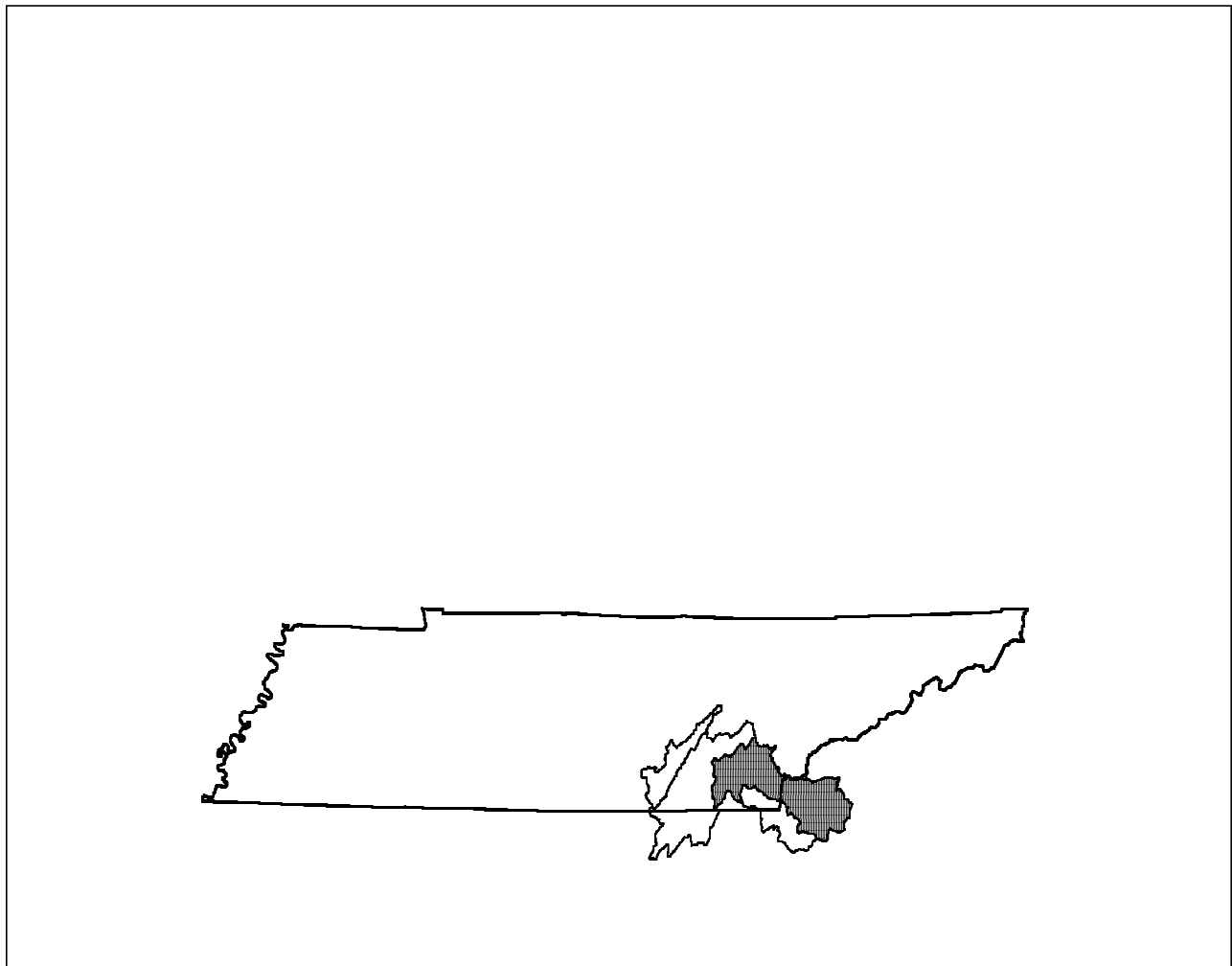


Figure 103. Watershed Location Map

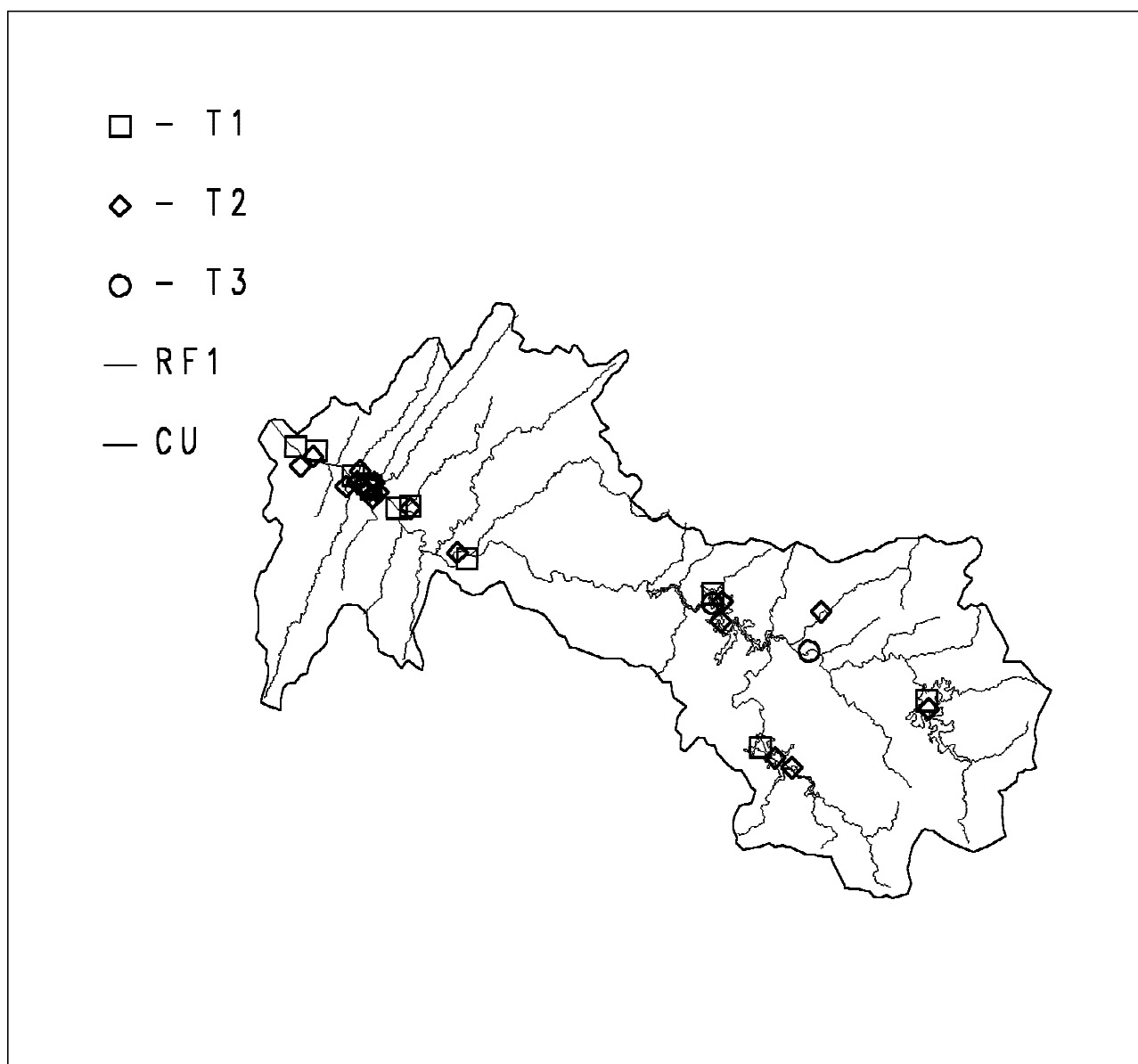


Figure 104. Major Waterways and Location of Sampling Stations

## Data Source(s) Used in Evaluation

Source: **ODES** Agency: **TN**  
 Monitoring Program: **Tennessee**  
 Num. of Stations: 1 Date Range: 1988

Source: **STORET** Agency: **11BIOACC**  
 Monitoring Program: **USEPA National Bioaccumulation Study**  
 Num. of Stations: 1 Date Range: 1988

Source: **STORET** Agency: **131TVAC**  
 Monitoring Program: **Tennessee Valley Authority Water, Sediment And Tissue Data**  
 Num. of Stations: 26 Date Range: 1987-93

Source: **STORET** Agency: **21NC01WQ**

Monitoring Program: **N.Carolina Dept of Natural Resources And Community Developmnt Data**

Num. of Stations: 4 Date Range: 1980-85

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

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

Num. of Stations: 1 Date Range: 1981-82

## 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 |
| Polychlorinated biphenyls | 29                 | 12    | 12    | .     | .            | .     | 12           | .     |
| Copper                    | 30                 | 11    | .     | 11    | .            | 11    | .            | .     |
| Nickel                    | 27                 | 11    | .     | 11    | .            | 11    | .            | .     |
| Lead                      | 29                 | 10    | .     | 10    | .            | 9     | .            | 1     |
| Zinc                      | 29                 | 9     | .     | 9     | .            | 9     | .            | .     |
| Mercury                   | 33                 | 7     | 1     | 6     | 1            | 4     | .            | 2     |
| Dieldrin                  | 28                 | 3     | .     | 3     | .            | .     | .            | 3     |
| Dioxins                   | 2                  | 2     | 2     | .     | .            | .     | 2            | .     |
| Cadmium                   | 31                 | 2     | .     | 2     | .            | 2     | .            | .     |
| Chlordane                 | 27                 | 2     | .     | 2     | .            | 1     | .            | 2     |
| Arsenic                   | 21                 | 1     | .     | 1     | .            | .     | .            | 1     |
| Beryllium                 | 12                 | 1     | .     | 1     | .            | .     | .            | 1     |
| DDT                       | 26                 | 1     | .     | 1     | .            | 1     | .            | .     |

## Sediment Chemistry Data: Chemical Summary

| Sediment Parameter | Total Observations |            |              | Detected Observations |           |           |
|--------------------|--------------------|------------|--------------|-----------------------|-----------|-----------|
|                    | Num.               | Mean (ppb) | Median (ppb) | Num.                  | Max (ppb) | Min (ppb) |
| Aldrin             | 13                 | 0.00       | 0.00         | 0                     | .         | .         |
| Antimony           | 1                  | 0.00       | 0.00         | 0                     | .         | .         |
| Arsenic            | 13                 | 1153.85    | 0.00         | 5                     | 5800.00   | 2000.00   |
| BHC                | 48                 | 0.00       | 0.00         | 0                     | .         | .         |
| Cadmium            | 24                 | 198.75     | 0.00         | 3                     | 3000.00   | 470.00    |
| Chlordane          | 15                 | 1.00       | 0.00         | 1                     | 15.00     | 15.00     |
| Chromium           | 24                 | 21733.33   | 20500.00     | 24                    | 46000.00  | 5000.00   |
| Copper             | 24                 | 22925.00   | 17500.00     | 24                    | 69000.00  | 5100.00   |
| Dieldrin           | 13                 | 0.00       | 0.00         | 0                     | .         | .         |
| DDT                | 43                 | 0.28       | 0.00         | 1                     | 12.00     | 12.00     |
| Endosulfan, alpha- | 12                 | 0.00       | 0.00         | 0                     | .         | .         |
| Endosulfan, beta-  | 12                 | 0.00       | 0.00         | 0                     | .         | .         |
| Endrin             | 12                 | 0.00       | 0.00         | 0                     | .         | .         |
| Heptachlor         | 12                 | 0.00       | 0.00         | 0                     | .         | .         |
| Heptachlor epoxide | 12                 | 0.00       | 0.00         | 0                     | .         | .         |

| Sediment<br>Parameter     | Total Observations |               |                 | Detected Observations |              |              |
|---------------------------|--------------------|---------------|-----------------|-----------------------|--------------|--------------|
|                           | Num.               | Mean<br>(ppb) | Median<br>(ppb) | Num.                  | Max<br>(ppb) | Min<br>(ppb) |
| Lead                      | 22                 | 31186.36      | 18000.00        | 22                    | 180000.0     | 5000.00      |
| Mercury                   | 24                 | 113.33        | 25.00           | 14                    | 820.00       | 20.00        |
| Methoxychlor              | 3                  | 0.00          | 0.00            | 0                     | .            | .            |
| Nickel                    | 21                 | 19366.67      | 19000.00        | 21                    | 86000.00     | 4500.00      |
| Polychlorinated biphenyls | 109                | 0.00          | 0.00            | 0                     | .            | .            |
| Silver                    | 1                  | 0.00          | 0.00            | 0                     | .            | .            |
| Toxaphene                 | 12                 | 0.00          | 0.00            | 0                     | .            | .            |
| Zinc                      | 23                 | 173826.1      | 75000.00        | 23                    | 750000.0     | 24000.00     |

## Tissue Residue Data: Chemical Summary

| Tissue<br>Parameter          | Total Observations |               |                 | Detected Observations |              |              |
|------------------------------|--------------------|---------------|-----------------|-----------------------|--------------|--------------|
|                              | Num.               | Mean<br>(ppb) | Median<br>(ppb) | Num.                  | Max<br>(ppb) | Min<br>(ppb) |
| Aldrin                       | 22                 | 0.00          | 0.00            | 0                     | .            | .            |
| Antimony                     | 30                 | 0.00          | 0.00            | 0                     | .            | .            |
| Arsenic                      | 35                 | 27.71         | 0.00            | 16                    | 160.00       | 20.00        |
| Beryllium                    | 30                 | 5.33          | 0.00            | 2                     | 100.00       | 60.00        |
| Biphenyl                     | 2                  | 0.00          | 0.00            | 0                     | .            | .            |
| BHC                          | 83                 | 0.00          | 0.00            | 0                     | .            | .            |
| Cadmium                      | 35                 | 59.77         | 5.00            | 18                    | 300.00       | 5.00         |
| Chlordane                    | 54                 | 8.52          | 0.00            | 14                    | 150.00       | 10.00        |
| Chlorpyrifos/Dursban         | 1                  | 0.00          | 0.00            | 0                     | .            | .            |
| Chromium                     | 32                 | 36.25         | 25.00           | 19                    | 120.00       | 20.00        |
| Copper                       | 32                 | 571.87        | 0.00            | 10                    | 4000.00      | 400.00       |
| Dicofol/Kelthane             | 1                  | 0.00          | 0.00            | 0                     | .            | .            |
| Dieldrin                     | 24                 | 6.42          | 0.00            | 3                     | 60.00        | 47.00        |
| Dioxins                      | 6                  | 0.00          | 0.00            | 6                     | 0.01         | 0.00         |
| DDT                          | 72                 | 7.50          | 0.00            | 13                    | 110.00       | 10.00        |
| Endosulfan, alpha-           | 20                 | 0.00          | 0.00            | 0                     | .            | .            |
| Endosulfan, beta-            | 20                 | 0.00          | 0.00            | 0                     | .            | .            |
| Endrin                       | 23                 | 0.43          | 0.00            | 1                     | 10.00        | 10.00        |
| Heptachlor                   | 21                 | 0.48          | 0.00            | 1                     | 10.00        | 10.00        |
| Heptachlor epoxide           | 21                 | 0.00          | 0.00            | 0                     | .            | .            |
| Hexachlorobenzene            | 1                  | 0.00          | 0.00            | 0                     | .            | .            |
| Hexachlorobutadiene          | 4                  | 0.00          | 0.00            | 0                     | .            | .            |
| Isopropalin                  | 1                  | 0.00          | 0.00            | 0                     | .            | .            |
| Lead                         | 35                 | 154.86        | 70.00           | 30                    | 2700.00      | 30.00        |
| Mercury                      | 49                 | 224.49        | 170.00          | 35                    | 1080.00      | 80.00        |
| Methoxychlor                 | 3                  | 0.00          | 0.00            | 0                     | .            | .            |
| Mirex/Dechlorane             | 10                 | 0.00          | 0.00            | 0                     | .            | .            |
| Nickel                       | 30                 | 106.67        | 0.00            | 3                     | 2000.00      | 200.00       |
| Pentachlorobenzene           | 1                  | 0.00          | 0.00            | 0                     | .            | .            |
| Pentachloronitrobenzene/Quin | 1                  | 0.00          | 0.00            | 0                     | .            | .            |

| Tissue<br>Parameter          | Total Observations |               |                 | Detected Observations |              |              |
|------------------------------|--------------------|---------------|-----------------|-----------------------|--------------|--------------|
|                              | Num.               | Mean<br>(ppb) | Median<br>(ppb) | Num.                  | Max<br>(ppb) | Min<br>(ppb) |
| Polychlorinated biphenyls    | 241                | 115.35        | 0.00            | 46                    | 7800.00      | 100.00       |
| Selenium                     | 33                 | 391.52        | 160.00          | 29                    | 3800.00      | 20.00        |
| Silver                       | 24                 | 0.00          | 0.00            | 0                     | .            | .            |
| Tetrachlorobenzene, 1,2,4,5- | 1                  | 0.00          | 0.00            | 0                     | .            | .            |
| Toxaphene                    | 20                 | 0.00          | 0.00            | 0                     | .            | .            |
| Trichlorobenzene, 1,2,4-     | 1                  | 0.00          | 0.00            | 0                     | .            | .            |
| Trifluralin/Treflan          | 1                  | 0.00          | 0.00            | 0                     | .            | .            |
| Zinc                         | 30                 | 10500.00      | 7100.00         | 30                    | 27000.00     | 5600.00      |