## CHAPTER 3

# Water Quality Monitoring And Assessment

### Background

**Water Resources Atlas** The river miles and lake acreage estimates are based on the U.S. Geological Survey (USGS) 1:100,000 Digital Line Graph (DLG), which provides a national database of hydrologic traces. The DLG in coordination with the USEPA River Reach File provides a consistent computerized methodology for summing river miles and lake acreage. The 1:100,000 scale map series is the most detailed scale available nationally in digital form and includes 75 to 90 percent of the hydrologic features on the USGS 1:24,000 scale topographic map series. Included in river mile estimates are perennial streams (streams that flow all year), intermittent streams (streams that stop flowing during dry weather), and ditches and canals (waterways constructed by man).

The estimates for Georgia are 44,056 miles of perennial streams, 23,906 miles of intermittent streams, and 603 miles of ditches and canals for a total of 70,150 geological stream miles. The estimates for the number of lakes in Georgia are 11,813 with a total acreage of 425,382. This information is summarized in Table 3-1.

Georgia has 14 major river basins. These are the Altamaha, Chattahoochee, Coosa, Flint, Ochlockonee, Ocmulgee, Oconee, Ogeechee, St. Marys, Satilla, Savannah, Suwannee, Tallapoosa, and the Tennessee. The rivers in Georgia provide the water needed by aquatic life, animals and humans to sustain life. Water also provides significant recreational opportunities, is used for industrial purposes, drives turbines to provide electricity, and assimilates our wastes.

**Water Use Classifications and Water Quality Standards** The Board of Natural Resources is authorized through the Rules and Regulations for Water Quality Control to establish water use classifications and water quality standards for the waters of the State.

For each water use classification, water quality standards or criteria have been developed, which establish the framework used by the Environmental Protection Division to make water use regulatory decisions. All of Georgia's waters are currently classified as fishing, recreation, drinking water, wild river, scenic river, or coastal fishing. Table 3-2 provides a summary of water use classifications and criteria for each use. Georgia's rules and regulations protect all waters for the use of primary contact recreation by having a fecal coliform bacteria standard of a geometric mean of 200 per 100 ml for all waters with the use designations of fishing or drinking water to apply during the months of May - October (the recreational season).

**TABLE 3-1. WATER RESOURCES ATLAS**

| | |
|---|---|
| State Population (2006 Estimate) | 9,383,941 |
| State Surface Area | 57,906 sq.mi. |
| Number of Major River Basins | 14 |
| Number of Perennial River Miles | 44,056 miles |
| Number of Intermittent River Miles | 23,906 miles |
| Number of Ditches and Canals | 603 miles |
| Total River Miles | 70,150 miles |
| Number of Lakes Over 500 Acres | 48 |
| Acres of Lakes Over 500 Acres | 265,365 acres |
| Number of Lakes Under 500 Acres | 11,765 |
| Acres of Lakes Under 500 Acres | 160,017 acres |
| Total Number of Lakes & Reservoirs, Ponds | 11,813 |
| Total Acreage of Lakes, Reservoirs, Ponds | 425,382 acres |
| Square Miles of Estuaries | 854 sq.mi. |
| Miles of Coastline | 100 |
| Acres of Freshwater Wetlands | 4,500,000 acres |
| Acres of Tidal Wetlands | 384,000 acres |

Georgia has also adopted 31 numeric standards for protection of aquatic life and 92 numeric standards for the protection of human health. Table 3-3 provides a summary of toxic substance standards that apply to all waters in Georgia.

Georgia has six large publicly owned lakes that have specific water quality standards. These lakes are West Point, Jackson, Walter F. George, Lanier, Allatoona, and Carter's. Standards were adopted for chlorophyll-a,

**TABLE 3-2. WATER USE CLASSIFICATIONS AND INSTREAM WATER QUALITY STANDARDS FOR EACH USE**

| | Bacteria (fecal coliform) | | Dissolved Oxygen[1] (other than trout streams)[2] | | pH | Temperature (other than trout streams)[2] | |
|---|---|---|---|---|---|---|---|
| **Use Classification** | **30-Day Geometric Mean[3] (no./100 mL)** | **Maximum (no./100mL)** | **Daily Average (mg/L)** | **Minimum (mg/L)** | **Std. Units** | **Maximum Rise (°F)** | **Maximum (°F)** |
| Drinking Water requiring treatment | 1,000 (Nov-April)<br>200 (May-Oct) | 4,000 (Nov-April) | 5.0 | 4.0 | 6.0-8.5 | 5 | 90 |
| Recreation | 200 (Freshwater)<br>100 (Coastal) | -- | 5.0 | 4.0 | 6.0-8.5 | 5 | 90 |
| Coastal Fishing[4] | 1,000 (Nov-Apr)<br>200 (May-Oct) | 4,000 (Nov-Apr) | 5.0<br>If it is determined that the "natural condition" in the waterbody is less than the values stated above, then the criteria will revert to the "natural condition" and the water quality standard will allow for a 0.1 mg/L deficit from the "natural" dissolved oxygen value. Up to a 10% deficit will be allowed if it is demonstrated that resident aquatic species shall not be adversely affected. | 4.0 | 6.0-8.5 | 5 | 90 |
| Fishing | 1,000 (Nov-April)<br>200 (May-Oct) | 4,000 (Nov-April) | 5.0 | 4.0 | 6.0-8.5 | 5 | 90 |
| Wild River | | No alteration of natural water quality | | | | | |
| Scenic River | | No alteration of natural water quality | | | | | |

[1]The dissolved oxygen criteria as specified in individual water use classifications shall be applicable at a depth of one meter below the water surface; in those instances where depth is less than two meters, the dissolved oxygen criterion shall be applied at a mid-depth. On a case specific basis, alternative depths may be specified.
[2]Standards for Trout Streams for dissolved oxygen are a daily average of 6.0 mg/L and a minimum of 5.0 mg/L. No temperature alteration is allowed in Primary Trout Streams and a temperature change of 2°F is allowed in Secondary Trout Streams.
[3]Geometric means should be "based on at least four samples collected from a given sampling site over a 30-day period at Intervals not less than 24 hours." The geometric mean of a series of N terms is the Nth root of their product. Example: the geometric mean of 2 and 18 is the square root of 36.
[4]Standards are same as fishing with the exception of dissolved oxygen, which is site specific.

pH, total nitrogen, phosphorus, fecal coliform bacteria, dissolved oxygen, and temperature. Standards for major tributary phosphorus loading were also established. The standards for the six lakes are summarized in Table 3-4.

### Water Quality Monitoring

**Goals** The goal of the watershed protection program in Georgia is to effectively manage, regulate, and allocate the water resources of Georgia. In order to achieve this goal, it is necessary to monitor the water resources of the State to establish baseline and trend data, document existing conditions, study impacts of specific discharges, determine improvements resulting from upgraded water pollution control plants and other restoration activities, support enforcement actions, establish wasteload allocations for new and existing facilities, develop TMDLs, verify water pollution control plant compliance, collect data for criteria development, and document water use impairment and reasons for problems causing less than full support of designated water uses. Trend monitoring, targeted monitoring, probabilistic monitoring, intensive surveys, lake, estuary, biological, toxic substance monitoring, aquatic toxicity testing, and facility compliance sampling are some of the monitoring tools used by the GAEPD.

## TABLE 3-3. GEORGIA INSTREAM WATER QUALITY STANDARDS FOR ALL WATERS: TOXIC SUBSTANCES

### (Excerpt from Georgia's Rules and Regulations for Water Quality Control Chapter 391-3-6-.03 - Water Use Classifications and Water Quality Standards)

(i) Instream concentrations of the following chemical constituents which are considered to be other toxic pollutants of concern in the State of Georgia shall not exceed the criteria indicated below under 7-day, 10-year minimum flow (7Q10) or higher stream flow conditions except within established mixing zones:

| | |
|---|---|
| 1. 2,4-Dichlorophenoxyacetic acid (2,4-D) | 70 μg/L |
| 2. Methoxychlor | 0.03 μg/L* |
| 3. 2,4,5-Trichlorophenoxy propionic acid (TP Silvex) | 50 μg/L |

(ii) Instream concentrations of the following chemical constituents listed by the U.S. Environmental Protection Agency as toxic priority pollutants pursuant to Section 307(a)(1) of the Federal Clean Water Act (as amended) shall not exceed the acute criteria indicated below under 1-day, 10-year minimum flow (1Q10) or higher stream flow conditions and shall not exceed the chronic criteria indicated below under 7-day, 10-year minimum flow (7Q10) or higher stream flow conditions except within established mixing zones or in accordance with site specific effluent limitations developed in accordance with procedures presented in 391-3-6-.06. Unless otherwise specified, the criteria below are listed in their total recoverable form. Because most of the numeric criteria for the metals below are listed as the dissolved form, total recoverable concentrations of metals that are measured instream will need to be translated to the dissolved form in order to compare the instream data with the numeric criteria. This translation will be performed using guidance found in "Guidance Document of Dynamic Modeling and Translators August 1993" found in Appendix J of EPA's Water Quality Standards Handbook: Second Edition, EPA-823-B-94-005a or by using other appropriate guidance from EPA.

| | | Acute | Chronic |
|---|---|---|---|
| 1. | Arsenic | | |
| | (a) Freshwater | 340 μg/L [1] | 150 μg/L [1] |
| | (b) Coastal and Marine Estuarine Waters | 69 μg/L [1] | 36 μg/L [1] |
| 2. | Cadmium | | |
| | (a) Freshwater | 1.0 μg/L [1, 3] | 0.15 μg/L [1, 3] |
| | (b) Coastal and Marine Estuarine Waters | 40 μg/L [1] | 8.8 μg/L [1] |
| 3. | Chromium III | | |
| | (a) Freshwater | 320 μg/L [1,3] | 42 μg/L [1,3] |
| | (b) Coastal and Marine Estuarine Waters | -- | -- |
| 4. | Chromium VI | | |
| | (a) Freshwater | 16 μg/L [1] | 11 μg/L [1] |
| | (b) Coastal and Marine Estuarine Waters | 1,100 μg/L [1] | 50 μg/L [1] |
| 5. | Copper | | |
| | (a) Freshwater | 7.0 μg/L [1,2*,3] | 5.0 μg/L [1,2*,3] |
| | (b) Coastal and Marine Estuarine Waters | 4.8 μg/L [1,2] | 3.1 μg/L [1,2] |
| 6. | Lead | | |
| | (a) Freshwater | 30 μg/L [1,3] | 1.2 μg/L [1,2*,3] |
| | (b) Coastal and Marine Estuarine Waters | 210 μg/L [1] | 8.1 μg/L [1] |
| 7. | Mercury | | |
| | (a) Freshwater | 1.4 μg/L | 0.012 μg/L [2] |
| | (b) Coastal and Marine Estuarine Waters | 1.8 μg/L | 0.025 μg/L [2] |
| 8. | Nickel | | |
| | (a) Freshwater | 260 μg/L [1,3] | 29 μg/L [1,3] |
| | (b) Coastal and Marine Estuarine Waters | 74 μg/L [1] | 8.2 μg/L [1] |
| 9. | Selenium | | |
| | (a) Freshwater | -- | 5.0 μg/L |
| | (b) Coastal and Marine Estuarine Waters | 290 μg/L [1] | 71 μg/L [1] |
| 10. | Silver | -- [4] | -- [4] |
| 11. | Zinc | | |
| | (a) Freshwater | 65 μg/L [1,3] | 65 μg/L [1,3] |
| | (b) Coastal and Marine Estuarine Waters | 90 μg/L [1] | 81 μg/L [1] |
| 12. | Lindane [Hexachlorocyclohexane (g-BHC-Gamma)] | | |
| | (a) Freshwater | 0.95 μg/L | |
| | (b) Coastal and Marine Estuarine Waters | 0.16 μg/L | |

[1] The in-stream criterion is expressed in terms of the dissolved fraction in the water column. Conversion factors used to calculate dissolved criteria are found in the EPA document – National Recommended Water Quality Criteria – EPA 2006.

[2] The in-stream criterion is lower than the EPD laboratory detection limits (A "*" indicates that the criterion may be higher than or lower than EPD laboratory detection limits depending upon the hardness of the water).
[3] The aquatic life criteria for these metals are expressed as a function of total hardness (mg/L) in a water body. Values in the table above assume a hardness of 50 mg/L CaCO3. For other hardness values, the following equations from the EPA document – National Recommended Water Quality Criteria – EPA 2006 should be used.

Cadmium
acute criteria = $(e^{(1.0166[\ln(\text{hardness})] - 3.924)})(1.136672-[(\ln \text{hardness})(0.041838)]$ μg/L
chronic criteria = $(e^{(0.7409[\ln(\text{hardness})] - 4.719)})(1.101672-[(\ln \text{hardness})(0.041838)]$ μg/L

Chromium III
acute criteria = $(e^{(0.8190[\ln(\text{hardness})] + 3.7256)}(0.316)$ μg/L
chronic criteria = $(e^{(0.8190[\ln(\text{hardness})] + 0.6848)})(0.860)$ μg/L

Copper
acute criteria = $(e^{(0.9422[\ln(\text{hardness})] - 1.700)})(0.96)$ μg/L
chronic criteria = $(e^{(0.8545[\ln(\text{hardness})] - 1.702)})(0.96)$ μg/L

Lead
acute criteria = $(e^{(1.273[\ln(\text{hardness}) - 1.460)})(1.46203 - [(\ln \text{hardness})(0.145712)])$ μg/L
chronic criteria = $(e^{(1.273[\ln(\text{hardness}) - 4.705)})(1.46203 - [(\ln \text{hardness})(0.145712)])$ μg/L

Nickel
acute criteria = $(e^{(0.8460[\ln(\text{hardness})] + 2.255)})(.998)$ μg/L
chronic criteria = $(e^{(0.8460[\ln(\text{hardness})] + 0.0584)})(.997)$ μg/L

Zinc
acute criteria = $(e^{(0.8473[\ln(\text{hardness})] + 0.884)})(0.978)$ μg/L
chronic criteria = $(e^{(0.8473[\ln(\text{hardness})] + 0.884)})(0.986)$ μg/L

[4] This pollutant is addressed in 391-3-6-.06.

(iii) Instream concentrations of the following chemical constituents listed by the U.S. Environmental Protection Agency as toxic priority pollutants pursuant to Section 307(a)(1) of the Federal Clean Water Act (as amended) shall not exceed criteria indicated below under 7-day, 10-year minimum flow (7Q10) or higher stream flow conditions except within established mixing zones or in accordance with site specific effluent limitations developed in accordance with procedures presented in 391-3-6-.06.

| | | |
|---|---|---|
| 1. | Chlordane (CAS RN[1] 57749) | |
| | (a) Freshwater | 0.0043 μg/L* |
| | (b) Coastal and Marine Estuarine Waters | 0.004 μg/L* |
| 2. | Cyanide (CAS RN[1] 57125) | |
| | (a) Freshwater | 5.2 μg/L* |
| | (b) Coastal and Marine Estuarine Waters | 1.0 μg/L* |
| 3. | Dieldrin (CAS RN[1] 60571) | |
| | (a) Freshwater | 0.056 μg/L* |
| | (b) Coastal and Marine Estuarine Waters | 0.0019 μg/L* |
| 4. | 4,4'-DDT (CAS RN[1] 50293) | 0.001 μg/L* |
| 5. | a-Endosulfan (CAS RN[1] 959988) | |
| | (a) Freshwater | 0.056 μg/L* |
| | (b) Coastal and Marine Estuarine Waters | 0.0087 μg/L* |
| 6. | b-Endosulfan (CAS RN[1] 33213659) | |
| | (a) Freshwater | 0.056 μg/L* |
| | (b) Coastal and Marine Estuarine Waters | 0.0087 μg/L* |
| 7. | Endrin (CAS RN[1] 72208) | |
| | (a) Freshwater | 0.036 μg/L* |
| | (b) Coastal and Marine Estuarine Waters | 0.0023 μg/L* |
| 8. | Heptachlor (CAS RN[1] 76448) | |
| | (a) Freshwater | 0.0038 μg/L* |
| | (b) Coastal and Marine Estuarine Waters | 0.0036 μg/L* |
| 9. | Heptachlor Epoxide (CAS RN[1] 1024573) | |
| | (a) Freshwater | 0.0038 μg/L* |
| | (b) Coastal and Marine Estuarine Waters | 0.0036 μg/L* |
| 10 | Pentachlorophenol (CAS RN[1] 87865) | |
| | (a) Freshwater[2] | 15 μg/L*[2] |
| | (b) Coastal and Marine Estuarine Waters | 7.9 μg/L* |

| | | |
|---|---|---|
| 11. | PCBs | |
| | (a) Freshwater | 0.014 μg/L* |
| | (b) Coastal and Marine Estuarine Waters | 0.03 μg/L* |
| 12. | Phenol (CAS RN[1] 108952) | 300 μg/L |
| 13. | Toxaphene (CAS RN[1] 8001352) | 0.0002 μg/L* |

[1]"CAS RN" or the Chemical Abstract Service (CAS) Registry Number is a unique numerical identifier assigned to each chemical and some chemical mixtures.
[2]The instream freshwater criterion for pentachlorophenol is a function of pH, determined by the formula ($e^{(1.005(pH)-5.134)}$). At a pH equal to 7.8 standard units the criterion is 15 μg/L.
*The in-stream criterion is lower than the EPD laboratory detection limits.

(iv) Instream concentrations of the following chemical constituents listed by the U. S. Environmental Protection Agency as toxic priority pollutants pursuant to Section 307(a)(1) of the Federal Clean Water Act (as amended) shall not exceed criteria indicated below under annual average or higher stream flow conditions:

| | | |
|---|---|---|
| 1. | Acenaphthene (CAS RN[1] 83329) | 990 μg/L |
| 2. | Acenaphthylene (CAS RN[1] 208968) | ** |
| 3. | Acrolein (CAS RN[1] 107028) | 9.3 μg/L |
| 4. | Acrylonitrile (CAS RN[1] 107131) | 0.25 μg/L |
| 5. | Aldrin (CAS RN[1] 309002) | 0.000050 μg/L |
| 6. | Anthracene (CAS RN[1] 120127) | 40000 μg/L |
| 7. | Antimony | 640 μg/L |
| 8. | Arsenic (Total) | |
| | (a) Drinking Water Supplies | 10 μg/L |
| | (b) All Other Classifications | 50 μg/L |
| 9. | Benzidine (CAS RN[1] 92875) | 0.0002 μg/L |
| 10. | Benzo(a)Anthracene (CAS RN[1] 56553) | 0.018 μg/L |
| 11. | Benzo(a)Pyrene (CAS RN[1] ) | 0.018 μg/L |
| 12. | 3,4-Benzofluoranthene (CAS RN[1] 205992) | 0.018 μg/L |
| 13. | Benzene (CAS RN[1] 71432) | 51 μg/L |
| 14. | Benzo(ghi)Perylene (CAS RN[1] 191242) | ** |
| 15. | Benzo(k)Fluoranthene (CAS RN[1] 207089) | 0.018 μg/L |
| 16. | Beryllium | ** |
| 17. | a-BHC-Alpha (CAS RN[1] 319846) | 0.0049 μg/L |
| 18. | b-BHC-Beta (CAS RN[1] 319857) | 0.017 μg/L |
| 19. | Bis(2-Chloroethyl)Ether (CAS RN[1] 111444) | 0.53 μg/L |
| 20. | Bis(2-Chloroisopropyl)Ether (CAS RN[1] 108601) | 65000 μg/L |
| 21. | Bis(2-Ethylhexyl)Phthalate (CAS RN[1] 117817) | 2.2 μg/L |
| 22. | Bromoform (Tribromomethane) (CAS RN[1] 75252) | 140 μg/L |
| 23. | Butylbenzyl Phthalate (CAS RN[1] 85687) | 1900 μg/L |
| 24. | Carbon Tetrachloride (CAS RN[1] 56235) | 1.6 μg/L |
| 25. | Chlorobenzene (CAS RN[1] 108907) | 1600 μg/L |
| 26. | Chlorodibromomethane (CAS RN[1] 124481) | 13 μg/L |
| 27. | 2-Chloroethylvinyl Ether (CAS RN[1] 110758) | ** |
| 28. | Chlordane (CAS RN[1] 57749) | 0.00081 μg/L |
| 29. | Chloroform (Trichloromethane) (CAS RN[1] 67663) | 470 μg/L |
| 30. | 2-Chloronaphthalene (CAS RN[1] 91587) | 1600 μg/L |
| 31. | 2-Chlorophenol (CAS RN[1] 95578) | 150 μg/L |
| 32. | Chrysene (CAS RN[1] 218019) | 0.018 μg/L |
| 33. | Dibenzo(a,h)Anthracene (CAS RN[1] 53703) | 0.018 μg/L |
| 34. | Dichlorobromomethane (CAS RN[1] 75274) | 17 μg/L |
| 35. | 1,2-Dichloroethane (CAS RN[1] 107062) | 37 μg/L |
| 36. | 1,1-Dichloroethylene (CAS RN[1] 75354) | 7100 μg/L |
| 37 | 1,2 – Dichloropropane (CAS RN[1] 78875) | 15 μg/L |
| 38. | 1,3-Dichloropropylene (CAS RN[1] 542756) | 21 μg/L |
| 39. | 2,4-Dichlorophenol (CAS RN[1] 120832) | 290 μg/L |
| 40. | 1,2-Dichlorobenzene (CAS RN[1] 95501) | 1300 μg/L |
| 41. | 1,3-Dichlorobenzene (CAS RN[1] 541731) | 960 μg/L |
| 42. | 1,4-Dichlorobenzene (CAS RN[1] 106467) | 190 μg/L |
| 43. | 3,3'-Dichlorobenzidine (CAS RN[1] ) | 0.028 μg/L |
| 44. | 4,4'-DDT (CAS RN[1] 50293) | 0.00022 μg/L |
| 45. | 4,4'-DDD (CAS RN[1] 72548) | 0.00031 μg/L |
| 46. | 4,4'-DDE (CAS RN[1] 72559) | 0.00022 μg/L |
| 47. | Dieldrin (CAS RN[1] 60571) | 0.000054 μg/L |

| | | |
|---|---|---|
| 48. | Diethyl Phthalate (CAS RN[1] 84662) | 44000 μg/L |
| 49. | Dimethyl Phthalate(CAS RN[1] 131113) | 1100000 μg/L |
| 50. | 2,4-Dimethylphenol (CAS RN[1] 105679) | 850 μg/L |
| 51. | 2,4-Dinitrophenol (CAS RN[1] 51285) | 5300 μg/L |
| 52. | Di-n-Butyl Phthalate (CAS RN[1] 84742) | 4500 μg/L |
| 53. | 2,4-Dinitrotoluene (CAS RN[1] 121142) | 3.4 μg/L |
| 54. | 1,2-Diphenylhydrazine (CAS RN[1] 122667) | 0.20 μg/L |
| 55. | Endrin (CAS RN[1] 72208) | 0.060 μg/L |
| 56. | Endrin Aldehyde (CAS RN[1] 7421934) | 0.30 μg/L |
| 57. | alpha – Endosulfan (CAS RN[1] 959988) | 89 μg/L |
| 58. | beta – Endosulfan (CAS RN[1] 33213659) | 89 μg/L |
| 59. | Endosulfan Sulfate (CAS RN[1] 1031078) | 89 μg/L |
| 60. | Ethylbenzene (CAS RN[1] 100414) | 2100 μg/L |
| 61. | Fluoranthene (CAS RN[1] 206440) | 140 μg/L |
| 62. | Fluorene (CAS RN[1] 86737) | 5300 μg/L |
| 63. | Heptachlor (CAS RN[1] 76448) | 0.000079 μg/L |
| 64. | Heptachlor Epoxide (CAS RN[1] 1024573) | 0.000039 μg/L |
| 65. | Hexachlorobenzene (CAS RN[1] 118741) | 0.00029 μg/L |
| 66. | Hexachlorobutadiene (CAS RN[1] 87683) | 18 μg/L |
| 67. | Hexachlorocyclopentadiene (CAS RN[1] 77474) | 1100 μg/L |
| 68. | Hexachloroethane (CAS RN[1] 67721) | 3.3 μg/L |
| 69. | Indeno(1,2,3-cd)Pyrene (CAS RN[1] 193395) | 0.018 μg/L |
| 70. | Isophorone (CAS RN[1] 78591) | 960 μg/L |
| 71. | Lindane [Hexachlorocyclohexane (g-BHC-Gamma)](CAS RN[1] 58899) | 1.8 μg/L |
| 72. | Methyl Bromide (Bromomethane) (CAS RN[1] 74839) | 1500 μg/L |
| 73. | Methyl Chloride (Chloromethane) (CAS RN[1] 74873) | ** |
| 74. | Methylene Chloride (CAS RN[1] 75092) | 590 μg/L |
| 75. | 2-Methyl-4,6-Dinitrophenol (CAS RN[1] 534521) | 280 μg/L |
| 76. | 3-Methyl-4-Chlorophenol (CAS RN[1] 59507) | ** |
| 77. | Nitrobenzene (CAS RN[1] 98953) | 690 μg/L |
| 78. | N-Nitrosodimethylamine (CAS RN[1] 62759) | 3.0 μg/L |
| 79. | N-Nitrosodi-n-Propylamine (CAS RN[1] 621647) | 0.51 μg/L |
| 80. | N-Nitrosodiphenylamine (CAS RN[1] 86306) | 6.0 μg/L |
| 81. | PCBs | 0.000064 μg/L |
| 82. | Pentachlorophenol (CAS RN[1] 87865) | 3.0 μg/L |
| 83. | Phenanthrene (CAS RN[1] 85018) | ** |
| 84. | Phenol (CAS RN[1] 108952) | 857000 μg/L |
| 85. | Pyrene (CAS RN[1] 129000) | 4000 μg/L |
| 86. | 1,1,2,2-Tetrachloroethane (CAS RN[1] 79345) | 4.0 μg/L |
| 87. | Tetrachloroethylene (CAS RN[1] 127184) | 3.3 μg/L |
| 88. | Thallium | 0.47 μg/L |
| 89. | Toluene (CAS RN[1] 108883) | 5980 μg/L |
| 90. | Toxaphene (CAS RN[1] 8001352) | 0.00028 μg/L |
| 91. | 1,2-Trans-Dichloroethylene (CAS RN[1] 156605) | 10000 μg/L |
| 92. | 1,1,2-Trichloroethane (CAS RN[1] 79005) | 16 μg/L |
| 93. | Trichloroethylene (CAS RN[1] 79016) | 30 μg/L |
| 94. | 2,4,6-Trichlorophenol (CAS RN[1] 88062) | 2.4 μg/L |
| 95. | 1,2,4-Trichlorobenzene (CAS RN[1] 120821) | 70 μg/L |
| 96. | Vinyl Chloride (CAS RN[1] 75014) | 2.4 μg/L |

[1]"CAS RN" or the Chemical Abstract Service (CAS) Registry Number is a unique numerical identifier assigned to each chemical and some chemical mixtures.
**These pollutants are addressed in 391-3-6-.06.

(v) Site specific criteria for the following chemical constituents will be developed on an as-needed basis through toxic pollutant monitoring efforts at new or existing discharges that are suspected to be a source of the pollutant at levels sufficient to interfere with designated uses:

1. Asbestos

(vi) instream concentrations of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) must not exceed 0.0000000051 μg/L under long-term average stream flow conditions.

(vii) Mercury: For the protection of human health, total mercury concentrations bioaccumulating in a waterbody, in a representative population of fish, shellfish and/or other seafood representing different trophic levels, shall not exceed a total mercury concentration in edible tissues of 0.3 mg/kg wet weight. This standard is in accord with

the USEPA *Water Quality Criterion for the Protection of Human Health: Methylmercury*, (January 2001, EPA-823-R-01-001), and because nearly 100% of the mercury in fish tissue is methylmercury, adoption of the standard as total mercury is an additional conservative measure. The representative fish tissue total mercury concentration for a waterbody is determined by calculating a Trophic-Weighted Residue Value, as described by the Georgia EPD Protocol (October 19, 2001).

(f) Applicable State and Federal requirements and regulations for the discharge of radioactive substances shall be met at all times.

## TABLE 3-4. WATER QUALITY STANDARDS FOR MAJOR LAKES

(17) **Specific Criteria for Lakes and Major Lake Tributaries**. In addition to the general criteria, the following lake specific criteria are deemed necessary and shall be required for the specific water usage as shown:

**(a) West Point Lake**: Those waters impounded by West Point Dam and downstream of U.S. 27 at Franklin.

(i) Chlorophyll a: For the months of April through October, the average of monthly photic zone composite samples shall not exceed 27 μg/L at the LaGrange Water Intake more than once in a five-year period.

(ii) pH: Within the range of 6.0 - 9.5.

(iii) Total Nitrogen: Not to exceed 4.0 mg/L as Nitrogen in the photic zone.

(iv) Phosphorus: Total lake loading shall not exceed 2.4 pounds per acre-foot of lake volume per year.

(v) Fecal Coliform Bacteria:

1. U.S. 27 at Franklin to New River: Fecal coliform bacteria shall not exceed the Fishing criterion as presented in 391-3-6-.03(6)(c).
2. New River to West Point Dam: Fecal coliform bacteria shall not exceed the Recreation criterion as presented in 391-3-6-.03(6)(b).

(vi) Dissolved Oxygen: A daily average of 5.0 mg/L and no less than 4.0 mg/L at all times at the depth specified in 391-3-6-.03(5)(f).

(vii) Temperature: Not to exceed 90°F. At no time is the temperature of the receiving waters to be increased more than 5°F above intake temperature.

(viii) Major Lake Tributaries: For the following tributaries, the annual total phosphorus loading to West Point Lake shall not exceed the following:

| | |
|---|---|
| 1. Yellow Jacket Creek at Hammet Road: | 11,000 pounds. |
| 2. New River at Hwy 100: | 14,000 pounds. |
| 3. Chattahoochee River at U.S. 27: | 1,400,000 pounds. |

**(b) Lake Walter F. George**: Those waters impounded by Walter F. George Dam and upstream to Georgia Highway 39 near Omaha.

(i) Chlorophyll a: For the months of April through October, the average of monthly photic zone composite samples shall not exceed 18 μg/L at mid-river at U.S. Highway 82 or 15 μg/L at mid-river in the dam forebay more than once in a five-year period.

(ii) pH: Within the range of 6.0-9.5 standard units.

(iii) Total Nitrogen: Not to exceed 3.0 mg/L as nitrogen in the photic zone.

(iv) Phosphorous: Total lake loading shall not exceed 2.4 pounds per acre-foot of lake volume per year.

(v) Fecal Coliform:

1. Georgia Highway 39 to Cowikee Creek: Fecal coliform bacteria shall not exceed the Fishing criterion as presented in 391-3-6-.03(6)(c)(iii).
2. Cowikee Creek to Walter F. George Dam: Fecal coliform bacteria shall not exceed the Recreation criterion as presented in 391-3-6-.03(6)(b)(I).

(vi) Dissolved Oxygen: A daily average of no less than 5.0 mg/L and no less than 4.0 mg/L at all times at the depth specified in 391-3-6-.03(5)(f).

(vii) Temperature: Water temperature shall not exceed the Recreation criterion as presented in 391-3-6-.03(6)(b)(iv).

(viii) Major Lake Tributary: The annual total phosphorous loading to Lake Walter F. George, monitored at the Chattahoochee River at Georgia Highway 39, shall not exceed 2,000,000 pounds.

**(c) Lake Jackson**: Those waters impounded by Lloyd Shoals Dam and upstream to Georgia Highway 36 on the South and Yellow Rivers, upstream to Newton Factory Bridge Road on the Alcovy River and upstream to Georgia Highway 36 on Tussahaw Creek.

(i) Chlorophyll a: For the months of April through October, the average of monthly mid-channel photic zone composite samples shall not exceed 20 μg/L at a location approximately 2 miles downstream of the confluence of the South and Yellow Rivers at the junction of Butts, Newton and Jasper Counties more than once in a five-year period.

(ii) pH: Within the range of 6.0-9.5 standard units.

(iii) Total Nitrogen: Not to exceed 4.0 mg/L as nitrogen in the photic zone.

(iv) Phosphorous: Total lake loading shall not exceed 5.5 pounds per acre-foot of lake volume per year.

(v) Fecal Coliform: Fecal coliform bacteria shall not exceed the Recreation criterion as presented in 391-3-6-.03(6)(b)(I).

(vi) Dissolved Oxygen: A daily average of 5.0 mg/L and no less than 4.0 mg/L at all times at the depth specified in 391-3-6-.03(5)(f).

(vii) Temperature: Water temperature shall not exceed the Recreation criterion as presented in 391-3-6-.03(6)(b)(iv).

(viii) Major Lake Tributaries: For the following major tributaries, the annual total phosphorous loading to Lake Jackson shall not exceed the following:

| | |
|---|---|
| 1. South River at Island Shoals: | 179,000 pounds |
| 2. Yellow River at Georgia Highway 212: | 116,000 pounds |
| 3. Alcovy River at Newton Factory Bridge Road: | 55,000 pounds |
| 4. Tussahaw Creek at Fincherville Road: | 7,000 pounds |

**(d) Lake Allatoona**: Those waters impounded by Allatoona Dam and upstream to State Highway 5 on the Etowah River, State Highway 5 on Little River, the Lake Acworth dam, and the confluence of Little Allatoona Creek and Allatoona Creek. Other impounded tributaries to an elevation of 840 feet mean sea level corresponding to the normal pool elevation of Lake Allatoona.

(i) Chlorophyll a: For the months of April through October, the average of monthly mid-channel photic zone composite samples shall not exceed the chlorophyll a concentrations at the locations listed below more than once in a five-year period:

| | |
|---|---|
| 1. Upstream from the Dam | 10 μg/L |
| 2. Allatoona creek upstream from I-75 | 12 μg/L |
| 3. Mid-Lake downstream from Kellogg Creek | 10 μg/L |
| 4. Little River upstream from Highway 205 | 15 μg/L |
| 5. Etowah River upstream from Sweetwater Creek | 14 μg/L |

(ii) pH: within the range of 6.0-9.5 standard units

(iii) Total Nitrogen: Not to exceed a growing season average of 4 mg/L as nitrogen in the photic zone.

(iv) Phosphorous: Total lake loading shall not exceed 1.3 pounds per acre-foot of lake volume per year.

(v) Fecal Coliform:

1. Etowah River, State Highway 5 to State Highway 20: Fecal coliform bacteria shall not exceed the Fishing Criterion as presented in 391-3-6-.03(6)(c)(iii).

2. Etowah River, State Highway 20 to Allatoona Dam; Fecal coliform bacteria shall not exceed the Recreation criteria as presented in 391-3-6-.03(6)(b)(i).

(vi) Dissolved Oxygen: A daily average of 5.0 mg/L and no less than 4.0 mg/L at all times at the depth specified in 391-3-6-.03(5)(g).

(vii)Temperature:

1. Etowah River, State Highway 5 to State Highway 20: Water temperature shall not exceed the Fishing criterion as presented in 391-3-6-.03(6)(b)(iv).

2. Etowah River State Highway 20 to Allatoona Dam: Water temperature shall not exceed the Recreation criterion as presented in 391-3-6-.03(6)(b)(iv).

(viii) Major Lake Tributaries: For the following major tributaries, the annual total phosphorous loading to Lake Allatoona shall not exceed the following:

| | |
|---|---|
| 1. Etowah River at State Highway 5 spur and 140, at the USGS gage | 340,000 lbs/yr |
| 2. Little River at State Highway 5 (Highway 754) | 42,000 lbs/yr |
| 3. Noonday Creek at North Rope Mill Road | 38,000 lbs/yr |
| 4. Shoal Creek at State Highway 108 (Fincher Road) | 12,500 lbs/yr |

**(e) Lake Sidney Lanier:** Those waters impounded by Buford Dam and upstream to Belton Bridge Road on the Chattahoochee River, 0.6 miles downstream from State Road 400 on the Chestatee River, as well as other impounded tributaries to an elevation of 1070 feet mean sea level corresponding to the normal pool elevation of Lake Sidney Lanier.

(i) Chlorophyll a: For the months of April through October, the average of monthly mid-channel photic zone composite samples shall not exceed the chlorophyll a concentrations at the locations listed below more than once in a five-year period:

| | |
|---|---|
| 1. Upstream from the Buford Dam forebay | 5 μg/L |
| 2. Upstream from the Flowery Branch confluence | 5 μg/L |
| 3. At Browns Bridge Road (State Road 369) | 5 μg/L |
| 4. At Bolling Bridge (State Road 53) on Chestatee River | 10 μg/L |
| 5. At Lanier Bridge (State Road 53) on Chattahoochee River | 10 μg/L |

(ii) pH: Within the range of 6.0-9.5 standard units.

(iii) Total Nitrogen: Not to exceed 4 mg/L as nitrogen in the photic zone.

(iv) Phosphorous: Total lake loading shall not exceed 0.25 pounds per acre-foot of lake volume per year.

(v) Fecal Coliform: Fecal coliform bacteria shall not exceed the Recreation criterion as presented in 391-3-6-.03(6)(b)(l).

(vi) Dissolved Oxygen: A daily average of 5.0 mg/L and no less than 4.0 mg/L at all times at the depth specified in 391-3--6-.03(5)(g).

(vii) Temperature: Water temperature shall not exceed the Recreation criterion as presented in 391-3-6-.03(6)(b)(iv).

(viii) Major Lake Tributaries: For the following major tributaries, the annual total phosphorous loading to Lake Sidney Lanier shall not exceed the following:

| | |
|---|---|
| 1. Chattahoochee River at Belton Bridge Road | 178,000 pounds |
| 2. Chestatee River at Georgia Highway 400 | 118,000 pounds |
| 3. Flat Creek at McEver Road | 14,400 pounds |

**(f) Carters Lake:** Those waters impounded by Carters Dam and upstream on the Coosawattee River as well as other impounded tributaries to an elevation of 1072 feet mean sea level corresponding to the normal pool elevation of Carters Lake.

(i) Chlorophyll a: For the months of April through October, the average of monthly mid-channel photic zone composite samples shall not exceed the chlorophyll a concentrations at the locations listed below more than once in a five-year period:

| | |
|---|---|
| 1. Carters Lake upstream from Woodring Branch | 5 μg/L |
| 2. Carters Lake at Coosawattee River embayment mouth | 10 μg/L |

(ii) pH: within the range of 6.0 – 9.5 standard units.
(iii) Total Nitrogen: Not to exceed 4.0 mg/L as nitrogen in the photic zone.
(iv) Phosphorous: Total lake loading shall not exceed 172,500 pounds or 0.46 pounds per acre-foot of lake volume per year.
(v) Fecal Coliform: Fecal coliform bacteria shall not exceed the Recreation criterion as presented in 391-3-6-.03(6)(b)(i).
(vi) Dissolved Oxygen: A daily average of 5.0 mg/L and no less than 4.0 mg/L at all times at the depth specified in 391-3-6-.03(5)(g).
(vii) Temperature: Water temperature shall not exceed the Recreation criterion as presented in 391-3-6-.03(6)(b)(iv).
(viii) Major Lake Tributaries: For the following major tributaries, the annual total phosphorous loading at the compliance monitoring location shall not exceed the following:

| | |
|---|---|
| 1. Coosawattee River at Old Highway 5 | 151,500 pounds |
| 2. Mountaintown Creek at U.S. Highway 76 | 8,000 pounds |

**Long-Term Trend Monitoring**

Long term monitoring of streams at strategic locations throughout Georgia, trend or ambient monitoring, was initiated by the GAEPD during the late 1960s. This work has been conducted by EPD associates and through cooperative agreements with federal, state, and local agencies that collect samples from groups of stations at specific, fixed locations throughout the year.

The cooperating agencies conduct certain tests in the field and ship stream samples to the GAEPD or UGA laboratories for additional laboratory analyses. Although there have been a number of changes over the years, much of the trend monitoring is still accomplished through similar cooperative agreements.

Today the GAEPD contracts with the United States Geological Survey (USGS) for the statewide trend sampling work, and with the Columbus Water Works for sample collection on the Chattahoochee River below Columbus. In 2010, GAEPD added 41 flow gages to its monitoring network as part of the State Water Plan. Table 3-5 provides a list of the USGS stream gages funded by GAEPD. GAEPD also funds three continuous water quality monitors operated by the USGS on the Coosa River at the Georgia/Alabama Stateline, Chattahoochee River at HWY 92, and the Savannah Harbor at the Corps Dock. In addition, GAEPD continues to operate the continuous water quality monitor at Capps Ferry on the Chattahoochee River south of Metro Atlanta, which records dissolved oxygen, pH, temperature and specific conductance data every 15 minutes. The data are collected in real-time and updated daily on the GAEPD's website.

**Targeted Monitoring**

In addition to trend monitoring done through cooperative agreements, GAEPD associates collect monthly samples from a number of locations across the state in a targeted monitoring effort. In targeted monitoring, sites are monitored at least once a month for a year. A different set of targeted sites are then selected for monitoring the next year.

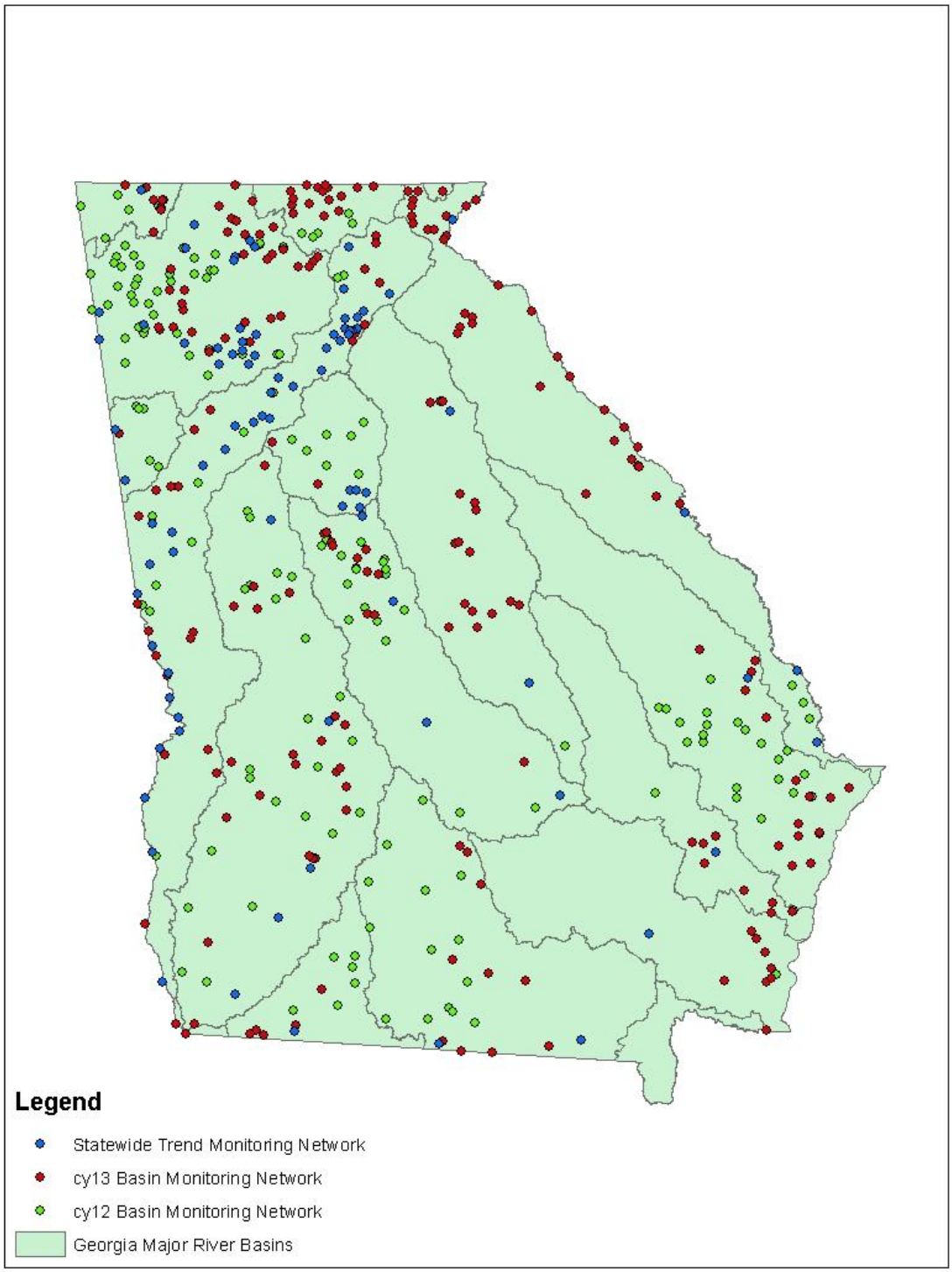
Figure 1 shows the monitoring network stations for the sample collection period 2012-2013. This figure includes the State-wide trend monitoring network stations (that are sampled every year), the targeted monitoring stations, probabilistic stations, as well as stations sampled by Georgia's Coastal Resources Division for 2012 and 2013. A list of all of these stations and a list of the parameters sampled is presented in Table 3-6, Tables 3-7, Table 3-8, Table 3-11 and Table 3-12.

**TABLE 3-5. USGS STREAM GAGES FUNDED BY GAEPD**

| USGS Number | Station Name and Location |
|---|---|
| **Savannah River Basin** | |
| 02177000 | Chattooga River near Clayton, GA |
| 02191300 | Broad River above Carlton, GA |
| 02192000 | Broad River near Bell, GA |
| 02193340 | Kettle Creek near Washington, GA |
| 02193500 | Little River near Washington, GA |
| 02197598 | Brushy Creek at Campground Road near Wrens, GA |
| 021964832 | Savannah River above Augusta Canal, near Bonair, GA |
| 02197830 | Brier Creek near Waynesboro, GA |
| 02198375 | Savannah River near Estill, GA |
| 02198840 | Savannah River at Port Wentworth, GA |
| 02198950 | Middle River at GA 25, at Port Wentworth, GA |
| 21989792 | Little Back River at GA 25, at Port Wentworth, GA |
| 02198980 | Savannah River at Fort Pulaski |
| 02197000 | Savannah River at Augusta, GA |
| **Ogeechee River Basin** | |
| 02201000 | Williamson Swamp Creek at Davisboro, GA |
| 02202190 | Ogeechee River At GA 24, near Oliver, GA |
| 02203518 | Canoochee River at Bridge 38, at Fort Stewart |
| 02202680 | Ogeechee River at GA 204, near Ellabell, GA |
| 02203536 | Ogeechee River at US 17, near Richmond Hill, GA |
| 02200120 | Ogeechee River GA 88, near Grange GA |
| **Altamaha River Basin** | |
| 02215000 | Ocmulgee River at US 341, near Hawkinsville, GA |
| 02215100 | Tucsawhatchee Creek near Hawkinsville, GA |
| 02215500 | Ocmulgee River at Lumber City, GA |
| 02216180 | Turnpike Creek near McRae, GA |
| 02214075 | Echecommee Creek at Houston Road, near Byron, GA |
| 02214590 | Big Indian Creek at US 341, near Clinchfield, GA |
| 02215900 | Little Ocmulgee River at GA 149, at Scotland, GA |
| 02208000 | Yellow River at Rocky Plains Road, near Rocky Plains, GA |
| 02209000 | Alcovy River below Covington, GA |
| 02212735 | Ocmulgee River at GA 18, at Dames Ferry, GA |
| 02211800 | Towaliga River at GA 83, near Juliette, GA |
| 02204520 | South River at GA 81, at Snapping Shoal, GA |
| 02223360 | Big Sandy Creek at US 441, near Irwinton, GA |
| 02223190 | Commissioner Creek at US 441, at McIntyre, GA |
| 02223110 | Buffalo Creek at GA 272, near Oconee, GA |
| 02225270 | Ohoopee River at GA 297, near Swainsboro, GA |
| **Suwannee River Basin** | |
| 02314495 | Suwannee River above Fargo, GA+ |
| 02314500 | Suwannee River at US 441, at Fargo, GA |
| 02318000 | Little River near Adel, GA* |
| 02318700 | Okapilco Creek at GA 33, near Quitman, GA |
| 02315920 | Alapaha River at GA 125/32, near Irwinville, GA |
| **Satilla River Basin** | |
| 02226362 | Satilla River at GA 158, near Waycross, GA |
| 02227270 | Alabaha River  at GA 203, nea Blackshear, GA |
| 02228070 | Satilla River at US 17, at Woodbine, GA |
| **St Mary's River Basin** | |
| 02231254 | St. Mary's River at I-95, near Kingsland, GA |
| **Ochlockonee River Basin** | |
| 02327500 | Ochlockonee River near Thomasville, GA |
| 02327355 | Ochlockonee River at GA 188 near Coolidge, GA |

| | |
|---|---|
| **Chattahoochee River Basin** | |
| 02336300 | Peachtree Creek at Atlanta, GA |
| 02337500 | Snake Creek near Whitesburg, GA |
| 02338660 | New River near Corinth, GA |
| 02343940 | Sawhatchee Creek at Cedar Springs, GA |
| 02342850 | Hanahatchee Creek at Union Road, near Union GA |
| 02343225 | Pataula Creek ar US 82, near Georgetown, GA |
| 23432415 | Chattahoochee River 0.36 miles Downstream of WFG Dam, near Gaines, GA |
| 02343805 | Chattahoochee River at Mile 46, near Columbia, AL |
| 02338840 | Yellow Jacket Creek at Hammett Road, below Hogansville, GA |
| 02342881 | Chattahoochee River at Spur 39, near Omaha, GA |
| 02331000 | Chattahoochee River near Leaf, GA |
| **Flint River Basin** | |
| 02344700 | Line Creek near Senoia, GA |
| 02349900 | Turkey Creek at Byromville,GA |
| 02351500 | Muckalee Creek near Americus, GA |
| 02353265 | Ichawaynochaway Creek at GA 37, near Morgan, GA |
| 02353400 | Pachitla Creek near Edison, GA |
| 02353500 | Ichawaynochaway Creek at Milford, GA |
| 02355350 | Ichawaynochaway Creek below Newton, GA |
| 02355665 | Flint River at Riverview Plantation, near Hopeful, GA |
| 02357000 | Spring Creek near Iron City, GA* |
| 02350600 | Kinchafoonee Creek at Preston. GA |
| 02354410 | Chickasawhatchee Creek near Leary, GA |
| 02354475 | Spring Creek near Leary, GA |
| 02354800 | Chickasawhatchee Creek at Elmodel, GA |
| 02354800 | Ichawaynochaway Creek near Elmodel, GA |
| **Coosa River Basin** | |
| 02381090 | Mountaintown Creek At Ga 76, Near Ellijay, Ga |
| 02381600 | Fausett Creek near Talking Rock, GA |
| 02384540 | Mill Creek near Crandall, GA |
| 02385800 | Holly Creek near Chatsworth, GA |
| 02398000 | Chattooga River at Summerville, GA |
| 02395000 | Etowah River near Kingston, GA |
| **Tennessee River Basin** | |
| 03568933 | Lookout Creek near New England, GA |
| 03550500 | Nottely River near Blairsville, GA |
| 03567340 | West Chickamauga Creek at GA 146, near Lakeview, GA |
| **Tallapoosa River Basin** | |
| 02413000 | Little Tallapoosa at GA 27, at Carrolton, GA |

# FIGURE 1
# GEORGIA MONITORING NETWORK
# STATION LOCATIONS 2012-2013



## TABLE 3-6. STATEWIDE TREND MONITORING NETWORK (CORE): RIVERS/STREAMS; LAKE/RESERVOIR STANDARD TRIBUTARY STATIONS

Rivers and streams stations are sampled monthly for field and chemical parameters every year. Four fecal coliform bacterial samples are collected each calendar quarter to calculate four geometric means. Lakes and reservoir stations are sampled monthly during the "growing season" from April through October.

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization | Waterbody Type/ Project | Latitude | Longitude |
|---|---|---|---|---|---|---|
| 0102060101 | Chattooga River at US Hwy. 76 near Clayton, GA | Savannah | USGS | Trend Monitoring | 34.8140 | -83.3064 |
| 0106050209 | Savannah River at 0.5 mile downstream from Spirit Creek | Savannah | USGS | Trend Monitoring | 33.3306 | -81.9153 |
| 0109020701 | Savannah River at Seaboard Coast Line Railway, north of Clyo, GA | Savannah | USGS | Trend Monitoring | 32.5250 | -81.2640 |
| 0109060602 | Savannah River at US Hwy. 17 (Houlihan Bridge) | Savannah | USGS | Trend Monitoring | 32.1658 | -81.1539 |
| 0202030701 | Ogeechee River at Georgia Hwy. 24 near Oliver, GA | Ogeechee | USGS | Trend Monitoring | 32.4948 | -81.5558 |
| 0301060102 | Oconee River at Barnett Shoals Road near Athens, GA | Oconee | USGS | Trend Monitoring | 33.8562 | -83.3265 |
| 0302090102 | Oconee River at Interstate Hwy. 16 near Dublin, GA | Oconee | USGS | Trend Monitoring | 32.4804 | -82.8582 |
| 0403030501 | South River at Island Shoals Road near Snapping Shoals, Ga. | Upper Ocmulgee | USGS | Trend Monitoring (Lake Trib) | 33.4527 | -83.9271 |
| 0403060301 | Yellow River at Georgia Hwy. 212 near Stewart, Ga. | Upper Ocmulgee | USGS | Trend Monitoring (Lake Trib) | 33.4543 | -83.8813 |
| 0403080201 | Alcovy River at Newton Factory Bridge Road near Stewart, Ga. | Upper Ocmulgee | USGS | Trend Monitoring (Lake Trib) | 33.4494 | -83.8283 |
| 0403090301 | Tussahaw Creek at Fincherville Road near Jackson, Ga. | Upper Ocmulgee | USGS | Trend Monitoring (Lake Trib) | 33.3789 | -83.9634 |
| 0503160201 | Ocmulgee River at New Macon Water Intake | Ocmulgee | USGS | Trend Monitoring | 32.8992 | -83.6641 |
| 0504030101 | Ocmulgee River at Hawkinsville, GA | Ocmulgee | USGS | Trend Monitoring | 32.2818 | -83.4628 |
| 0504080601 | Ocmulgee River at US Hwy. 341 at Lumber City, GA | Ocmulgee | USGS | Trend Monitoring | 31.9199 | -82.6743 |
| 0606040104 | Altamaha River 6.0 miles downstream from Doctortown, GA | Altamaha | USGS | Trend Monitoring | 31.6233 | -81.7653 |
| 0701070405 | Satilla River at Georgia Hwy.15 and Hwy.121 | Satilla | USGS | Trend Monitoring | 31.2167 | -82.1625 |
| 0901010508 | Suwannee River at US Hwy. 441 near Fargo, GA | St. Marys | USGS | Trend Monitoring | 30.6806 | -82.5606 |
| 0903080302 | Withlacoochee River at Clyattsville-Nankin Road near Clyattsville, GA | Suwannee | USGS | Trend Monitoring | 30.6747 | -83.3947 |
| 1003010102 | Ochlockonee River at Hadley Ferry Road near Calvary, Ga. | Ochlockonee | USGS | Trend Monitoring | 30.7317 | -84.2355 |
| 1105010601 | Flint River at SR 92 near Griffin, GA | Flint | USGS | Trend Monitoring | 33.3089 | -84.3931 |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization | Waterbody Type/ Project | Latitude | Longitude |
|---|---|---|---|---|---|---|
| 1106010701 | Flint River at SR 26 near Montezuma | Flint | USGS | Trend Monitoring | 32.2929 | -84.0440 |
| 1108010102 | Flint River at SR 234 near Albany, GA | Flint | USGS | Trend Monitoring | 31.5524 | -84.1463 |
| 1108040101 | Flint River at SR 37 at Newton, GA | Flint | USGS | Trend Monitoring | 31.3094 | -84.3350 |
| 1108070302 | Flint River at US Hwy. 27-B near Bainbridge, GA | Flint | USGS | Trend Monitoring | 30.9109 | -84.5805 |
| 1201030401 | Chattahoochee River at Belton Bridge Road near Lula, Ga. | Chattahoochee | USGS | Trend Monitoring (Lake Trib) | 34.4451 | -83.6842 |
| 1201050101 | Dicks Creek at Forest Service Road 144-1 near Neels Gap, GA | Chattahoochee | USGS | Trend Monitoring (Lake Trib) | 34.6797 | -83.9372 |
| 1201060401 | Chestatee River at SR 400 near Dahlonega, Ga. | Chattahoochee | USGS | Trend Monitoring (Lake Trib) | 34.4667 | -83.9689 |
| 1201080302 | Flat Creek at McEver Road near Gainesville, Ga. | Chattahoochee | USGS | Trend Monitoring (Lake Trib) | 34.2658 | -83.8850 |
| 1202070301 | Yellow Jacket Creek at Hammet Road near Hogansville, GA | Chattahoochee | USGS | Trend Monitoring (Lake Trib) | 33.1392 | -84.9753 |
| 1202050501 | New River at SR 100 near Corinth, Ga. | Chattahoochee | USGS | Trend Monitoring | 33.2353 | -84.9878 |
| 1202060101 | Chattahoochee River at US Hwy. 27 near Franklin, Ga. | Chattahoochee | USGS | Trend Monitoring (Lake Trib) | 33.2792 | -85.1000 |
| 1202110104 | Lake Harding - Dam Forebay (aka Chatt. River US Bartletts Ferry Dam) | Chattahoochee | CWW | Trend Monitoring | 32.6633 | -85.09028 |
| 1202130502 | Lake Oliver - Chattahochee River at Columbus Water Intake near Columbus, GA | Chattahoochee | CWW | Trend Monitoring | 32.5214 | -84.9983 |
| 1203010104 | Chattahoochee River downstream from Columbus Water Treatment Facility | Chattahoochee | CWW | Trend Monitoring | 32.4089 | -84.9803 |
| 1203060101 | Chattahoochee River downstream Oswichee Creek | Chattahoochee | CWW | Trend Monitoring | 32.3000 | -84.9369 |
| 1203060601 | Chattahoochee River at Hichitee Creek (River Mile 127.6) | Chattahoochee | CWW | Trend Monitoring | 32.2308 | -84.9232 |
| 1203060602 | Chattahoochee River at Spur 39 near Omaha, GA (Seaboard Railroad) | Chattahoochee | USGS | Trend Monitoring (Lake Trib) | 32.1436 | -85.0453 |
| 1204080101 | Chattahoochee River at SR 91 near Steam Mill, GA | Chattahoochee | USGS | Trend Monitoring | 30.9775 | -85.0053 |
| 1308020601 | Tallapoosa River at Georgia Hwy. 8 near Tallapoosa, Ga. | Tallapoosa | USGS | Trend Monitoring | 33.7408 | -85.3364 |
| 1308090601 | Little Tallapoosa River at Georgia Hwy. 100 near Bowden, GA | Tallapoosa | USGS | Trend Monitoring | 33.4928 | -85.2792 |
| 1401020703 | Conasauga River at US Hwy. 76 near Dalton, GA | Coosa | USGS | Trend Monitoring | 34.7830 | -84.8730 |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization | Waterbody Type/ Project | Latitude | Longitude |
|---|---|---|---|---|---|---|
| 1401050106 | Conasauga River at Tilton Bridge near Tilton, GA | Coosa | USGS | Trend Monitoring | 34.6667 | -84.9283 |
| 1402030502 | Mountaintown Creek at SR 282 (US Hwy. 76) near Ellijay, Ga. | Coosa | USGS | Trend Monitoring | 34.7034 | -84.5398 |
| 1402040103 | Coosawattee River at Georgia Hwy. 5 near Ellijay, Ga. | Coosa | USGS | Trend Monitoring | 34.6717 | -84.5002 |
| 1403060401 | Oostanaula River at Rome Water Intake near Rome, GA | Coosa | USGS | Trend Monitoring | 34.2703 | -85.1733 |
| 1404060301 | Etowah River at SR 5 spur near Canton, Ga. | Coosa | USGS | Trend Monitoring (Lake Trib) | 34.2397 | -84.4944 |
| 1404070401 | Shoal Creek at SR 108 (Fincher Road) near Waleska, Ga. | Coosa | USGS | Trend Monitoring (Lake Trib) | 34.2608 | -84.5956 |
| 1404080802 | Noonday Creek at Georgia Hwy. 92 near Woodstock, Ga. | Coosa | USGS | Trend Monitoring (Lake Trib) | 34.0861 | -84.5306 |
| 1404080904 | Little River at Georgia Hwy. 5 near Woodstock, Ga. | Coosa | USGS | Trend Monitoring (Lake Trib) | 34.1222 | -84.5043 |
| 1404150101 | Etowah River at Hardin Bridge (FAS 829) near Euharlee, GA | Coosa | USGS | Trend Monitoring | 34.18886 | -84.9251 |
| 1405010601 | Coosa River - GA/Alabama State Line Monitor near Cave Springs | Coosa | USGS | Trend Monitoring | 34.1983 | -85.4439 |
| 1405050401 | Chattooga River at Holland-Chattoogaville Road (FAS1363) near Lyerly, Ga. | Coosa | USGS | Trend Monitoring | 34.3356 | -85.4453 |
| 1501080101 | West Chickamauga Creek - Georgia Highway 146 near Ringgold, Ga. | Coosa | USGS | Trend Monitoring | 34.9572 | -85.2056 |

**Routine field parameters include:** gage height, air temperature, water temperature, dissolved oxygen, pH, conductivity, turbidity.

**Routine chemical parameters include:** BOD5, alkalinity, hardness, ammonia, nitrite+nitrate nitrogen, phosphorus, TOC and fecal coliform bacteria.

## TABLE 3-7. GEORGIA TARGETED MONITORING NETWORK 2012

Rivers and stream stations are sampled monthly for field and chemical parameters for one calendar year. For stations where fecal coliform bacteria is collected, four fecal coliform bacterial samples are collected each calendar quarter during the year. Basin lakes and reservoirs are sampled monthly during the growing season during the calendar year.

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[a] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[c] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0104060201 | Wilmington River at Marker # 19 | Savannah | Brunswick WP | Estuary Monitoring | 31.93242 | -80.9771 | X | | | | X | |
| 0109030202 | Runs Branch @ Effingham Co Rd 63 (Sistes Ferry Rd) nr Clyo | Savannah | Brunswick WP | Stream Targeted | 32.45997 | -81.2919 | X | | | | X | |
| 0109030303 | Ebenezer Creek at Long Bridge Road (CR 307) near Stillwell, Ga. | Savannah | Brunswick WP | Stream Targeted | 32.36458 | -81.2308 | X | X | X | | X | |
| 0109030503 | Sweigoffer Creek at Lake Cherie Road near Rincon, GA | Ogeechee | Brunswick WP | Stream Targeted | 32.288 | -81.191 | X | | | | X | |
| 0202040201 | Mill Creek at Lakeview Rd. | Ogeechee | Brunswick WP | Stream Targeted | 32.49264 | -81.7782 | X | | | | X | |
| 0202040301 | Mill Creek at Bulloch County Road 386 Old River Road near Brooklet, Ga. | Ogeechee | Brunswick WP | Stream Targeted | 32.43836 | -81.5786 | X | X | X | X | X | X |
| 0202050302 | Ash Branch at CR 2021 (Kangeter Loop) | Ogeechee | Brunswick WP | Stream Targeted | 32.23254 | -81.5702 | X | X | | | X | |
| 0202050402 | Upper Black Creek at CR 582 (Arcola Rd.) | Ogeechee | Brunswick WP | Stream Targeted | 32.27574 | -81.6283 | X | | | | X | |
| 0202050801 | Black Creek at State Road 30 near Blichton, Ga. | Ogeechee | Brunswick WP | Stream Targeted | 32.16704 | -81.4869 | X | X | | | X | |
| 0202060501 | Ogeechee River at Morgans Bridge Rd. near Bloomingdale, GA | Ogeechee | Brunswick WP | Stream Targeted | 32.08038 | -81.3851 | X | | X | | X | |
| 0202060601 | Ogeechee River at U.S. Hwy 17 | Ogeechee | Brunswick WP | Stream Targeted | 31.97824 | -81.2887 | X | | X | | X | |
| 0202060603 | Sterling Creek at Harris Trail Road near Richmond Hill, GA | Ogeechee | Brunswick WP | Stream Targeted | 31.91797 | -81.3072 | X | X | | | X | |
| 0202060604 | Ogeechee River at Fort McAllister State Park | Ogeechee | Brunswick WP | Estuary Monitoring | 31.89565 | -81.1979 | X | X | | | | |
| 0203010701 | Canoochee River at SR 121 near Metter, GA. | Ogeechee | Brunswick WP | Stream Targeted | 32.35591 | -82.0899 | X | | | | X | |
| 0203020501 | Fifteenmile Creek at Candler County Road 28 near Metter, Ga. | Ogeechee | Brunswick WP | Stream Targeted | 32.34734 | -82.0434 | X | | | | X | |
| 0203030401 | Tenmile Creek at Road S2242 (Adabelle Road) near Excelsior, Ga. | Ogeechee | Brunswick WP | Stream Targeted | 32.27965 | -81.9616 | X | | | | X | |
| 0203030701 | Cedar Creek at State Road 129 at Claxton, Ga. | Ogeechee | Brunswick WP | Stream Targeted | 32.17425 | -81.9223 | X | | | | X | |
| 0203031102 | Canoochee River - Daisy Nevils Rd. near Daisy, Ga. | Ogeechee | Brunswick WP | Stream Targeted | 32.17861 | -81.8289 | X | | | | X | |
| 0203040601 | Lotts Creek at State Road 250 (Nevils-Daisy Rd)near Nevils, Ga. | Ogeechee | Brunswick WP | Stream Targeted | 32.26442 | -81.8084 | X | X | | | X | |
| 0203040701 | Little Lotts Creek at SR46 near Stateboro, GA | Ogeechee | Brunswick WP | Stream Targeted | 32.32603 | -81.8024 | X | X | X | X | X | X |
| 0203041001 | Thick Creek at CR197 (Daisy Nevils Hwy.) near Daisy, Ga | Ogeechee | Brunswick WP | Stream Targeted | 32.2167 | -81.8252 | X | X | | | X | |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0203050601 | Taylors Creek at SR119/144 near Hinesville, GA | Ogeechee | Brunswick WP | Stream Targeted | 31.89354 | -81.6324 | X | X | | | X | |
| 0203050702 | Canoochee Creek at SR 129 near Hinesville, GA | Ogeechee | Brunswick WP | Stream Targeted | 31.94893 | -81.633 | X | | | | X | |
| 0203060601 | Canoochee River - Georgia Highway 67 | Ogeechee | Brunswick WP | Stream Targeted | 31.98306 | -81.3853 | X | | X | | X | |
| 0204010101 | Little Ogeechee River at Osteen Road near Savannah, GA | Ogeechee | Brunswick WP | Stream Targeted | 32.12034 | -81.3326 | X | | X | | X | |
| 0204010103 | Little Ogeechee River at U.S. Highway 17 near Burroughs, Ga. | Ogeechee | Brunswick WP | Stream Targeted | 32.00732 | -81.2368 | X | | X | | X | |
| 0204020104 | St Catherines Sound at Medway River near Midway, GA | Ogeechee | Brunswick WP | Estuary Monitoring | 31.70659 | -81.1587 | X | | | | X | |
| 0204030102 | Peacock Creek at Lewis Fraser Road nr Midway, Ga. | Ogeechee | Brunswick WP | Stream Targeted | 31.78775 | -81.4905 | X | | | | X | |
| 0204030402 | Little Ogeechee River @ Green Island | Ogeechee | Brunswick WP | Estuary Monitoring | 31.88823 | -81.088 | X | | | | X | |
| 0204040101 | South Newport River at U.S. Highway 17 at South Newport, Ga. | Ogeechee | Brunswick WP | Stream Targeted | 31.64296 | -81.3936 | X | | X | X | X | |
| 0204040103 | Sapelo Sound at South Newport River near Barbour Island, GA | Ogeechee | Brunswick WP | Estuary Monitoring | 31.55411 | -81.2004 | X | | | | X | |
| 0301100102 | Lake Oconee At Highway 44, Oconee River Arm | Oconee | Atlanta WP | Lake Monitoring | 33.43139 | -83.2657 | X | X | | | | |
| 0301100602 | Lake Oconee 300 Meters Upstream Wallace Dam (Dam Forebay) | Oconee | Atlanta WP | Lake Monitoring | 33.35167 | -83.1608 | X | X | | | | |
| 0301110502 | Lake Oconee - Richland Creek Arm | Oconee | Atlanta WP | Lake Monitoring | 33.3947 | -83.1767 | X | X | | | | |
| 0301170701 | Lake Sinclair - Little River & Murder Creek Arm, U/S U.S. Hwy 441 | Oconee | Atlanta WP | Lake Monitoring | 33.189 | -83.2953 | X | X | | | | |
| 0301170702 | Lake Sinclair - 300 Meters Upstream Dam (Dam Forebay) | Oconee | Atlanta WP | Lake Monitoring | 33.14282 | -83.2026 | X | X | | | | |
| 0301180104 | Lake Sinclair - Midlake, Oconee River Arm | Oconee | Atlanta WP | Lake Monitoring | 33.1968 | -83.2742 | X | X | | | | |
| 0302050501 | Commissioner Creek at US 441 near McIntyre, GA | Oconee | Tifton WP | Stream Targeted | 32.84972 | -83.1931 | X | | X | | | |
| 0302140102 | Peterson Creek - CR 58 near Glenwood, GA | Oconee | Tifton WP | Stream Targeted | 32.16236 | -82.6457 | X | X | | | X | |
| 0403010201 | Doless Creek at Flat Shoals Road near Decatur, GA | Ocmulgee | Atlanta WP | Stream Targeted | 33.705898 | -84.27743 | | | | | | X |
| 0403010501 | South River - Georgia Highway 155 near Lithonia, Ga. | Ocmulgee | Atlanta WP | Stream Targeted | 33.65389 | -84.1867 | X | | | | | |
| 0403010601 | Honey Creek at State Road 212 near Conyers, Ga. | Ocmulgee | Atlanta WP | Stream Targeted | 33.57972 | -84.0642 | X | X | | | | X |
| 0403050104 | Yellow River at Pleasant Hill Road near Lithonia ,GA | Ocmulgee | Atlanta WP | Stream Targeted | 33.73382 | -84.0616 | X | X | X | | | |
| 0403050204 | Dried Indian Creek at Flat Shoals Road near Porterdale GA | Ocmulgee | Atlanta WP | Stream Targeted | 33.539 | -83.872 | X | | | | | X |
| 0403050401 | Little Haynes Creek at State Road 138 near Conyers, Ga. | Ocmulgee | Atlanta WP | Stream Targeted | 33.72167 | -83.9183 | X | X | | | | X |
| 0403070602 | Big Flat Creek at Youth Monroe Road near Loganville, Ga. | Ocmulgee | Atlanta WP | Stream Targeted | 33.79508 | -83.8419 | X | X | | | | |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0403090302 | Lake Jackson at confluence of Alcovy River and Yellow/South River Branch | Ocmulgee | Atlanta WP | Lake Monitoring | 33.36823 | -83.8633 | X | X | | | | |
| 0403090306 | Lake Jackson - Dam Forebay | Ocmulgee | Atlanta WP | Lake Monitoring | 33.322 | -83.8409 | X | X | | | | |
| 0503100503 | Big Sandy Creek at State Road 87 near Sandy, Ga. | Ocmulgee | Atlanta WP | Stream Targeted | 33.19528 | -83.8506 | X | X | | | | |
| 0503110405 | Cabin Creek at Water Works Road near Jackson, GA | Ocmulgee | Atlanta WP | Stream Targeted | 33.22609 | -84.063 | X | X | X | | X | X |
| 0503110501 | Buck Creek at Chappell Mill Road near Barnsville, Ga. | Ocmulgee | Atlanta WP | Stream Targeted | 33.179 | -84.098 | X | | X | | X | X |
| 0503110502 | Brushy Creek at SR 36 near Patillo GA | Ocmulgee | Atlanta WP | Stream Targeted | 33.202 | -84.065 | X | | | | X | |
| 0503110602 | Towaliga River at Kinards Mill Road near Jackson, Ga. | Ocmulgee | Atlanta WP | Stream Targeted | 33.2473 | -84.0613 | X | X | | | X | |
| 0503110606 | High Falls Lake - Midlake | Ocmulgee | Atlanta WP | Lake Monitoring | 33.1973 | -84.031 | X | X | | | | |
| 0503110608 | High Falls Lake - Dam Forebay | Ocmulgee | Atlanta WP | Lake Monitoring | 33.1799 | -84.0209 | X | X | | | | |
| 0503120201 | Little Towaliga River at High Falls Rd. near Forsyth, Ga | Ocmulgee | Atlanta WP | Stream Targeted | 33.129 | -83.972 | X | | X | | X | |
| 0503120404 | Towaliga River - Georgia Highway 83 | Ocmulgee | Atlanta WP | Stream Targeted | 33.11472 | -83.8706 | X | X | X | | X | |
| 0503130301 | Allison Creek nr Round Oak-Juliette Rd nr Hillsboro, GA | Ocmulgee | Atlanta WP | Stream Targeted | 33.10760 | -83.71405 | | | | | | X |
| 0503130501 | Falling Creek - FAS 1640 Near East Juliet | Ocmulgee | Atlanta WP | Stream Targeted | 33.09972 | -83.7236 | X | X | | | | |
| 0503130502 | Hurricane Creek nr Hitchiti Experimental Forest Rd nr Juliette, GA | Ocmulgee | Atlanta WP | Stream Targeted | 33.03645 | -83.70655 | | | | | | X |
| 0503130503 | Caney Creek nr Caney Creek Rd nr Hillsboro, GA | Ocmulgee | Atlanta WP | Stream Targeted | 33.05569 | -83.70073 | | | | | | X |
| 0503130701 | Rum Creek at Blue Store Road (County Road 193) near Forsyth, | Ocmulgee | Atlanta WP | Stream Targeted | 33.06877 | -83.8847 | X | | | | X | X |
| 0503130702 | Chambliss Creek at Maynard Chuch Road (County Road 13) near | Ocmulgee | Atlanta WP | Stream Targeted | 33.05 | -83.88 | X | | | | X | |
| 0503130703 | Lake Juliette - Midlake | Ocmulgee | Atlanta WP | Lake Monitoring | 33.0464 | -83.8106 | X | X | | | | |
| 0503130704 | Lake Juliette - Dam Forebay | Ocmulgee | Atlanta WP | Lake Monitoring | 33.0338 | -83.7572 | X | X | | | | |
| 0503140203 | Tobesofkee Creek at Mountpelier Road near Forsyth, Ga. | Ocmulgee | Atlanta WP | Stream Targeted | 32.98 | -83.93 | X | | | | | X |
| 0503140501 | Tobesofkee Creek - U.S. Highway 80 near Macon, GA | Ocmulgee | Atlanta WP | Stream Targeted | 32.799 | -83.757 | X | | | | | |
| 0503140503 | Lake Tobesofkee - Midlake | Ocmulgee | Atlanta WP | Lake Monitoring | 32.8346 | -83.8161 | X | X | | | | |
| 0503140505 | Lake Tobesofkee - Dam Forebay | Ocmulgee | Atlanta WP | Lake Monitoring | 32.8215 | -83.7706 | X | X | | | | |
| 0503140505 | Tobesofkee Creek at SR 74 near Macon, GA | Ocmulgee | Atlanta WP | Stream Targeted | 32.866 | -83.839 | X | | | | | |
| 0503150303 | Little Echeconne Creek at Smith Chapel Road near Musella, Ga. | Ocmulgee | Atlanta WP | Stream Targeted | 32.80993 | -83.9205 | X | | | | | |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0503150604 | Echeconnee Creek at Houston Road near Warner Robins, GA | Ocmulgee | Atlanta WP | Stream Targeted | 32.692 | -83.701 | X | | X | | | |
| 0503160403 | Walnut Creek at Jeffersonville Road at Macon, Ga. | Ocmulgee | Atlanta WP | Stream Targeted | 32.85215 | -83.5931 | X | | | | | |
| 0504060202 | Little House Creek at Bethelehem Rd near Abbeville, GA | Ocmulgee | Tifton WP | Stream Prob | 31.83847 | -83.262 | X | | | | X | |
| 0504070301 | Big Horse Creek at State Road 117 near Lumber City, Ga. | Ocmulgee | Tifton WP | Stream Targeted | 31.85194 | -82.8269 | X | X | | | | |
| 0606050204 | Altamaha River - channel marker #201 off Wolf Island | Altamaha | Brunswick WP | Estuary Monitoring | 31.32006 | -81.3103 | X | X | | | | |
| 0607050601 | Ohoopee River at State Road 178 near Glennville, Ga. | Altamaha | Brunswick WP | Stream Targeted | 31.92028 | -82.1128 | X | | | | | |
| 0701120304 | St. Andrews Sound at Satilla Riv near | Satilla | Brunswick WP | Estuary Monitoring | 31.00609 | -81.4292 | X | X | | | X | |
| 0703020101 | Turtle River off Hermitage Island | Satilla | Brunswick WP | Estuary Monitoring | 31.22028 | -81.5642 | X | X | | | | |
| 0703020106 | Turtle River - Georgia Highway 303 | Satilla | Brunswick WP | Estuary Monitoring | 31.18694 | -81.5314 | X | X | | | | |
| 0703020110 | Brunswick River - U.S. Highway 17 | Satilla | Brunswick WP | Estuary Monitoring | 31.1164 | -81.4858 | X | X | X | X | | |
| 0703040208 | Cumberland Sound at St. Marys Riv nr St Marys, GA | Satilla | Brunswick WP | Estuary Monitoring | 30.72807 | -81.4898 | X | X | | | X | |
| 0902010201 | Alapaha River at State Road 112 near Rochelle, Ga. | Suwannee | Tifton WP | Stream Targeted | 31.89639 | -83.4886 | X | | | | | |
| 0902060201 | Reedy Creek at County Road 57 (Firecracker Road) near Ocilla, Ga. | Suwannee | Tifton WP | Stream Targeted | 31.51565 | -83.261 | X | | | | | |
| 0902100101 | Banks Lake - Near Lakeland, Ga. | Suwannee | Brunswick WP | Lake Monitoring | 31.02667 | -83.1056 | X | X | | | | |
| 0902110201 | Mud Creek at County Road 112 (Vann Road) near Valdosta, Ga | Suwannee | Tifton WP | Stream Targeted | 30.77778 | -83.18 | X | X | | | X | |
| 0903010401 | Withlacoochee River at State Road 76 (Adel Rd.) near Nashville, Ga | Suwannee | Tifton WP | Stream Targeted | 31.19833 | -83.2725 | X | X | | | | |
| 0903020102 | New River - U.S. Highway 82 Near Tifton | Suwannee | Tifton WP | Stream Targeted | 31.4425 | -83.4758 | X | X | | | X | |
| 0903030202 | Beatty Branch at Beatty Road near Barretts, GA | Suwannee | Tifton WP | Stream Prob | 30.98622 | -83.2204 | X | | | | X | |
| 0903040104 | Giddens Mill Creek At N. Elm Street | Suwannee | Tifton WP | Stream Prob | 31.14873 | -83.4336 | X | X | | | | |
| 0903040405 | Withlacoochee River - SR133 nr Valdosta, Ga. (formerly called Ga. Hwy 94) | Suwannee | Tifton WP | Stream Targeted | 30.85 | -83.3397 | X | | | | X | |
| 0903040406 | Sugar Creek | Suwannee | Tifton WP | Stream Prob | 30.83825 | -83.3144 | X | | | | | X |
| 0903050101 | Okapilco Creek at County Road 182 (James Buckner Road) near Moultrie, Ga. | Suwannee | Tifton WP | Stream Targeted | 31.25472 | -83.7939 | X | | | | | |
| 0903070201 | Piscola Creek at State Road 38 near Dixie, Ga. | Suwannee | Tifton WP | Stream Targeted | 30.79306 | -83.7064 | X | | | | X | |
| 0903080101 | Withlacoochee River - U.S. Highway 84 | Suwannee | Tifton WP | Stream Targeted | 30.79306 | -83.4536 | X | | X | | | |
| 0904010101 | Little River at State Road 112 near Ashburn, Ga. | Suwannee | Tifton WP | Stream Targeted | 31.67444 | -83.6906 | X | | | | | |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0904030201 | Town Creek at County Road 169 near Sylvester, Ga. | Suwannee | Tifton WP | Stream Targeted | 31.48667 | -83.8061 | X | | | | X | |
| 1002010501 | Ochlockonee River at Zion Grove Church Rd. near Coolidge, GA | Ochlockonee | Tifton WP | Stream Targeted | 31.0565 | -83.8995 | X | X | | | X | |
| 1002010601 | Little Creek at County Road 480 (Lower Meigs Rd.) near Moultrie, GA | Ochlockonee | Tifton WP | Stream Targeted | 31.11246 | -83.8803 | X | | | | | |
| 1002030301 | Big Creek at State Road 35 near Coolidge, GA | Ochlockonee | Tifton WP | Stream Prob | 30.97528 | -83.8878 | X | | | | | |
| 1002040301 | Lost Creek at State Road 111 near Meigs, GA | Ochlockonee | Tifton WP | Stream Targeted | 31.10556 | -84.0086 | X | X | | | | |
| 1002050301 | East Branch Barnetts Creek @ Co Rd 159 nr Ochlockonee, GA | Ochlockonee | Tifton WP | Stream Targeted | 30.94694 | -84.0717 | X | | X | | | X |
| 1002060201 | Oquina Creek at County Road 138 (Old Cassidy Rd.) near Thomasville, GA | Ochlockonee | Tifton WP | Stream Targeted | 30.86917 | -83.9836 | X | | X | | X | |
| 1002080302 | Tired Creek at State Road 111 near Cairo, GA | Ochlockonee | Tifton WP | Stream Prob | 30.83611 | -84.2406 | X | | | | X | X |
| 1003020301 | Little Attapulgus Creek at State Rd 241 near Attapulgus, GA | Ochlockonee | Tifton WP | Stream Targeted | 30.71806 | -84.49 | X | X | X | | X | X |
| 1003020501 | Swamp Creek at US Hwy 27 near Attapulgus, GA | Ochlockonee | Tifton WP | Stream Targeted | 30.71944 | -84.4114 | X | X | X | | | |
| 1105010203 | Camp Creek 319(h) nr Walker Rd, Creekview Cir, Riverdale, GA | Flint | Atlanta WP | Stream Targeted | 33.57508 | -84.4337 | | | | | | X |
| 1105020301 | Flat Creek at Georgia Highway 74 near Peachtree City, GA | Flint | Atlanta WP | Stream Targeted | 33.34111 | -84.5389 | X | X | | | | |
| 1105020302 | Line Creek At Georgia Highway 85 Near Senoia | Flint | Atlanta WP | Stream Targeted | 33.31944 | -84.5236 | X | X | | | | |
| 1105060201 | Powder Creek at SR 109 near Lifesy Springs, GA | Flint | Atlanta WP | Stream Targeted | 33.037 | -84.358 | X | | | | | X |
| 1105060401 | Elkins Creek at Dripping Rock Rd near Molena, GA | Flint | Atlanta WP | Stream Targeted | 32.9703 | -84.5161 | X | | | | | X |
| 1105060402 | Spring Creek at Thundering Springs Rd near Molena, GA | Flint | Atlanta WP | Stream Targeted | 32.9672 | -84.4972 | X | X | | | | X |
| 1105070201 | Cane Creek at Cove Road near Woodbury, GA | Flint | Atlanta WP | Stream Targeted | 32.959 | -84.545 | X | | | | | |
| 1105070401 | Pigeon Creek at Pigeon Creek Road near Manchester, GA | Flint | Atlanta WP | Stream Targeted | 32.86874 | -84.6122 | X | | | | | X |
| 1105070502 | Flint Riv at Sprewell Bluff State Park near | Flint | Atlanta WP | Stream Targeted | 32.85599 | -84.4768 | X | X | X | X | X | X |
| 1105090401 | Potato Creek at Alabama Road near Piedmont, Ga. | Flint | Atlanta WP | Stream Targeted | 33.01419 | -84.2607 | X | X | | | | X |
| 1105090701 | Potato Creek at State Road 74 near Thomaston, Ga. | Flint | Atlanta WP | Stream Targeted | 32.90417 | -84.3625 | X | | | | | |
| 1105120601 | Ulcohatchee Creek at Charlie Reeves Road near Roberta, Ga. | Flint | Atlanta WP | Stream Targeted | 32.70892 | -84.1878 | X | X | X | | | |
| 1106010201 | Beaver Creek - Winchester Road Near Marshallville | Flint | Tifton WP | Stream Targeted | 32.41 | -83.9794 | X | X | | | | X |
| 1106010601 | Sweetwater Creek at Old Stage Road | Flint | Tifton WP | Stream Targeted | 32.19128 | -84.0862 | X | | | | | X |
| 1106020901 | Buck Creek at State Road 240 near Ideal, Ga. | Flint | Tifton WP | Stream Targeted | 32.30917 | -84.1619 | X | X | | | | |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1106040401 | Lime Creek nr Vienna, GA at Middle River Road | Flint | Atlanta WP | Stream Targeted | 32.06931 | -84.10647 | | | | | | X |
| 1106040701 | Lime Creek at Peggy Shepherd Road east of Americus, GA | Flint | Tifton WP | Stream Targeted | 32.035 | -83.9925 | X | X | X | X | X | X |
| 1106050201 | Turkey Creek - Georgia Highway 90 At Byromville | Flint | Tifton WP | Stream Targeted | 32.19556 | -83.9008 | X | X | | | | |
| 1106060110 | Lake Blackshear - Midlake | Flint | Tifton WP | Lake Monitoring | 31.9665 | -83.9342 | X | X | | | | |
| 1106060801 | Swift Creek at Jamestown Road near Warwick, Ga. | Flint | Tifton WP | Stream Targeted | 31.83889 | -83.8547 | X | | | | X | X |
| 1106061001 | Lake Blackshear - Dam Forebay | Flint | Tifton WP | Lake Monitoring | 31.8479 | -83.9394 | | | | | | |
| 1106070701 | Flint Riv at SR 32 nr Albany, GA | Flint | Tifton WP | Stream Targeted | 31.72525 | -84.0182 | X | | X | | | |
| 1106090501 | Flint River Reservoir - Midlake, Flint River Arm | Flint | Tifton WP | Lake Monitoring | 31.6085 | -84.119 | X | X | | | | |
| 1106090502 | Flint River Reservoir (Lake Worth) - Dam Forebay | Flint | Tifton WP | Lake Monitoring | 31.6033 | -84.1365 | X | X | | | | |
| 1107020301 | Lanahassee Creek at US 280 near Preston, Ga. | Flint | Tifton WP | Stream Targeted | 32.0498 | -84.5069 | X | X | | | | X |
| 1107030101 | Trib Kinchafoonee Creek@Spanns Mill Road | Flint | Tifton WP | Stream Prob | 32.00177 | -84.5055 | X | | | | | |
| 1107050201 | Mossy Creek nr Smithville, GA | Flint | Atlanta WP | Stream Targeted | 31.88518 | -84.35880 | | | | | | X |
| 1107090301 | Muckaloochee Creek at Smithville Road near Starksville, Ga. | Flint | Tifton WP | Stream Targeted | 31.8132 | -84.1721 | X | X | | | | |
| 1107100301 | Lake Worth (original) - Above Hwy 91 Bridge / Diversion Dam (aka Lake Chehaw) | Flint | Tifton WP | Lake Monitoring | 31.6109 | -84.15 | X | X | | | | |
| 1108080405 | Lake Seminole - Flint River Arm @ Spring Creek | Flint | Tifton WP | Lake Monitoring | 30.7627 | -84.8171 | X | X | | | | |
| 1109020201 | Little Ichawaynochaway Crk at CR 3 nr Shellman, GA | Flint | Tifton WP | Stream Targeted | 31.80353 | -84.64 | X | X | X | X | X | X |
| 1109040401 | Carters Crk at CR 22 nr Cuthbert, GA | Flint | Tifton WP | Stream Prob | 31.63582 | -84.7201 | X | | | | X | |
| 1109090201 | Chickasawhatchee Creek at State Road 37 near Elmodel, Ga. | Flint | Tifton WP | Stream Targeted | 31.3525 | -84.4861 | X | | X | | | |
| 1110020101 | Dry Creek at Five Bridge Rd. near Blakely, Ga | Flint | Tifton WP | Stream Targeted | 31.34571 | -84.8641 | X | X | X | | | X |
| 1110050101 | Spring Creek at State Road 91 near Colquitt, Ga. | Flint | Tifton WP | Stream Targeted | 31.17056 | -84.7428 | X | | | | X | |
| 1110070101 | Spring Creek At U.S. Highway 84 | Flint | Tifton WP | Stream Targeted | 30.97528 | -84.7456 | X | | X | | | |
| 1110080301 | Fishpond Drain @ Town and County Road | Flint | Tifton WP | Stream Targeted | 31.0237 | -84.8923 | X | X | | | | |
| 1201040404 | Lake Sidney Lanier - Little River Embayment, Betw M1WC & 3LR | Chattahoochee | Atlanta WP | Lake Monitoring | 34.355 | -83.8427 | X | X | | | | |
| 1201060203 | Yahoola Creek nr Captain McDonald Rd nr Dahlonega, GA | Chattahoochee | Atlanta WP | Stream Targeted | 34.53206 | -83.96400 | | | | | | X |
| 1201060301 | Cane Creek at Radio Rd. nr Dahlonega, GA | Chattahoochee | Atlanta WP | Stream Targeted | 34.52077 | -84.00728 | | | | | | X |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1201070501 | Lake Sidney Lanier at Boling Bridge (State Road 53) on Chestatee River | Chattahoochee | Atlanta WP | Lake Monitoring | 34.31235 | -83.9501 | X | X | | | | |
| 1201080103 | Lake Sidney Lanier at Lanier Bridge (State Road 53) on Chattahoochee River | Chattahoochee | Atlanta WP | Lake Monitoring | 34.32195 | -83.8802 | X | X | | | | |
| 1201080203 | Lake Sidney Lanier at Browns Bridge Road (State Road 369) | Chattahoochee | Atlanta WP | Lake Monitoring | 34.26167 | -83.9507 | X | X | | | | |
| 1201080304 | Lake Sidney Lanier - Flat Creek Embayment, 100' U/S M7FC | Chattahoochee | Atlanta WP | Lake Monitoring | 34.2587 | -83.9198 | X | X | | | | |
| 1201080307 | Lake Sidney Lanier - Balus Creek Embayment, 0.34m SE M6FC | Chattahoochee | Atlanta WP | Lake Monitoring | 34.2504 | -83.9244 | X | X | | | | |
| 1201080401 | Lake Sidney Lanier - Mud Crk Embayment, Betw Marina & Ramp | Chattahoochee | Atlanta WP | Lake Monitoring | 34.2333 | -83.9373 | X | X | | | | |
| 1201080403 | Lake Lanier upstream from Flowery Branch Confluence (Midlake) | Chattahoochee | Atlanta WP | Lake Monitoring | 34.20028 | -83.9829 | X | X | | | | |
| 1201080603 | Lake Sidney Lanier - Six Mile Creek Embayment, 300' E M9SM | Chattahoochee | Atlanta WP | Lake Monitoring | 34.2335 | -84.0287 | X | X | | | | |
| 1201080902 | Lake Sidney Lanier upstream of Buford Dam Forebay | Chattahoochee | Atlanta WP | Lake Monitoring | 34.16278 | -84.0671 | X | X | | | | |
| 1201090205 | Chattahoochee River at McGinnis Ferry Road | Chattahoochee | Atlanta WP | Stream AWW | 34.05056 | -84.0977 | X | X | | | | |
| 1201090705 | Chattahoochee River - DeKalb County Water Intake | Chattahoochee | Atlanta WP | Stream AWW | 33.9731 | -84.2631 | X | X | X | | | |
| 1201110101 | Big Creek at Roswell Water Intake near Roswell, Ga. | Chattahoochee | Atlanta WP | Stream AWW | 34.01785 | -84.3525 | X | X | | | | X |
| 1201110107 | March Creek At Brandon Mill Road | Chattahoochee | Atlanta WP | Stream Targeted | 33.9475 | -84.38722 | | | | | | X |
| 1201110109 | Chattahoochee River at Cobb County Water Intake near Roswell, Ga. | Chattahoochee | Atlanta WP | Stream AWW | 33.9443 | -84.405 | X | X | | | | |
| 1201110609 | Chattahoochee River - Atlanta Water Intake | Chattahoochee | Atlanta WP | Stream AWW | 33.8278 | -84.455 | X | X | X | | | |
| 1201120403 | Peachtree Creek at Northside Drive near Atlanta, Ga. | Chattahoochee | Atlanta WP | Stream AWW | 33.8194 | -84.4078 | X | X | X | X | | X |
| 1202010104 | Chattahoochee River at Bankhead Highway | Chattahoochee | Atlanta WP | Stream AWW | 33.79528 | -84.5078 | X | X | X | X | | |
| 1202010301 | Utoy Creek At Great Southwest Parkway | Chattahoochee | Atlanta WP | Stream Targeted | 33.743506 | -84.56832 | | | | | | X |
| 1202020802 | Sweetwater Creek at Interstate Highway 20 | Chattahoochee | Atlanta WP | Stream Targeted | 33.7728 | -84.6147 | X | X | | | | X |
| 1202030102 | Chattahoochee River - Georgia Highway 92 | Chattahoochee | Atlanta WP | Stream AWW | 33.6567 | -84.6736 | X | X | X | | | |
| 1202031202 | Chattahoochee River at Capps Ferry Road near Rico, Ga. | Chattahoochee | Atlanta WP | Stream AWW | 33.5778 | -84.8086 | X | X | | | | |
| 1202040201 | Cedar Creek at Brimer Road near Roscoe, Ga. | Chattahoochee | Atlanta WP | Stream Targeted | 33.48083 | -84.8381 | X | X | | | | |
| 1202040701 | Centralhatchee Creek at U.S. Highway 27 near Franklin, Ga. | Chattahoochee | Atlanta WP | Stream Targeted | 33.31111 | -85.1044 | X | X | | | | |
| 1202060802 | West Point Lake at LaGrange Water Intake near LaGrange, Ga. (aka Chatt. River at Lagrange Intake) | Chattahoochee | Atlanta WP | Lake Monitoring | 33.0783 | -85.1108 | X | X | | | | |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1202070201 | Blue Creek at County Line Rd near Hogansville, GA | Chattahoochee | Atlanta WP | Stream Targeted | 33.1832 | -84.8626 | X | X | X | X | X | X |
| 1202080208 | West Point Lake - Dam Forebay | Chattahoochee | Atlanta WP | Lake Monitoring | 32.9208 | -85.1834 | X | X | | | | |
| 1202090501 | Long Cane Crk at New Hutchinson Mill Road Near Lagrange, GA | Chattahoochee | Atlanta WP | Stream Targeted | 32.966 | -85.072 | X | | | | | |
| 1202091204 | Long Cane Crk at Old West Point Rd nr West Point, GA | Chattahoochee | Atlanta WP | Stream Targeted | 32.86577 | -85.1593 | X | | X | | | |
| 1202091302 | Chattahoochee River at Hwy 29 at West Point, Ga. | Chattahoochee | Atlanta WP | Stream Targeted | 32.8777 | -85.1806 | X | | X | | | |
| 1202100702 | Flat Shoals Crk at SR 103 nr West Point, Ga. | Chattahoochee | Atlanta WP | Stream Targeted | 32.83685 | -85.1158 | X | | | | | |
| 1202110102 | Lake Harding - Midlake, Main Body | Chattahoochee | Atlanta WP | Lake Monitoring | 32.7379 | -85.1125 | X | X | | | | |
| 1202110104 | Lake Harding - Dam Forebay (aka Chatt. River US Bartletts Ferry Dam) | Chattahoochee | Atlanta WP | Lake Monitoring | 32.6633 | -85.0903 | X | X | | | | |
| 1202130501 | Goat Rock Lake - Dam Forebay | Chattahoochee | Atlanta WP | Lake Monitoring | 32.6112 | -85.0794 | X | X | | | | |
| 1202130503 | Lake Oliver - Dam Forebay | Chattahoochee | Atlanta WP | Lake Monitoring | 32.516 | -85.0009 | X | X | | | | |
| 1203070101 | Hannahatchee Creek at Moores Store Rd | Chattahoochee | Tifton WP | Stream Prob | 32.14166 | -84.7532 | X | | | | | X |
| 1203130102 | Lake Walter F. George at U.S. Highway 82 (aka Chatt. River at Hwy 82) | Chattahoochee | Tifton WP | Lake Monitoring | 31.89194 | -85.1208 | X | X | | | | |
| 1203160102 | Lake Walter F. George at Dam Forebay | Chattahoochee | Tifton WP | Lake Monitoring | 31.62917 | -85.0725 | X | X | | | | |
| 1204010101 | Chattahoochee River at State Road 37 near Fort Gaines, Ga. | Chattahoochee | Tifton WP | Stream Targeted | 31.60417 | -85.0553 | X | | | | | |
| 1204070101 | Lake Andrews - Dam Forbay | Chattahoochee | Tifton WP | Lake Monitoring | 31.2632 | -85.113 | X | X | | | | |
| 1204080104 | Lake Seminole - Chattahoochee Arm, Lower | Chattahoochee | Tifton WP | Lake Monitoring | 30.7662 | -84.9201 | X | X | | | | |
| 1204080106 | Lake Seminole - Dam Forebay | Chattahoochee | Tifton WP | Lake Monitoring | 30.7115 | -84.8647 | X | X | | | | |
| 1308010501 | Little River at East Church Road near Buchanan, Ga. | Tallapoosa | Atlanta WP | Stream Targeted | 33.85323 | -85.1695 | X | | | | | |
| 1308010601 | Tallapoosa River at U.S. Highway 27 near Felton, Ga. | Tallapoosa | Atlanta WP | Stream Targeted | 33.86333 | -85.2136 | X | | X | | | |
| 1308010602 | Cochran Creek at Bennett Street near Buchanan, GA | Tallapoosa | Atlanta WP | Stream Targeted | 33.85746 | -85.1969 | X | | | | | |
| 1308080601 | Buck Creek at State Road 16 near Carrollton, Ga. | Tallapoosa | Atlanta WP | Stream Targeted | 33.59238 | -85.1293 | X | | | | | |
| 1308090202 | Buffalo Creek At U.S. Highway 27 | Tallapoosa | Atlanta WP | Stream Targeted | 33.561667 | -85.07306 | | | | | | X |
| 1401010202 | Jacks River at Old Highway 2 near Tennga, Ga. | Coosa | Atlanta WP | Stream Targeted | 34.9881 | -84.6344 | | | | | | X |
| 1401020801 | Mill Creek nr FS 630, Crandall, GA | Coosa | Atlanta WP | Stream Targeted | 34.87267 | -84.7242 | | | | | | X |
| 1401040101 | Holly Creek at Old CCC Camp Rd nr Chatsworth, GA | Coosa | Atlanta WP | Stream Targeted | 34.81209 | -84.65405 | | | | | | X |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1401050301 | Swamp Creek 319(h) nr Nance Springs Dr and Old Tilton Rd nr Dalton, GA | Coosa | Atlanta WP | Stream Targeted | 34.66853 | -84.94585 | | | | | | X |
| 1401050401 | Polecat Creek at County Line Road near Nickelsville, GA | Coosa | Cartersville WP | Stream Targeted | 34.61583 | -84.87306 | X | | | | X | X |
| 1401090203 | Trib E. Chickamauga Cr | Coosa | Cartersville WP | Stream Targeted | 34.875 | -85.091 | X | | X | | X | X |
| 1401100101 | Mud Creek at Captain Wood Road near LaFayette | Coosa | Cartersville WP | Stream Targeted | 34.70679 | -85.41737 | X | | X | | X | X |
| 1402010401 | Royston Creek at Big Creek Road | Coosa | Cartersville WP | Stream Prob | 34.67517 | -84.3374 | X | | | | | X |
| 1402010601 | Cartecay River at State Road 2 Connector near Ellijay, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.6858 | -84.4744 | X | X | X | | | |
| 1402020502 | Ellijay River at SR 52 (River Street) near Ellijay, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.6927 | -84.4791 | X | X | X | | | |
| 1402040401 | Carters Lake (CR1) - Upper Lake, Coosawattee Arm | Coosa | Cartersville WP | Lake Monitoring | 34.62087 | -84.6212 | X | X | | | | |
| 1402040402 | Carters Lake - Midlake (upstream from Woodring Branch) | Coosa | Cartersville WP | Lake Monitoring | 34.6076 | -84.638 | X | X | | | | |
| 1402060501 | Salacoa Creek at Lovebridge Road NE near Redbud, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.51667 | -84.7972 | X | X | X | | | |
| 1402080201 | Sugar Creek at Coniston Road near Carters. GA | Coosa | Cartersville WP | Stream Targeted | 34.63667 | -84.74222 | X | | | | X | X |
| 1402080401 | Dry Creek at Pleasant Hill Road near Redbud, GA | Coosa | Cartersville WP | Stream Targeted | 34.55194 | -84.7792 | X | X | X | | | |
| 1402080402 | Dry Creek at Jim Tom Road near Calhoun | Coosa | Cartersville WP | Stream Targeted | 34.55753 | -84.7551 | X | | X | | X | X |
| 1402080701 | Crane Eater Creek at Pine Chapel Road near Calhoun, GA | Coosa | Cartersville WP | Stream Targeted | 34.53111 | -84.87222 | X | X | | | X | X |
| 1403010401 | Oostanaula River at Georgia Highway 156 near Calhoun, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.4919 | -85.0136 | X | | X | X | | |
| 1403010402 | Bow Creek at Old Rome Dalton Road NW near Sugar Vally | Coosa | Cartersville WP | Stream Targeted | 34.53859 | -85.02672 | X | | X | | X | X |
| 1403030301 | Johns Creek at State Road 156 near Curryville, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.4412 | -85.0953 | X | | | | | X |
| 1403040101 | Little Armuchee Creek at Farmersville Road near Summerville | Coosa | Cartersville WP | Stream Targeted | 34.50795 | -85.21793 | X | | X | | X | X |
| 1403040202 | Storey Mill Creek @ Ben Mosley Circle near Armuchee | Coosa | Cartersville WP | Stream Targeted | 34.42465 | -85.25967 | X | | X | | X | X |
| 1403040301 | Heath Creek at Texas Valley Road NW near Rome, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.38241 | -85.2304 | X | X | | | | |
| 1403040402 | Trib to Little Armuchee Creek @ Farmersville Road near Summerville | Coosa | Cartersville WP | Stream Targeted | 34.47814 | -85.23422 | X | | X | | X | X |
| 1403050201 | Trib to Ruff Cr | Coosa | Cartersville WP | Stream Targeted | 34.577 | -85.203 | X | | X | | X | X |
| 1403050702 | Trib to Armuchee Creek @ Turkey Mountain Road | Coosa | Cartersville WP | Stream Targeted | 34.3846 | -85.14463 | X | | X | | X | X |
| 1403060301 | Dozier Creek at Bells Ferry Road near Rome, GA | Coosa | Cartersville WP | Stream Targeted | 34.32083 | -85.11028 | X | | | | X | X |
| 1404010303 | Nimblewill Creek at Nimblewill Gap Rd, nr Dahlonega, GA | Coosa | Cartersville WP | Stream Targeted | 34.574970 | -84.176488 | | | | | | X |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1404080101 | Little River at Batesville Road near Arnold Mill | Coosa | Atlanta WP | Stream Targeted | 34.136925 | -84.36112 | | | | | | X |
| 1404080201 | Chicken Creek at Batesville Road near Arnold Mill | Coosa | Atlanta WP | Stream Targeted | 34.130573 | -84.35324 | | | | | | X |
| 1404080902 | Lake Allatoona at Little River upstream from Highway 205 | Coosa | Cartersville WP | Lake Monitoring | 34.15861 | -84.5772 | X | X | | | | |
| 1404080903 | Rose Creek At Towne Lake Parkway | Coosa | Cartersville WP | Stream Prob | 34.13278 | -84.5725 | X | | | | | |
| 1404090401 | Lake Allatoona Upstream from Dam | Coosa | Cartersville WP | Lake Monitoring | 34.16083 | -84.7258 | X | X | | | | |
| 1404090404 | Lake Allatoona at Allatoona Creek Upstream from Interstate 75 | Coosa | Cartersville WP | Lake Monitoring | 34.08583 | -84.7114 | X | X | | | | |
| 1404100104 | Lake Allatoona at Etowah River upstream from Sweetwater Creek (Marker 44E/45E) | Coosa | Cartersville WP | Lake Monitoring | 34.19 | -84.5778 | X | | | | | |
| 1404100201 | Stamp Creek at State Road 20 near Cartersville, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.21632 | -84.686 | X | X | | | | |
| 1404100409 | Lake Allatoona downstream from Kellogg Creek ( Markers 18/19E) | Coosa | Cartersville WP | Lake Monitoring | 34.13861 | -84.6392 | X | X | | | | |
| 1404110401 | Little Pumpkinvine Creek (North) at Seven Hills Blvd near Acworth, GA | Coosa | Atlanta WP | Stream Targeted | 34.02293 | -84.78697 | | | | | | X |
| 1404120301 | Racoon Creek at Picklesville Road near Stilesboro, GA | Coosa | Cartersville WP | Stream Targeted | 34.12444 | -84.89194 | X | | | | X | X |
| 1404130102 | Etowah River at U.S. Highway 41 near Cartersville, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.1533 | -84.771 | X | | | | | |
| 1404150501 | Connesena Creek at Old Rome Road near Kingston, GA | Coosa | Cartersville WP | Stream Targeted | 34.2357 | -84.9725 | X | | X | | X | X |
| 1404160402 | Dykes Crk at Dykes Crk Xing nr Rome, GA | Coosa | Cartersville WP | Stream Targeted | 34.26357 | -85.0855 | X | X | X | X | X | X |
| 1404160601 | Silver Creek at Crescent Avenue near Rome, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.23278 | -85.17806 | X | | | | X | X |
| 1404160702 | Etowah River at Turner Mccall Boulevard (Hwy 27) near Rome, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.25416 | -85.164 | X | | X | X | | |
| 1405010101 | Horeseleg Creek at South Hanks Street at Rome, GA | Coosa | Cartersville WP | Stream Targeted | 34.26028 | -85.2025 | X | | | | X | X |
| 1405010106 | Coosa River at Blacks Bluff Road near Rome, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.206 | -85.2804 | X | | | X | | |
| 1405020401 | Lake Creek at Chubb Road near Cave Spring | Coosa | Cartersville WP | Stream Targeted | 34.08834 | -85.28473 | X | | X | | X | X |
| 1405040101 | Chattooga Creek - County Road 56, S Of Lafayette | Coosa | Cartersville WP | Stream Targeted | 34.67833 | -85.2933 | X | | | | | X |
| 1405040201 | Duck Creek at SR 337 near Center Post, GA | Coosa | Cartersville WP | Stream Targeted | 34.619 | -85.347 | X | X | | | | |
| 1405040301 | Spring Creek at State Road 337 near Trion, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.58444 | -85.3653 | X | X | | | | |
| 1405040601 | Cane Creek at Halls Valley Road near Trion/Lafayette | Coosa | Cartersville WP | Stream Targeted | 34.62209 | -85.24822 | X | | X | | X | X |
| 1405040701 | Cane Creek at Club Drive near Trion, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.56083 | -85.3104 | X | | | | | |
| 1405050102 | Chattooga River at U.S. Hwy 27 near Summerville | Coosa | Cartersville WP | Stream Targeted | 34.46717 | -85.3352 | X | X | X | X | | |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1405050301 | Clarks Creek at Talliaferro Springs Road near Lyerly | Coosa | Cartersville WP | Stream Targeted | 34.37825 | -85.39428 | X | | X | | X | X |
| 1405080101 | East Fork Little River at State Road 48 near Cloudland, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.52268 | -85.5049 | X | | | | | X |
| 1501090101 | East Chickamauga Crk at Lower Gordon Springs Rd nr Dalton, GA | Tennessee | Cartersville WP | Stream Targeted | 34.74692 | -85.1236 | X | X | X | X | X | X |
| 1501090303 | Trib. Tiger Creek off SR 2 near Ringgold | Tennessee | Cartersville WP | Stream Targeted | 34.9048 | -85.06788 | X | | X | | X | X |
| 1501100401 | West Chickamauga Creek at Glass Mill Road near Chickamauga, Ga. | Tennessee | Cartersville WP | Stream Targeted | 34.85313 | -85.2737 | X | X | | | | |
| 1501110101 | Chattanooga Creek at State Road 341 near Chattanooga, Tennessee | Tennessee | Cartersville WP | Stream Targeted | 34.92284 | -85.3457 | X | X | | | | X |
| 1501130101 | Higdon Creek at SR 136 near Gass, GA | Tennessee | Cartersville WP | Stream Prob | 34.86551 | -85.5754 | X | | | | | |
| 1502010501 | Lake Chatuge LMP 12 at State Line (aka Hiawassee River) | Tennessee | Cartersville WP | Lake Monitoring | 34.98333 | -83.7886 | X | X | | | | |
| 1502080301 | Nottely River - Morgan Bridge near Blairsville, GA | Tennessee | Cartersville WP | Stream Targeted | 34.84111 | -83.9361 | X | | | | | |
| 1502080302 | West Fork Wolf Creek at W. Wolf Creek Road near Choestoe, GA | Tennessee | Cartersville WP | Stream Targeted | 34.79178 | -83.9122 | X | | | | | X |
| 1502080601 | Lake Nottely (LMP15A) at Reece Creek | Tennessee | Cartersville WP | Lake Monitoring | 34.91152 | -84.0506 | X | X | | | | |
| 1502080602 | Lake Nottely - Dam Forebay (aka Nottely River - Upstream From Nottley Dam) | Tennessee | Cartersville WP | Lake Monitoring | 34.95778 | -84.0922 | X | X | | | | |
| 1503010201 | Cooper Creek at State Road 60 near Suches, Ga. | Tennessee | Cartersville WP | Stream Targeted | 34.74324 | -84.1246 | X | X | X | | | X |
| 1503010302 | Rock Creek - Bridge 1.5 Mile Upstream From Mouth | Tennessee | Cartersville WP | Stream Targeted | 34.72861 | -84.1558 | X | | | | | X |
| 1503010501 | Noontootla Creek - Newport Road Near Dial | Tennessee | Cartersville WP | Stream Targeted | 34.74722 | -84.2264 | X | | | | | X |
| 1503010701 | Lake Blue Ridge (LMP18) - 300 Meter Upstream Of Dam | Tennessee | Cartersville WP | Lake Monitoring | 34.88167 | -84.28 | X | X | | | | |
| 1503010702 | Lake Blue Ridge (LMP18A) - 4 miles upsteam Dam | Tennessee | Cartersville WP | Lake Monitoring | 34.84017 | -84.2731 | X | X | | | | |
| 1505060201 | Panther Creek @ logging Rd off CR 56 | Tennessee | Cartersville WP | Stream Targeted | 34.3427 | -85.4909 | X | | X | | X | X |

[1] **Sampling Organization:** Atlanta WP = GAEPD Atlanta office; Brunswick WP = GAEPD Brunswick Regional office, Cartersville WP = GAEPD Cartersville Regional Office Tifton WP = GAEPD Tifton Regional office.

[2] **Routine field parameters include:** gage height / tape down or discharge measurement, air temperature, water temperature, dissolved oxygen, pH, specific conductivtance.

[2] **Routine chemical parameters include:** turbidity, specific conductance, 5-day BOD, pH, alkalinity, hardness, suspended solids, ammonia, nitrate-nitrite, Kjeldahl nitrogen, total phosphorus, total organic carbon, and fecal coliform.

**Basin lakes field, chemical and biological parameters include:** water depth, secchi disk transparency, photic zone depth, air temperature, depth profiles for dissolved oxygen, temperature, pH, and specific conductance, and chemical analyses for turbidity, specific conductance, 5-day BOD, pH, alkalinity, hardness, suspended solids, ammonia, nitrate-nitrite, Kjeldahl nitrogen, total phosphorus, total organic carbon, and chlorophyll a.

[3] **Biomonitoring:** conducted for invertebrates and periphyton using Georgia EPD protocols.

## TABLE 3-8. GEORGIA TARGETED MONITORING NETWORK 2013

Rivers and streams stations are sampled monthly for field and chemical parameters for one calendar year. For stations where fecal coliform bacteria is collected,four fecal coliform bacterial samples are collected each calendar quarter during the year. Basin lakes and reservoirs are sampled monthly during the growing season for the calendar year.

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0102010101 | North Fork Chattooga River at State Rd. 28 nr Pine Mountain | Savannah | Atlanta WP | Stream Targeted | 34.91877 | -83.16922 | X | | | | X | |
| 0102060102 | Lake Tugalo - u/s Tugalo Lake Rd (aka Bull Sluice Rd.) | Savannah | Atlanta WP | Lake Monitoring | 34.737805 | -83.340555 | X | | | | X | |
| 0102060103 | Lake Tugalo - Upstream From Tugaloo Dam | Savannah | Atlanta WP | Lake Monitoring | 34.715 | -83.351694 | X | | | | X | |
| 0102060301 | Warwoman Creek at Earls Ford Road near Pine Mtn., GA | Savannah | Atlanta WP | Stream Targeted | 34.88458 | -83.22883 | X | | | | X | |
| 0102060501 | Stekoa Creek - FAS 881 Near Chechero, Ga. | Savannah | Atlanta WP | Stream Targeted | 34.83528 | -83.34694 | X | | | | X | X |
| 0102070101 | Coleman River | Savannah | Atlanta WP | Stream Targeted | 34.95203 | -83.5166 | X | | X | | X | X |
| 0102070102 | Charlies Creek | Savannah | Atlanta WP | Stream Targeted | 34.95895 | -83.57158 | X | | X | | X | X |
| 0102070302 | Tallulah River | Savannah | Atlanta WP | Stream Targeted | 34.91069 | -83.54007 | X | | X | | X | |
| 0102070303 | Popcorn Creek | Savannah | Atlanta WP | Stream Targeted | 34.88128 | -83.55913 | X | | X | | X | X |
| 0102070501 | Lake Burton - 1/4 mile South of Burton Island (aka Tallulah River) | Savannah | Cartersville WP | Lake Monitoring | 34.835233 | -83.553817 | X | | | | X | |
| 0102070502 | Lake Burton - Dampool (aka Tallulah River u/s Lake Burton Dam) | Savannah | Cartersville WP | Lake Monitoring | 34.795317 | -83.5401 | X | | | | X | |
| 0102070801 | Lake Rabun - Approx. 4.5 mi u/s Dam (Mid Lake) | Savannah | Cartersville WP | Lake Monitoring | 34.763533 | -83.455817 | X | | | | X | |
| 0102070802 | Lake Rabun - Dampool (aka Tallulah River - Upstream From Mathis Dam) | Savannah | Cartersville WP | Lake Monitoring | 34.764722 | -83.417778 | X | | | | X | |
| 0102130101 | Lake Hartwell @ Interstate 85 | Savannah | Atlanta WP | Lake Monitoring | 34.484167 | -83.029833 | X | | | | X | |
| 0103020103 | Lake Hartwell - Dam Forebay | Savannah | Atlanta WP | Lake Monitoring | 34.358733 | -82.824417 | X | | | | X | |
| 0103030702 | Lake Russell Between Markers 42 and 44 (Mid Lake) | Savannah | Atlanta WP | Lake Monitoring | 34.127778 | -82.673611 | X | | | | X | |
| 0103030704 | Lake Richard B. Russell - Dam Forebay | Savannah | Atlanta WP | Lake Monitoring | 34.026333 | -82.594167 | X | | | | X | |
| 0103100103 | Clarks Hill Lake- Savannah River At U.S. Highway 378 | Savannah | Atlanta WP | Lake Monitoring | 33.857861 | -82.399583 | X | | | | X | |
| 0103100301 | Clarks Hill Lake- Savannah River At Dordon Crk. | Savannah | Atlanta WP | Lake Monitoring | 33.765861 | -82.271778 | X | | | | X | |
| 0103100302 | Clarks Hill Lake - Dam Forebay | Savannah | Atlanta WP | Lake Monitoring | 33.662694 | -82.198528 | X | | | | X | |
| 0104010801 | North Fork Broad River at State Road 51 near Carnesville, Ga. | Savannah | Atlanta WP | Stream Targeted | 34.322891 | -83.186876 | X | | | | X | |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0104010901 | Stephans Creek at Hubbard Rd. near Carnesville, GA | Savannah | Atlanta WP | Stream Targeted | 34.349 | -83.23 | X | X | | | X | |
| 0104010902 | Middle Fork Broad River at State Road 51 near Franklin Springs, GA | Savannah | Atlanta WP | Stream Targeted | 34.292 | -83.181 | X | | | | X | |
| 0104021001 | Nails Creek at State Road 106 at Fort Lamar, Ga. | Savannah | Atlanta WP | Stream Targeted | 34.276 | -83.267 | X | X | | | X | |
| 0104021101 | Hudson River at State Road 106 at Fort Lamar, Ga. | Savannah | Atlanta WP | Stream Prob | 34.24866 | -83.271042 | X | X | X | | X | |
| 0104060201 | Mouth of Wilmington River - Marker #19 Wassaw Sound | Savannah | Brunswick | Estuary Monitoring | 31.932416 | -80.977111 | X | | | | | |
| 0104060501 | Broad River - Georgia Highway 17 | Savannah | Atlanta WP | Stream Targeted | 33.972531 | -82.770874 | X | | | | X | |
| 0105040301 | Clarks Hill Lake - Little River At Highway 47 | Savannah | Atlanta WP | Lake Monitoring | 33.692722 | -82.338805 | X | | | | X | |
| 0106010402 | Long Branch at SR 104 | Savannah | Atlanta WP | Stream Prob | 33.5704 | -82.1905 | X | | X | | X | |
| 0106030301 | Kiokee Creek at SR 104 near Evans | Savannah | Atlanta WP | Stream Targeted | 33.600583 | -82.232666 | X | | | | X | |
| 0106030501 | Uchee Creek at State Road 104 near Evans, Ga. | Savannah | Atlanta WP | Stream Targeted | 33.566944 | -82.183388 | X | | | | X | |
| 0106050206 | Butler Creek - Near the Levee | Savannah | Atlanta WP | Stream Targeted | 33.373056 | -81.948333 | X | | X | | X | |
| 0106050301 | Butler Creek at State Road 4 near Augusta, GA | Savannah | Atlanta WP | Stream Targeted | 33.413417 | -82.087283 | X | | X | | X | |
| 0108010302 | Whites Creek at Wire Road near Thomson | Savannah | Atlanta WP | Stream Targeted | 33.436 | -82.509 | X | | X | | X | |
| 0202010102 | Ogeechee River at Rocky Ford Road nr Rocky Ford, Ga. | Ogeechee | Brunswick WP | Stream Targeted | 32.64942 | -81.8409 | X | X | X | | | |
| 0202020501 | Ogeechee Creek at State Road 17 at Oliver, Ga. | Ogeechee | Brunswick WP | Stream Targeted | 32.524444 | -81.539722 | X | X | | | X | |
| 0202020502 | Ogeechee Creek at Old Creek Rd. near Newington, Ga. | Ogeechee | Brunswick WP | Stream Targeted | 32.587 | -81.518 | X | X | | | X | |
| 0202030701 | Ogeechee River - Georgia Highway 24 nr Oliver, Ga. | Ogeechee | Brunswick WP | Stream Targeted | 32.49475 | -81.555833 | X | X | X | | X | |
| 0202040301 | Mill Creek at Bulloch County Road 386 Old River Road near Brooklet, Ga. | Ogeechee | Brunswick WP | Stream Targeted | -81.5786 | 32.43836 | X | X | X | X | X | X |
| 0202060601 | Ogeechee River at U.S. Hwy 17 | Ogeechee | Brunswick WP | Stream Prob | 31.97824 | -81.28871 | X | | | | | |
| 0202060604 | Ogeechee River at Fort McAllister State Park | Ogeechee | Brunswick WP | Stream Targeted | 31.890611 | -81.200778 | X | | | | | |
| 0204020101 | Medway River - near mouth of Dickson Creek | Ogeechee | Brunswick WP | Stream Targeted | 31.758139 | -81.272166 | X | | | | | |
| 0204020104 | St Catherines Sound at Medway River near Midway, GA | Ogeechee | Brunswick WP | Estuary Monitoring | 31.715469 | -81.156798 | X | X | | | | |
| 0204030402 | Little Ogeechee River @ Green Island | Ogeechee | Brunswick WP | Estuary Monitoring | 31.88823 | -81.08798 | X | | | | | |
| 0204040101 | South Newport River at U.S. Highway 17 at South Newport, Ga. | Ogeechee | Brunswick WP | Stream Targeted | 31.642958 | -81.393565 | X | | | | | |
| 0204040103 | Sapelo Sound at South Newport River near Barbour Island, GA | Ogeechee | Brunswick WP | Estuary Monitoring | 31.554108 | -81.200361 | X | | | | | |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0204040107 | North Newport River - Halfmoon Landing | Ogeechee | Brunswick WP | Stream Targeted | 31.698867 | -81.278283 | X | | | | | |
| 0204050201 | Sapelo River - Mouth of Broro River - 1.4 miles South of Shellman's Bluff | Ogeechee | Brunswick WP | Estuary Monitoring | 31.544861 | -81.316027 | X | | | | | |
| 0209030201 | Ogeechee River ar SR119 near Guyton, GA | Ogeechee | Brunswick WP | Stream Targeted | 32.29742 | -81.450278 | X | X | X | | | |
| 0301030501 | Barber Creek at Daniels Bridge Road near Athens, Ga. | Oconee | Atlanta WP | Stream Targeted | 33.89935 | -83.443383 | X | X | X | | | |
| 0301030710 | Tributary to Middle Oconee River near Athens, GA | Oconee | Atlanta WP | Stream Targeted | 33.908 | -83.386 | X | X | X | | | |
| 0301050508 | North Oconee River at Whitehall Road near Whitehall, Ga. | Oconee | Atlanta WP | Stream Prob | 33.906944 | -83.36 | X | X | X | | X | |
| 0301100102 | Lake Oconee At Highway 44, Oconee River Arm | Oconee | Atlanta WP | Lake Monitoring | 33.431394 | -83.265734 | X | | | | | |
| 0301100602 | Lake Oconee 300 Meters Upstream Wallace Dam (Dam Forebay) | Oconee | Atlanta WP | Lake Monitoring | 33.351667 | -83.160833 | X | | | | | |
| 0301110502 | Lake Oconee - Richland Creek Arm | Oconee | Atlanta WP | Lake Monitoring | 33.3947 | -83.1767 | X | | | | | |
| 0301170701 | Lake Sinclair - Little River & Murder Creek Arm, U/S U.S. Hwy 441 | Oconee | Atlanta WP | Lake Monitoring | 33.189 | -83.2953 | X | | | | | |
| 0301170702 | Lake Sinclair - 300 Meters Upstream Dam (Dam Forebay) | Oconee | Atlanta WP | Lake Monitoring | 33.142817 | -83.202617 | X | | | | | |
| 0301180104 | Lake Sinclair - Midlake, Oconee River Arm | Oconee | Atlanta WP | Lake Monitoring | 33.1968 | -83.2742 | X | | | | | |
| 0302040602 | Mikes Mill Creek @ Hazard Road near Oconee, GA | Oconee | Atlanta WP | Stream Prob | 32.8776 | -82.9121 | X | | X | | X | |
| 0302040701 | Buffalo Creek at Georgia Highway 272 near Oconee, Ga. | Oconee | Atlanta WP | Stream Targeted | 32.89162 | -82.96093 | X | | X | | | |
| 0302050301 | Commissioner Creek at Shepard Bridge Rd. near McIntyre, GA | Oconee | Atlanta WP | Stream Targeted | 32.881 | -83.233 | X | | X | | | |
| 0302050501 | Commissioner Creek at US 441 near McIntyre, GA | Oconee | Atlanta WP | Stream Targeted | 32.84972 | -83.193056 | X | | X | | | |
| 0302050601 | Commissioner Creek at Georgia Highway 112 near Toomsboro, Ga. | Oconee | Atlanta WP | Stream Targeted | 32.830817 | -83.079117 | X | | X | | | |
| 0302060302 | Big Sandy Creek at SR 18 near Jeffersonville, GA | Oconee | Atlanta WP | Stream Targeted | 32.7696 | -83.33421 | X | | X | | | |
| 0302070102 | Big Sandy Creek at US 441 near Irwinton, GA | Oconee | Atlanta WP | Stream Targeted | 32.76654 | -83.16793 | X | | X | | | |
| 0403010102 | South River at Macon Drive near Atlanta, GA | Ocmulgee | Atlanta WP | Stream Targeted | 33.694 | -84.391 | X | X | X | | | |
| 0403060202 | Walnut Creek at Elliot Road near McDonough, GA | Ocmulgee | Atlanta WP | Stream Targeted | 33.4823 | -84.1188 | X | X | X | | X | |
| 0403090302 | Lake Jackson at confluence of Alcovy River and Yellow/South River Branch | Ocmulgee | Atlanta WP | Lake Monitoring | 33.368229 | -83.863339 | X | | | | | |
| 0403090306 | Lake Jackson - Dam Forebay | Ocmulgee | Atlanta WP | Lake Monitoring | 33.322 | -83.8409 | X | | | | | |
| 0503100604 | Ocmulgee River at Hwy 83 near Juliette, GA | Ocmulgee | Atlanta WP | Stream Prob | 33.1591 | -83.8241 | X | | X | | X | |
| 0503110405 | Cabin Creek at Calwell Rd near Jackson, GA | Ocmulgee | Atlanta WP | Stream Targeted | 33.23518 | -84.07057 | X | | | | | |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0503110602 | Towaliga River at Kinards Mill Road near Jackson, Ga. | Ocmulgee | Atlanta WP | Stream Targeted | 33.2473 | -84.0613 | X | | | | | |
| 0503110606 | High Falls Lake - Midlake | Ocmulgee | Atlanta WP | Lake Monitoring | 33.1973 | -84.031 | X | | | | | |
| 0503110608 | High Falls Lake - Dam Forebay | Ocmulgee | Atlanta WP | Lake Monitoring | 33.1799 | -84.0209 | X | | | | | |
| 0503120404 | Towaliga River - Georgia Highway 83 | Ocmulgee | Atlanta WP | Stream Targeted | 33.114722 | -83.870556 | X | | | | | |
| 0503130703 | Lake Juliette - Midlake | Ocmulgee | Atlanta WP | Lake Monitoring | 33.0464 | -83.8106 | X | | | | | |
| 0503130704 | Lake Juliette - Dam Forebay | Ocmulgee | Atlanta WP | Lake Monitoring | 33.0338 | -83.7572 | X | | | | | |
| 0503140503 | Lake Tobesofkee - Midlake | Ocmulgee | Atlanta WP | Lake Monitoring | 32.8346 | -83.8161 | X | | | | | |
| 0503140505 | Lake Tobesofkee - Dam Forebay | Ocmulgee | Atlanta WP | Lake Monitoring | 32.8215 | -83.7706 | X | | | | | |
| 0505020302 | Little Ocmulgee River @ U.S. Hwy 280 | Ocmulgee | Tifton WP | Stream Targeted | -82.888138 | 32.080859 | X | X | | | | |
| 0604050101 | Darien River - near Darien | Altamaha | Brunswick WP | Stream Targeted | 31.367222 | -81.436111 | X | | | | X | |
| 0606030701 | Goose Creek at Woods Road (County Road 30) near Jesup, Ga. | Altamaha | Brunswick WP | Stream Targeted | 31.676389 | -81.908333 | X | | | | | |
| 0606040102 | Altamaha River - U.S. Hwy 301 near Doctortown, Ga.. | Altamaha | Brunswick WP | Stream Prob | 31.666389 | -81.838611 | X | | | | X | |
| 0606040301 | Penholoway Creek at U.S. 341 near Jesup, Ga. | Altamaha | Brunswick WP | Stream Targeted | 31.566667 | -81.838333 | X | | X | | X | |
| 0606040501 | Jones Creek at U.S. Highway 25 near Ludowici, Ga. | Altamaha | Brunswick WP | Stream Targeted | 31.705278 | -81.760556 | X | | | | X | X |
| 0606050102 | Altamaha River - Seaboard Railway at Everett | Altamaha | Brunswick WP | Stream Targeted | 31.426944 | -81.605556 | X | | X | | X | |
| 0606050203 | South Altamaha River - U.S. Highway 17 | Altamaha | Brunswick WP | Stream Targeted | 31.319722 | -81.448056 | X | | | | | |
| 0606050204 | Altamaha River - channel marker #201 off Wolf Island | Altamaha | Brunswick WP | Estuary Monitoring | 31.319166 | -81.325 | X | | | | | |
| 0701120101 | Satilla River at U.S. Highway 17 at Woodbine, Ga. | Satilla | Brunswick WP | Stream Targeted | 30.974444 | -81.725833 | X | | | | | |
| 0701120302 | Satilla River - at marker A15 - 13 miles south of Brunswick | Satilla | Brunswick WP | Estuary Monitoring | 30.964444 | -81.485833 | X | X | X | | | |
| 0701120304 | St. Andrews Sound at Satilla Riv near | Satilla | Brunswick WP | Estuary Monitoring | 30.983162 | -81.453238 | X | | | | | |
| 0703020101 | Turtle River off Hermitage Island | Satilla | Brunswick WP | Estuary Monitoring | 31.220278 | -81.564167 | X | | | | | |
| 0703020106 | Turtle River - Georgia Highway 303 | Satilla | Brunswick WP | Estuary Monitoring | 31.186944 | -81.531389 | X | | | | | |
| 0703020110 | Brunswick River - U.S. Highway 17 | Satilla | Brunswick WP | Estuary Monitoring | 31.1164 | -81.4858 | X | | | | | |
| 0703030205 | St. Andrew Sound At Mouth Of Jointer Creek | Satilla | Brunswick WP | Estuary Monitoring | 31.034722 | -81.455556 | X | X | | | | |
| 0703040208 | Cumberland Sound at St. Marys Riv nr St Marys, GA | Satilla | Brunswick WP | Estuary Monitoring | 30.728073 | -81.489794 | X | | | | | |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0901030201 | Suwannoochee Creek @ U.S. Highway 84 | Suwanee | Tifton WP | Stream Targeted | -82.880556 | 30.985833 | X | X | | | | |
| 0901050301 | Toms Creek @ Toms Creek Rd | Suwanee | Tifton WP | Stream Targeted | -82.75636 | 30.65378 | X | | | | X | |
| 0902050101 | Willacoochee River @ Perry House Rd. | Suwanee | Tifton WP | Stream Targeted | -83.262252 | 31.660538 | X | X | | | | |
| 0902050303 | Willacoochee River @ Frank Church Rd. | Suwanee | Tifton WP | Stream Targeted | -83.22877 | 31.635132 | X | X | | | | |
| 0902050403 | Willacoochee River @ Hwy 158 | Suwanee | Tifton WP | Stream Targeted | -83.1462 | 31.4718 | X | X | | | | |
| 0902100101 | Banks Lake - Near Lakeland, Ga. | Suwanee | Tifton WP | Lake Monitoring | 31.026667 | -83.105555 | X | | | | | |
| 0902110302 | Alapahoochee River @ SR 135 | Suwanee | Tifton WP | Stream Targeted | -83.087778 | 30.628333 | X | | | | X | |
| 0903040101 | Withlacoochee River @ CR31 (Futch's Ferry Rd) | Suwanee | Tifton WP | Stream Prob | -83.3174 | 31.0956 | X | X | X | | X | |
| 0903080304 | Trib to Withlacoochee River @ Clyattville Nankin Rd | Suwanee | Tifton WP | Stream Prob | -83.3799 | 30.68099 | X | X | X | | X | |
| 0903090102 | Jumping Gully Creek @ Jumping Gully Rd | Suwanee | Tifton WP | Stream Targeted | -83.265833 | 30.634167 | X | X | | | X | |
| 1002050301 | East Branch Barnetts Creek @ Co Rd 159 nr Ochlockonee, GA | Ochlockonee | Tifton WP | Stream Targeted | -84.0717 | 30.94694 | | | | | | X |
| 1002080401 | Tired Creek @ Midway-Stephens Rd | Ochlocknee | Tifton WP | Stream Targeted | -84.2295 | 30.76388 | X | | | | X | |
| 1003010102 | Ochlockonee River @ Hadley Ferry Rd. | Ochlocknee | Tifton WP | Stream Targeted | -84.235533 | 30.731717 | X | | | | X | |
| 1003020201 | Attapulgus Creek @ U.S. Hwy 27 | Ochlocknee | Tifton WP | Stream Targeted | -84.453611 | 30.732778 | X | | | | X | |
| 1003020301 | Little Attapulgus Creek @ SR 241 | Ochlocknee | Tifton WP | Stream Targeted | -84.49 | 30.718056 | X | | X | | X | X |
| 1003020501 | Swamp Creek @ U.S. Hwy 27 | Ochlocknee | Tifton WP | Stream Targeted | -84.411389 | 30.719444 | X | | | | X | |
| 1105010203 | Camp Creek 319(h) nr Walker Rd, Creekview Cir, Riverdale, GA | Flint | Atlanta WP | Stream Targeted | -84.4337 | 33.57508 | | | | | | X |
| 1105060402 | Spring Creek at Thundering Springs Rd near Molena, GA | Flint | Atlanta WP | Stream Targeted | -84.4972 | 32.9672 | | | | | | X |
| 1105070401 | Pigeon Creek at Pigeon Creek Road near Manchester, GA | Flint | Atlanta WP | Stream Targeted | -84.6122 | 32.86874 | | | | | | X |
| 1105070502 | Flint Riv at Sprewell Bluff State Park near | Flint | Atlanta WP | Stream Targeted | 32.855988 | -84.476812 | X | X | X | X | X | X |
| 1105090501 | Trib to Potato Creek at Rocky Bottom Rd. near Thomaston, GA | Flint | Atlanta WP | Stream Prob | 32.93523 | -84.28026 | X | X | X | | X | |
| 1106010104 | Beaver Creek @ East RailRoad Street | Flint | Tifton WP | Stream Prob | -84.00945 | 32.314 | X | | X | | X | |
| 1106010601 | Sweetwater Creek at Old Stage Road | Flint | Tifton WP | Stream Targeted | -84.0862 | 32.19128 | | | | | | X |
| 1106030301 | Horsehead Creek @ Fieds Crossing Rd | Flint | Tifton WP | Stream Targeted | -83.945992 | 32.2761172 | X | | X | | X | |
| 1106040701 | Lime Creek @ Springhill Church Rd | Flint | Tifton WP | Stream Targeted | -83.9925 | 32.035 | X | X | X | X | X | |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1106040801 | Flint River @ SR 27 | Flint | Tifton WP | Stream Targeted | -83.9775 | 32.0586 | X | | X | | | |
| 1106060110 | Lake Blackshear - Midlake | Flint | Tifton WP | Lake Monitoring | 31.9665 | -83.9342 | X | | | | | |
| 1106061001 | Lake Blackshear - Dam Forebay | Flint | Tifton WP | Lake Monitoring | 31.8479 | -83.9394 | X | | | | | |
| 1106090501 | Flint River Reservoir - Midlake, Flint River Arm | Flint | Tifton WP | Lake Monitoring | 31.6085 | -84.119 | X | | | | | |
| 1106090502 | Flint River Reservoir (Lake Worth) - Dam Forebay | Flint | Tifton WP | Lake Monitoring | 31.6033 | -84.1365 | X | | | | | |
| 1107020101 | Clear Creek @ CR79 | Flint | Tifton WP | Stream Targeted | -84.613247 | 32.083889 | X | | X | | X | X |
| 1107040401 | Bear Creek Trib @ Ivy Mill Rd (CR 63) | Flint | Tifton WP | Stream Targeted | -84.441237 | 31.916283 | X | | X | | X | X |
| 1107070403 | Parker's Mill Creek @ Northshore (Northside) Dr | Flint | Tifton WP | Stream Targeted | -84.252338 | 32.127686 | X | | X | | X | |
| 1107080102 | Town Creek @ N Lee Street | Flint | Tifton WP | Stream Targeted | -84.231251 | 32.079413 | X | | X | | X | X |
| 1107100301 | Lake Worth (original) - Above Hwy 91 Bridge / Diversion Dam (aka Lake Chehaw) | Flint | Tifton WP | Lake Monitoring | 31.6109 | -84.15 | X | | | | | |
| 1108080405 | Lake Seminole - Flint River Arm @ Spring Creek | Flint | Tifton WP | Lake Monitoring | 30.7627 | -84.8171 | X | | | | | |
| 1109020201 | Little Ichawaynochaway Creek @ CR3 | Flint | Tifton WP | Stream Targeted | -84.640013 | 31.803532 | X | X | X | X | X | X |
| 1110050101 | Spring Creek @ SR 91 | Flint | Tifton WP | Stream Targeted | -84.742778 | 31.170556 | X | | | | | |
| 1201010101 | Chatahoochee River nr Chattahcoochee River Rd, near Helen, GA | Chattahoochee | Atlanta WP | Stream Targeted | 34.733893 | -83.7775503 | X | | X | | X | X |
| 1201010302 | Dukes Creeknr Richard B Russell Scenic Hwy SR 348 nr Helen, GA | Chattahoochee | Atlanta WP | Stream Targeted | 34.69374 | -83.7776433 | X | | X | | X | X |
| 1201030404 | Flat Creek at Hub Head Rd. near | Chattahoochee | Atlanta WP | Stream Prob | 34.4958 | -83.7426 | X | | X | | X | |
| 1201040404 | Lake Sidney Lanier - Little River Embayment, Betw M1WC & 3LR | Chattahoochee | Atlanta WP | Lake Monitoring | 34.355 | -83.8427 | X | | | | | |
| 1201050502 | Testnatee Creek at Gene Nix Road near Cleveland, GA | Chattahoochee | Atlanta WP | Stream Prob | 34.568484 | -83.835822 | X | | X | | X | |
| 1201070501 | Lake Sidney Lanier at Boling Bridge (State Road 53) on Chestatee River | Chattahoochee | Atlanta WP | Lake Monitoring | 34.31235 | -83.950103 | X | | | | | |
| 1201080103 | Lake Sidney Lanier at Lanier Bridge (State Road 53) on Chattahoochee River | Chattahoochee | Atlanta WP | Lake Monitoring | 34.32195 | -83.880171 | X | | | | | |
| 1201080203 | Lake Sidney Lanier at Browns Bridge Road (State Road 369) | Chattahoochee | Atlanta WP | Lake Monitoring | 34.261666 | -83.950662 | X | | | | | |
| 1201080209 | Flat Creek at Dorsey Street near | Chattahoochee | Atlanta WP | Stream Targeted | 34.28144 | -83.83244 | X | | | | | |
| 1201080304 | Lake Sidney Lanier - Flat Creek Embayment, 100' U/S M7FC | Chattahoochee | Atlanta WP | Lake Monitoring | 34.2587 | -83.9198 | X | | | | | |
| 1201080307 | Lake Sidney Lanier - Balus Creek Embayment, 0.34m SE M6FC | Chattahoochee | Atlanta WP | Lake Monitoring | 34.2504 | -83.9244 | X | | | | | |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1201080309 | Balus Creek At Old Flowery Branch Road | Chattahoochee | Atlanta WP | Stream Targeted | 34.2475 | -83.890833 | X | | | | | |
| 1201080401 | Lake Sidney Lanier - Mud Crk Embayment, Betw Marina & Ramp | Chattahoochee | Atlanta WP | Lake Monitoring | 34.2333 | -83.9373 | X | | | | | |
| 1201080402 | Mud Creek at McEver Road near Flowery Branch, GA | Chattahoochee | Atlanta WP | Stream Targeted | 34.205944 | -83.914777 | X | | | | | |
| 1201080403 | Lake Lanier upstream from Flowery Branch Confluence (Midlake) | Chattahoochee | Atlanta WP | Lake Monitoring | 34.200278 | -83.982869 | X | | | | | |
| 1201080603 | Lake Sidney Lanier - Six Mile Creek Embayment, 300' E M9SM | Chattahoochee | Atlanta WP | Lake Monitoring | 34.2335 | -84.0287 | X | | | | | |
| 1201080902 | Lake Sidney Lanier upstream of Buford Dam Forebay | Chattahoochee | Atlanta WP | Lake Monitoring | 34.162778 | -84.067108 | X | | | | | |
| 1201090205 | Chattahoochee River at McGinnis Ferry Road | Chattahoochee | Atlanta WP | Stream AWW | 34.050556 | -84.097701 | X | X | X | | | |
| 1201090705 | Chattahoochee River - DeKalb County Water Intake | Chattahoochee | Atlanta WP | Stream AWW | 33.9731 | -84.2631 | X | X | X | | | |
| 1201110101 | Big Creek at Roswell Water Intake near Roswell, Ga. | Chattahoochee | Atlanta WP | Stream AWW | 34.017851 | -84.352492 | X | X | | | | X |
| 1201110109 | Chattahoochee River at Cobb County Water Intake near Roswell, Ga. | Chattahoochee | Atlanta WP | Stream AWW | 33.9443 | -84.405 | X | X | | | | |
| 1201110609 | Chattahoochee River - Atlanta Water Intake | Chattahoochee | Atlanta WP | Stream AWW | 33.8278 | -84.455 | X | X | X | | | |
| 1201120403 | Peachtree Creek at Northside Drive near Atlanta, Ga. | Chattahoochee | Atlanta WP | Stream AWW | 33.8194 | -84.407778 | X | X | X | | | X |
| 1202010104 | Chattahoochee River at Bankhead Highway | Chattahoochee | Atlanta WP | Stream AWW | 33.795278 | -84.507778 | X | X | X | | | |
| 1202020102 | Town Branch at Brewer Rd. near Villa Rica, GA | Chattahoochee | Atlanta WP | Stream Targeted | 33.754 | -84.862 | X | X | | | | |
| 1202020201 | Lick Log Creek at Laird Rd. near Powder Springs, GA | Chattahoochee | Atlanta WP | Stream Targeted | 33.853 | -84.767 | X | X | | | | |
| 1202020802 | Sweetwater Creek at Interstate Highway 20 | Chattahoochee | Atlanta WP | Stream AWW | 33.7728 | -84.614722 | X | X | | | | |
| 1202030102 | Chattahoochee River - Georgia Highway 92 | Chattahoochee | Atlanta WP | Stream AWW | 33.6567 | -84.673611 | X | X | X | | | |
| 1202031202 | Chattahoochee River at Capps Ferry Road near Rico, Ga. | Chattahoochee | Atlanta WP | Stream AWW | 33.5778 | -84.808611 | X | X | | | | |
| 1202040102 | Acorn Creek At Highway 5 | Chattahoochee | Atlanta WP | Stream Targeted | 33.468056 | -84.959444 | X | X | | | | |
| 1202040401 | Whooping Creek At Highway 5 | Chattahoochee | Atlanta WP | Stream Targeted | 33.461389 | -84.997222 | X | X | | | | |
| 1202040502 | Milligan Creek at Star Point Rd. near Roopville, GA | Chattahoochee | Atlanta WP | Stream Targeted | 33.440331 | -85.083574 | X | X | | | | |
| 1202060105 | Hillabahatchee Creek at CR 210 near Frolona, GA | Chattahoochee | Atlanta WP | Stream Targeted | 33.311218 | -85.187675 | X | X | X | X | X | X |
| 1202060802 | West Point Lake at LaGrange Water Intake near LaGrange, Ga. (aka Chatt. River at Lagrange Intake) | Chattahoochee | Atlanta WP | Lake Monitoring | 33.0783 | -85.110833 | X | | | | | |
| 1202080208 | West Point Lake - Dam Forebay | Chattahoochee | Atlanta WP | Lake Monitoring | 32.9208 | -85.1834 | X | | | | | |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1202091302 | Chattahoochee River at Hwy 29 at West Point, Ga. | Chattahoochee | Atlanta WP | Stream Targeted | 32.8777 | -85.18063 | X | | | | | |
| 1202110102 | Lake Harding - Midlake, Main Body | Chattahoochee | Atlanta WP | Lake Monitoring | 32.7379 | -85.1125 | X | | | | | |
| 1202110104 | Lake Harding - Dam Forebay (aka Chatt. River US Bartletts Ferry Dam) | Chattahoochee | Atlanta WP | Lake Monitoring | 32.6633 | -85.090278 | X | | | | | |
| 1202120401 | Palmetto Creek at Fortune Hole Rd. near Hamilton, GA | Chattahoochee | Atlanta WP | Stream Targeted | 32.73504 | -84.85072 | X | | | | | |
| 1202120502 | Mulberry Creek at US 27 near Hamilton, GA | Chattahoochee | Atlanta WP | Stream Prob | 32.7085 | -84.8698 | X | | X | | X | |
| 1202130501 | Goat Rock Lake - Dam Forebay | Chattahoochee | Atlanta WP | Lake Monitoring | 32.6112 | -85.0794 | X | | | | | |
| 1202130503 | Lake Oliver - Dam Forebay | Chattahoochee | Atlanta WP | Lake Monitoring | 32.516 | -85.0009 | X | | | | | |
| 1203070101 | Hannahatchee Creek at Moores Store Rd | Chattahoochee | Tifton WP | Stream Targeted | 32.14166 | -84.7532 | | | | | | X |
| 1203090101 | Talipahoga Rum Creek @ Wall Rd | Chattahoochee | Tifton WP | Stream Targeted | 32.116831 | -85.01159 | X | | X | | X | X |
| 1203130102 | Lake Walter F. George at U.S. Highway 82 (aka Chatt. River at Hwy 82) | Chattahoochee | Tifton WP | Lake Monitoring | 31.891944 | -85.120833 | X | | | | | |
| 1203150102 | Pataula Creek @ James Holder Rd | Chattahoochee | Tifton WP | Stream Targeted | 32.029467 | -84.70593 | X | | X | | X | |
| 1203160102 | Lake Walter F. George at Dam Forebay | Chattahoochee | Tifton WP | Lake Monitoring | 31.629167 | -85.0725 | X | | | | | |
| 1204070101 | Lake Andrews - Dam Forbay | Chattahoochee | Tifton WP | Lake Monitoring | 31.2632 | -85.113 | X | | | | | |
| 1204080104 | Lake Seminole - Chattahoochee Arm, Lower | Chattahoochee | Tifton WP | Lake Monitoring | 30.7662 | -84.9201 | X | | | | | |
| 1204080106 | Lake Seminole - Dam Forebay | Chattahoochee | Tifton WP | Lake Monitoring | 30.7115 | -84.8647 | X | | | | | |
| 1308020601 | Tallapoosa River - Georgia Highway 8 below Tallapoosa, Ga. | Tallapoosa | Atlanta WP | Stream Prob | 33.740833 | -85.336389 | X | | X | | X | |
| 1308030301 | Walker Creek at Providence Church Road near Tallapoosa, Ga. | Tallapoosa | Atlanta WP | Stream Targeted | 33.724788 | -85.319515 | X | | | | | |
| 1401010201 | Jacks River at County Road 187 near Higdon, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.90467 | -84.5221 | X | | | | | |
| 1401010202 | Jacks River at Old Highway 2 near Tennga, Ga. | Coosa | Atlanta WP | Stream Targeted | 34.9881 | -84.6344 | X | | X | | X | X |
| 1401020801 | Mill Creek | Coosa | Atlanta WP | Stream Targeted | 34.87267 | -84.7242 | X | | X | | X | X |
| 1401040101 | Holly Creek | Coosa | Atlanta WP | Stream Targeted | 34.81209 | -84.65405 | X | | X | | X | X |
| 1401040102 | Shanty Creek | Coosa | Atlanta WP | Stream Targeted | 34.8011 | -84.62978 | X | | X | | X | X |
| 1401040501 | Rock Creek | Coosa | Atlanta WP | Stream Targeted | 34.74241 | -84.67341 | X | | X | | X | X |
| 1402010402 | Tickanetly Creek at Macedonia Road | Coosa | Atlanta WP | Stream Targeted | 34.66946 | -84.33365 | X | | | | X | |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1402010404 | Cartecay River at Lower Cartecay Road | Coosa | Cartersville WP | Stream Targeted | 34.638611 | -84.408889 | X | | | | | |
| 1402010405 | Clear Creek at Clear Creek Rd | Coosa | Cartersville WP | Stream Prob | 34.6325 | -84.4032 | X | | | | | |
| 1402010502 | Clear Creek at Blackberry Mountain Road | Coosa | Atlanta WP | Stream Targeted | 34.61959 | -84.43696 | X | | | | X | |
| 1402020202 | Rock Creek at Rock Creek Road | Coosa | Cartersville WP | Stream Targeted | 34.7785 | -84.39 | X | | | | | |
| 1402020501 | Kells Creek at Kells Ridge Drive | Coosa | Atlanta WP | Stream Targeted | 34.73064 | -84.47409 | X | | | | X | |
| 1402030301 | Conasauga Creek at Mountaintown Road | Coosa | Atlanta WP | Stream Targeted | 34.73055 | -84.56439 | X | | | | X | |
| 1402030501 | Mountaintown Creek at Craigtown Road | Coosa | Atlanta WP | Stream Targeted | 34.73225 | -84.56183 | X | | | | X | |
| 1402040202 | Flat Creek at SR 382 | Coosa | Atlanta WP | Stream Targeted | 34.63985 | -84.57445 | X | | | | X | |
| 1402040401 | Carters Lake (CR1) - Upper Lake, Coosawattee Arm | Coosa | Cartersville WP | Lake Monitoring | 34.62087 | -84.6212 | X | X | | | | |
| 1402040402 | Carters Lake - Midlake (upstream from Woodring Branch) | Coosa | Cartersville WP | Lake Monitoring | 34.6076 | -84.638 | X | X | | | | |
| 1403010301 | Snake Creek at Pocket Road at Sugar Valley, GA | Coosa | Cartersville WP | Stream Targeted | 34.55722 | -85.0164 | X | X | | | | |
| 1403010501 | Oostanaula River at Reeves Station Road near Calhoun, GA | Coosa | Cartersville WP | Stream Prob | 34.45111 | -85.0283 | X | | | | | |
| 1403020101 | Oothkalooga Creek at Lacey Road | Coosa | Cartersville WP | Stream Targeted | 34.35519 | -84.9355 | X | | | | | |
| 1403020201 | Oothkalooga Creek at Woody Road | Coosa | Cartersville WP | Stream Targeted | 34.38425 | -84.9435 | X | | | | | |
| 1403020303 | Blackwood Creek at U.S. Hwy 41 | Coosa | Cartersville WP | Stream Targeted | 34.4595 | -84.9345 | X | X | | | | |
| 1404010102 | West Fork Montgomery at nr Hightower Church Rd | Coosa | Cartersville WP | Stream Targeted | 34.624449 | -84.12517 | X | | | | | |
| 1404010203 | Jones Creek at Jones Creek Rd | Coosa | Cartersville WP | Stream Targeted | 34.60201 | -84.15124 | X | | | | | |
| 1404010303 | Nimblewill Creek at Nimblewill Gap Rd, nr Dahlonega, GA | Coosa | Cartersville WP | Stream Targeted | 34.57497 | -84.1764878 | X | | | | | X |
| 1404020201 | Amicalola Creek - 0.3 Miles Upstream From Falls | Coosa | Cartersville WP | Stream Targeted | 34.571389 | -84.241389 | X | | | | | |
| 1404040401 | Long Swamp Creek at Conns Creek Rd near Ball Ground, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.3267 | -84.344837 | X | X | | | | X |
| 1404050601 | Sharp Mountain Creek at State Road 5 near Ball Ground, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.31083 | -84.403801 | X | | | | | X |
| 1404070101 | Shoal Creek @ little Refuge rd near Waleska | Coosa | Cartersville WP | Stream Prob | 34.2937 | -84.5697 | X | X | | | | |
| 1404080902 | Lake Allatoona at Little River upstream from Highway 205 | Coosa | Cartersville WP | Lake Monitoring | 34.158611 | -84.577222 | X | | | | | |
| 1404090401 | Lake Allatoona Upstream from Dam | Coosa | Cartersville WP | Lake Monitoring | 34.160833 | -84.725845 | X | | | | | |
| 1404090404 | Lake Allatoona at Allatoona Creek Upstream from Interstate 75 | Coosa | Cartersville WP | Lake Monitoring | 34.085833 | -84.711389 | X | | | | | |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1404100102 | Downing Creek At Highway 205 | Coosa | Cartersville WP | Stream Targeted | 34.1975 | -84.530278 | X | | | | | |
| 1404100104 | Lake Allatoona at Etowah River upstream from Sweetwater Creek (Marker 44E/45E) | Coosa | Cartersville WP | Lake Monitoring | 34.19 | -84.577778 | X | | | | | |
| 1404100201 | Stamp Creek at State Road 20 near Cartersville, Ga. | Coosa | Cartersville WP | Stream Targeted | 34.216323 | -84.686017 | X | | | | | X |
| 1404100409 | Lake Allatoona downstream from Kellogg Creek ( Markers 18/19E) | Coosa | Cartersville WP | Lake Monitoring | 34.138611 | -84.639167 | X | | | | | |
| 1404130103 | Etowah River at SR293 at Cartersville, GA | Coosa | Cartersville WP | Stream Targeted | 34.146389 | -84.771389 | X | | | | | |
| 1404150401 | Two Run Creek at SR293 near Kingston, GA | Coosa | Cartersville WP | Stream Targeted | 34.242778 | -84.889722 | X | X | | | | |
| 1404160201 | Toms Creek at Norton Road near Kingston, GA | Coosa | Cartersville WP | Stream Targeted | 34.264722 | -84.993611 | X | | | | | |
| 1404160401 | Dykes Creek at SR 293 / Kingston Hwy near Kingston, GA | Coosa | Cartersville WP | Stream Targeted | 34.25392 | -85.0798 | X | X | | X | | |
| 1404160402 | Dykes Crk at Dykes Crk Xing nr Rome, GA | Coosa | Cartersville WP | Stream Targeted | 34.26357 | -85.0855 | X | X | X | X | X | X |
| 1501080502 | Peavine Creek at Old Dixie Highway near Graysville, Ga. | Tennessee | Cartersville WP | Stream Targeted | 34.96424 | -85.176 | X | | | | | |
| 1501090101 | East Chickamauga Crk at Lower Gordon Springs Rd nr Dalton, GA | Tennessee | Cartersville WP | Stream Targeted | 34.74692 | -85.1236 | X | X | | X | | X |
| 1501090201 | East Chickamauga Creek at Bandy Road near Ringgold, Ga. | Tennessee | Cartersville WP | Stream Prob | 34.867 | -85.08211 | X | | | | | |
| 1501090202 | Dry Creek at Houston Valley Road near Ringgold, Ga. | Tennessee | Cartersville WP | Stream Targeted | 34.85857 | -85.0883 | X | | | | | |
| 1501090301 | Tiger Creek at State Road 3 near Ringgold, Ga. | Tennessee | Cartersville WP | Stream Targeted | 34.9055 | -85.0774 | X | X | | | | |
| 1501090501 | Little Chickamauga Creek at Hackett Mill Road near Ringgold, Ga. | Tennessee | Cartersville WP | Stream Targeted | 34.90699 | -85.1217 | X | | | | | |
| 1501110301 | Dry Creek at Maple Street near Chattanooga, Tennessee | Tennessee | Cartersville WP | Stream Targeted | 34.97839 | -85.3029 | X | X | | | | X |
| 1502010207 | Darrell Creek | Tennessee | Atlanta WP | Stream Targeted | 34.95947 | -83.36154 | X | | X | | X | X |
| 1502010501 | Lake Chatuge LMP 12 at State Line (aka Hiawassee River) | Tennessee | Cartersville WP | Lake Monitoring | 34.983333 | -83.788611 | X | | | | | |
| 1502040201 | Brasstown Creek at State Road 66 near Young Harris, Ga. | Tennessee | Atlanta WP | Stream Targeted | 34.97303 | -83.88188 | X | | | | X | |
| 1502060103 | Butler Creek @ Hawks Claw Rd | Tennessee | Cartersville WP | Stream Prob | 34.9773 | -84.12623 | X | | | | | |
| 1502060104 | Moccasin Creek @ Murphy Hwy | Tennessee | Cartersville WP | Stream Targeted | 34.978 | -84.066 | X | | | | | X |
| 1502080501 | Coosa Creek at Blue Ridge Hwy near Blairsville, GA | Tennessee | Atlanta WP | Stream Targeted | 34.85159 | -83.99388 | X | | | | X | X |
| 1502080601 | Lake Nottely (LMP15A) at Reece Creek | Tennessee | Cartersville WP | Lake Monitoring | 34.91152 | -84.0506 | X | | | | | |
| 1502080602 | Lake Nottely - Dam Forebay (aka Nottely River - Upstream From Nottley Dam) | Tennessee | Cartersville WP | Lake Monitoring | 34.957778 | -84.092222 | X | | | | | |

| Georgia Station Number | Sampling Site | River Basin | Sampling Organization[1] | Waterbody Type/ Project | Latitude | Longitude | Routine[2] | Fecal coliform | Metals | Pesticides | OrthoPhosporus | Biomonitoring[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1502080702 | Young Cane Creek | Tennessee | Atlanta WP | Stream Targeted | 34.83574 | -84.08393 | X | | | | X | X |
| 1502080801 | Ivylog Creek at Ivylog Road near Blairsville, GA | Tennessee | Cartersville WP | Stream Targeted | 34.935442 | -83.9802098 | X | | | | | X |
| 1502090102 | Nottely River at John Smith Road near Ivylog, Ga. | Tennessee | Cartersville WP | Stream Targeted | 34.98064 | -84.0893 | X | | | | | |
| 1502090104 | South Fork Rapier Mill Creek | Tennessee | Cartersville WP | Stream Targeted | 34.984264 | -84.1996528 | X | | | | | |
| 1503010701 | Lake Blue Ridge (LMP18) - 300 Meter Upstream Of Dam | Tennessee | Cartersville WP | Lake Monitoring | 34.881667 | -84.28 | X | | | | | |
| 1503010702 | Lake Blue Ridge (LMP18A) - 4 miles upsteam Dam | Tennessee | Cartersville WP | Lake Monitoring | 34.84017 | -84.2731 | X | | | | | |
| 1503020201 | Bryan Creek | Tennessee | Cartersville WP | Stream Targeted | 34.898848 | -84.1757514 | X | | | | | |
| 1503020301 | Hemptown Creek at State Road 245 near Mineral Bluff, Ga. | Tennessee | Atlanta WP | Stream Targeted | 34.91571 | -84.27938 | X | | | | X | |
| 1503020401 | Houthouse Creek at Humphrey Mill Rd near Mineral Bluff | Tennessee | Cartersville WP | Stream Targeted | 34.955776 | -84.2943572 | X | | | | | |

[1] **Sampling Organization:** Atlanta WP = GAEPD Atlanta office; Brunswick WP = GAEPD Brunswick Regional office, Cartersville WP = GAEPD Cartersville Regional Office Tifton WP = GAEPD Tifton Regional office.
[2] **Routine field parameters include:** gage height / tape down or discharge measurement, air temperature, water temperature, dissolved oxygen, pH, specific conductivtance.
[2] **Routine chemical parameters include:** turbidity, specific conductance, 5-day BOD, pH, alkalinity, hardness, suspended solids, ammonia, nitrate-nitrite, Kjeldahl nitrogen, total phosphorus, total organic carbon, and fecal coliform.
**Basin lakes field, chemical and biological parameters include:** water depth, secchi disk transparency, photic zone depth, air temperature, depth profiles for dissolved oxygen, temperature, pH, and specific conductance, and chemical analyses for turbidity, specific conductance, 5-day BOD, pH, alkalinity, hardness, suspended solids, ammonia, nitrate-nitrite, Kjeldahl nitrogen, total phosphorus, total organic carbon, and chlorophyll a.
[3] **Biomonitoring:** conducted for invertebrates and periphyton using Georgia EPD protocols.

**Intensive Surveys** Intensive surveys complement long term fixed station monitoring as these studies focus intensive monitoring on a particular issue or problem over a shorter period of time. Several basic types of intensive surveys are conducted including model calibration surveys and impact studies. The purpose of a model calibration survey is to collect data to calibrate a mathematical water quality model. Models are used for wasteload allocations and/or TMDLs and as tools for use in making regulatory decisions. Impact studies are conducted where information on the cause and effect relationships between pollutant sources and receiving waters is needed. In many cases biological information is collected along with chemical data for use in assessing environmental impacts.

**Biological Monitoring** Biological monitoring is performed in order to assess the biological integrity of the States waters. The Department of Natural Resources' Wildlife Resource Division has been conducting bioassessments using fish as the indicator species since the early 1990's. The primary technique for determining the quality of fish communities is called the Index of Biotic Integrity (IBI). This index utilizes the numbers and types of fish species present in

a stream to produce a stream score or rating for comparison across streams within a particular ecoregion or to the same stream over time. Biological monitoring is useful in detecting intermittent sources of pollution that may not be caught in trend or targeted monitoring of water quality parameters. The Tennessee Valley Authority has also collected fish IBI data in Georgia. In 2007, the GAEPD began utilizing macroinvertebrate biological data in addition to fish data for assessing the biotic integrity of wadeable streams in Georgia.

**Lake Monitoring** The GAEPD has maintained monitoring programs for Georgia's public lakes since the late 1960's. Currently, Georgia has six major lakes that have standard criteria approved by legislature, which include: Sydney Lanier, Allatoona, West Point, Walter F. George, Jackson and Carters. These lakes are sampled every year from April to October when primary productivity is highest. In addition to the six lakes with criteria, Georgia has 21 other major lakes (lakes over 500 acres). Prior to 2008, these lakes were monitored quarterly on a basin rotation cycle, so each lake was sampled once every 5 years. Beginning in 2008, EPD began to monitor these lakes monthly from April to October instead of quarterly. In addition, in 2008, EPD began to transition from monitoring these lakes on a basin rotation cycle to monitoring them each year. This transition was done over a period of time by adding a set of lakes (by basin) to the annual monitoring program each year. By 2012, EPD was monitoring all major lakes annually (except for those in the Savannah River Basin). Major lakes in the Savannah River Basin were added to the annual monitoring program in 2014. The data collected in the annual monitoring of lakes includes depth profiles for dissolved oxygen, temperature, pH, and specific conductance, Secchi disk transparency, and chemical analyses for chlorophyll *a*, total phosphorus, nitrogen compounds, and turbidity.

The monitoring of major lakes (> 500 acres) since 1984 has continued to use Carlson's Trophic State Index (TSI) as a tool to mark trophic state trends. Currently, all major lakes are monitored monthly April through October. Three measurements (secchi depth, chlorophyll-a and total phosphorus) are used to calculate TSIs each month and are combined into a total trophic state index (TTSI). A growing-season average TTSI for the dampool location for each lake is then used to assess the trophic status. Other field data and observations are also used to assess the trophic condition of each lake and to establish categories of lakes relative to need for restoration and/or protection. The major lakes listed in Table 3-9 are ranked according to the average seasonal TSI.

**TABLE 3-9. MAJOR LAKES RANKED BY SUM OF TOTAL TROPHIC STATE INDEX VALUES (2013)**

| Major Lake | TTSI Ranking | Major Lake | TTSI Ranking | Major Lake | TTSI Ranking |
|---|---|---|---|---|---|
| High Falls | 180 | Banks | 148 | Juliette | 139 |
| Blackshear | 170 | Oliver | 148 | Chatuge | 137 |
| Jackson | 164 | Harding | 150 | Clarks Hill | 134 |
| Tobesofkee | 163 | Walter F. George | 151 | Blue Ridge | 133 |
| Oconee | 162 | Allatoona | 144 | Lanier | 132 |
| West Point | 155 | Nottely | 144 | Russell | 131 |
| Sinclair | 154 | Goat Rock | 143 | Rabun | 128 |
| Seminole | 151 | Carters* | 141 | Burton | 125 |
| Worth | 150 | Tugalo | 139 | Hartwell | 117 |

*Carters Lake does not have a dam pool site due to the pump-back activity from the re-regulation reservoir. Data listed is from the mid-lake station. Sample for Lake Chatuge taken at State line.

**Fish Tissue Monitoring** This general contaminants assessment project is focused on fish tissue sampling and analyses, risk-based data assessment, and annual publication of consumption guidance in Georgia's Freshwater & Saltwater Sport Fishing Regulations and in Guidelines for Eating Fish from Georgia Waters. Fish tissue samples are typically collected in the fall from Georgia lakes and rivers, and analyzed in the winter and spring. Site-specific sampling in Georgia estuaries occurs between the spring and fall on a case specific basis. The sampling is conducted by either the GADNR Wildlife Resources Division (WRD), or the Coastal Resources Division (CRD), depending on whether the site is freshwater (WRD), or estuarine/marine waters (CRD). Samples are catalogued and transported to GAEPD or University of Georgia laboratories and results are reported to the GAEPD the following late summer or early fall. The data from the annual collections are utilized in reassessments that are incorporated annually into the *Guidelines for Eating Fish for Georgia Waters* and *Georgia's Freshwater and Saltwater Sport Fishing Regulations*. The first risk-based consumption guidance was published in 1995. As part of the implementation of the Federal Clean Air Mercury Rule (CAMR), it was recognized that a more rigorous monitoring program of mercury in fish tissue would be required to support trend analysis and the efficacy of future reductions in air mercury emissions. A subproject was designed and implemented in 2006 consisting of 22 fish mercury trend stations, which will be monitored annually. Nineteen stations are fresh water and 3 are estuarine. The mercury in fish trend monitoring sites are provided in Table 3-10.

**TABLE 3-10. MERCURY IN FISH TREND MONITORING STATIONS**

| | |
|---|---|
| Antioch Lake at Rocky Mtn. PFA | Flint River below Ichawaynochaway Creek |
| Oostanaula River at Georgia Hwy. 140 | Lake Kolomoki at Kolomoki State Park |
| Lake Acworth | Satilla River below U.S. Hwy. 82 |
| Lake Tugalo | Okefenokee Swamp National Wildlife Refuge |
| Bear Creek Reservoir | Banks Lake National Wildlife Refuge |
| Randy Pointer Lake (Black Shoals Reservoir) | Savannah River at U.S. Hwy. 301 |
| Chattahoochee River below Morgan Falls | Savannah River at I-95 |
| Chattahoochee River Below Franklin | Ogeechee River at Ga. Hwy. 204 |
| Lake Tobesofkee | Wassaw Sound |
| Ocmulgee River below Macon at Ga. Hwy. 96 | Altamaha Delta and Sound |
| Lake Andrews | St. Andrews Sound |

**Toxic Substance Stream Monitoring** The GAEPD has focused resources on the management and control of toxic substances in the State's waters for many years. Toxic substance analyses have been conducted on samples from selected trend monitoring stations since 1973. Wherever discharges were found to have toxic impacts or to include toxic pollutants, the GAEPD has incorporated specific limitations on toxic pollutants in NPDES discharge permits. In 1983 the GAEPD intensified toxic substance stream monitoring efforts. This expanded toxic substance stream monitoring project included facility effluent, stream, sediment, and fish sampling at specific sites downstream of selected industrial and municipal discharges. From 1983 through 1991, ten to twenty sites per year were sampled as part of this project. Continued work is performed on a site-specific basis and as part of the targeted monitoring program.

**Aquatic Toxicity Testing** Biomonitoring requirements are currently addressed in all municipal and industrial NPDES permits. In January 1995, the GAEPD issued approved NPDES Reasonable Potential Procedures that further delineate required conditions for conducting whole effluent toxicity (WET) testing for municipal and industrial discharges. The Reasonable Potential Procedures were updated in 2001 and the GAEPD additionally developed a WET Strategy that provided more detail as to how the State would determine which facilities

needed a WET limit in their permit. This strategy outlined minimum data requirements for different types of facilities. The GAEPD conducted aquatic toxicity tests on municipal and industrial water pollution control plant effluents from 1985 through 1997. Funding for GAEPD's aquatic toxicity testing laboratory was redirected to TMDL monitoring and the toxicity testing requirements were turned over to the individual permittees.

**Coastal Monitoring** The Coastal Resources Division (CRD) conducts the majority of coastal monitoring in the State. CRD conducts water quality monitoring in estuarine and near-shore coastal waters through its Public Health Water Quality Monitoring Program. This Program has three distinct parts. The Shellfish Sanitation and Beach Water Quality Monitoring Programs are concerned with public health, while the Nutrient Sampling Program is designed to generate baseline-monitoring data for trends. A list of the beaches monitored in 2012 and 2013 can be found in Table 3-11. A list of the stations monitored under the Shellfish Sanitation program can be found in Table 3-12 (these stations are also included in Figure 1). The nutrient sampling that was performed was conducted at a subset of the Shellfish Sanitation monitoring stations. Table 3-12 indicates which stations were monitored for nutrients. More detail regarding the work conducted by CRD can be found in Chapter 5. GAEPD has, over the past few years, intensified its own coastal monitoring program. Currently, GAEPD monitors eight locations throughout Georgia's sounds. The data collected included depth profiles for dissolved oxygen, temperature, pH, and specific conductance, Secchi disk transparency, and chemical analyses for chlorophyll *a*, total phosphorus, nitrogen compounds, and turbidity.

**Facility Compliance Sampling** In addition to surface water quality monitoring, the GAEPD conducts evaluations and compliance sampling inspections of municipal and industrial water pollution control plants and State-permitted industrial pretreatment facilities. Compliance sampling inspections include collection of 24-hour composite samples, evaluation of the permittee's sampling and flow monitoring provisions and sampling documentation. In excess of 170 sampling inspections were conducted by the GAEPD in Fiscal Years 2012-2013. The results were used to confirm validity of permittee self-monitoring data and as supporting evidence in enforcement actions.

**Probabilistic Monitoring** In order to determine the quality of all the waters in the State, the GAEPD would either have to sample and assess each individual waterbody (which is not possible due to the resources that would be needed) or would have to develop a scientific survey that would be representative of all the State's waters. Probabilistic monitoring provides a scientifically defensible way to sample a subset of all waters and then to use the results of this sampling to provide an estimate of the quality of all waters of the State. GAEPD has participated in various National probabilistic monitoring in the past including USEPA's 2007 National Lakes Assessment Survey; USEPA's 2009, National Rivers and Streams Assessment (wadeable portion); USEPA's 2011 National Wetlands Condition Assessment; USEPA's 2012 National Lake Assessment; and USEPA's 2013 National Rivers and Streams Assessment (wadeable portion). In cooperation with CRD, Georgia sampled 51 wetland sites using EPA's national protocol. GAEPD sampled 13 lakes, and 17 wadeable streams.

**Table 3-11 Beaches Monitored by CRD in 2012 & 2013**

| Station ID | Beach Name | County | Frequency* |
|---|---|---|---|
| BIRP | Blythe Island Sandbar Beach | Glynn | Monthly |
| BOSS | Ossabaw Island Bradley Beach | Chatham | Monthly |
| CNBF | Contentment Bluff Sandbar Beach | McIntosh | Monthly |
| DALL | Dallas Bluff Sandar Beach | McIntosh | Monthly |
| JICC | Jekyll Island - Clam Creek Beach | Glynn | Weekly |
| JIM | Jekyll Island - Middle Beach at Convention Center | Glynn | Weekly |
| JIN | Jekyll Island - North Beach at Dexter Lane | Glynn | Weekly |
| JIS | Jekyll Island - South Beach at 4-H Camp | Glynn | Weekly |
| JISA | Jekyll Island - St. Andrews Beach | Glynn | Weekly |
| JISD | Jekyll Island - South Dunes Picnic Area Beach | Glynn | Weekly |
| JIWY | Jekyll Island - Captain Wylly Road Crossover Beach | Glynn | Weekly |
| KING | Kings Ferry County Park Beach | Chatham | Quarterly |
| REIM | Reimolds Pasture Beach | Glynn | Monthly |
| SEN | Sea Island - North Beach | Glynn | Monthly |
| SES | Sea Island - South Beach | Glynn | Monthly |
| SIF | Saint Simons Island - 5th Street Crossover Beach | Glynn | Weekly |
| SIM | Saint Simons Island - Middle Beach (aka East Beach Old Coast Guard Station) | Glynn | Weekly |
| SIMA | Saint Simons Island - Massengale Park Beach | Glynn | Weekly |
| SIN | Saint Simons Island - North Beach at Goulds Inlet | Glynn | Weekly |
| SIS | Saint Simons Island - South Beach at Lighthouse | Glynn | Weekly |
| SKID | Skidaway Narrows County Park Beach (aka Butterbean Beach) | Chatham | Monthly |
| SOSS | Ossabaw Island South Beach | Chatham | Monthly |
| TYM | Tybee Island - Middle Beach at Center Terrace | Chatham | Weekly |
| TYN | Tybee Island - North Beach at Gulick Street | Chatham | Weekly |
| TYP | Tybee Island - Polk Street Beach | Chatham | Weekly |
| TYS | Tybee Island - South Beach at Chatham Street | Chatham | Weekly |
| TYST | Tybee Island - Strand Beach at Pier | Chatham | Weekly |

*Stations sampled monthly are monitored April – October.

**Table 3-12 Stations Monitored by CRD under the Shellfish Sanitation and Nutrient Monitoring Programs in 2012 & 2013**

| Station ID | Latitude | Longitude | Description | Nutrients 2012 | Nutrients 2013 |
|---|---|---|---|---|---|
| 1049 | 31.92866 | -81.01839 | southernmost tributary off Romerly Marsh Creek | | |
| 1050 | 31.92503 | -81.00860 | northern mouth of Habersham Creek | | |
| 1052 | 31.94317 | -81.00914 | northernmost tributary off Romerly Marsh Creek | | |
| 1152 | 31.92557 | -80.98520 | Old Romerly Marsh Creek | | |
| 1153 | 31.92993 | -80.98919 | Romerly Marsh Creek Chatham | | |
| 1154 | 31.97741 | -80.96789 | Halfmoon River at Beard Creek | X | X |
| 1155 | 31.95172 | -80.98532 | Tybee Cut South | X | X |
| 1159 | 31.96792 | -80.93600 | Pa Cooper Creek | | |
| 1200 | 31.94600 | -80.93000 | Mouth of House Creek Chatham | X | X |
| 1201 | 31.95500 | -80.93300 | North of House Creek/Wassaw Sound Chatham | | |
| 1222 | 32.01500 | -80.92400 | Cut Oyster Creek to Bull River Chatham | | |
| 1223 | 32.01400 | -80.91600 | North Fork Oyster Creek Chatham | X | X |
| 1224 | 31.99800 | -80.91200 | North Junction Lazaretto & Oyster Creeks Chatham | | |
| 1225 | 31.99500 | -80.91000 | South Junction Lazaretto & Oyster Creeks Chatham | X | X |
| 1337 | 32.02829 | -80.94725 | Bull River upstream of Betz Creek | X | X |
| 1338 | 32.02005 | -80.94529 | Betz Creek | | |
| 1352 | 31.96058 | -81.01186 | Priest Landing Chatham | | |
| 3242 | 31.68500 | -81.29600 | Medway River Near Sunbury | X | X |
| 3249 | 31.68600 | -81.27700 | Halfmoon East | | |
| 3255 | 31.73400 | -81.19400 | Mouth of Jones Hammock Creek | | |
| 3273 | 31.74100 | -81.16100 | Bear River across from Newell Creek | | |
| 3275 | 31.77100 | -81.16998 | Bear River across from Kilkenny | X | X |
| 3285 | 31.75680 | -81.27240 | Dickinson Creek Mouth | X | X |
| 3286 | 31.74765 | -81.25410 | Jones Creek Mouth | | |
| 3288 | 31.72800 | -81.22028 | Medway River East of Sunbury Creek | | |
| 3291 | 31.68940 | -81.19400 | Van Dyke Creek Mouth | X | X |
| 3319 | 31.68713 | -81.15633 | Walburg Northwest | X | X |
| 4092 | 31.51000 | -81.27800 | Eagle Creek, McIntosh | | |
| 4100 | 31.53000 | -81.33000 | Back River at July Cut | X | X |
| 4120 | 31.52777 | -81.25732 | Mud River at Dog Hammock | | |
| 4122 | 31.59343 | -81.26117 | Little Mud River at Barbour Island River | X | X |
| 4123 | 31.53432 | -81.22433 | Sapelo Sound at Highpoint | X | X |
| 4175 | 31.44200 | -81.30600 | Old Teakettle Creek, McIntosh | X | X |
| 4177 | 31.47600 | -81.33200 | Shellbluff Creek, McIntosh | X | X |
| 4178 | 31.48800 | -81.32300 | Creighton Narrows, McIntosh | | |
| 4179 | 31.48500 | -81.29500 | New Teakettle Creek, McIntosh | | |
| 4180 | 31.52300 | -81.29100 | Front River, McIntosh | | |
| 4184 | 31.55400 | -81.31400 | Juliention River, McIntosh | X | X |
| 4185 | 31.56360 | -81.25778 | Little Mud River, McIntosh | | |
| 4186 | 31.55775 | -81.23293 | South Mouth Barbour Island River, McIntosh | X | X |
| 4187 | 31.59300 | -81.23600 | Middle Barbour Island River, McIntosh | | |
| 4188 | 31.61500 | -81.21400 | Middle Wahoo River, McIntosh | | |
| 4190 | 31.63200 | -81.22400 | South Swain River, McIntosh | | |
| 4191 | 31.63400 | -81.23700 | North Swain River, McIntosh | X | X |
| 4195 | 31.56232 | -81.21815 | Todd River, McIntosh | | |

| Station ID | Latitude | Longitude | Description | Nutrients 2012 | Nutrients 2013 |
|---|---|---|---|---|---|
| 4196 | 31.50300 | -81.33500 | Crescent River, McIntosh | X | X |
| 4197 | 31.49100 | -81.33200 | Crescent River, South-end of Creighton, McIntosh | | |
| 4304 | 31.55900 | -81.27400 | Julienton River mouth, McIntosh | | |
| 4305 | 31.54800 | -81.30800 | Julienton River middle, McIntosh | | |
| 4306 | 31.53900 | -81.30200 | Four Mile Island southwest, McIntosh | X | X |
| 4330 | 31.55500 | -81.29000 | Jolly Creek | | |
| 4333 | 31.38741 | -81.28912 | South end of Sapelo Island | X | X |
| 4400 | 31.55700 | -81.29400 | Julienton River, middle, McIntosh | | |
| 5069 | 31.05500 | -81.46900 | Jointer River Mouth, Glynn | X | X |
| 5105 | 31.100 | -81.516 | Jointer River - Mac's Basin | | |
| 5198 | 31.08900 | -81.47900 | Mouth Cedar Creek, Glynn | X | X |
| 5199 | 31.08000 | -81.50600 | Jointer River, Glynn | | |
| 5200 | 31.07100 | -81.48300 | Cobb Creek, Glynn | | |
| 5322 | 31.09100 | -81.51500 | Jointer Island West, Glynn | | |
| 5357 | 31.10200 | -81.52700 | Jointer Creek at Sage Dock, Glynn | | |
| 5358 | 31.10600 | -81.53300 | Jointer Creek upstream of Sage Dock, Glynn | X | X |
| 5359 | 31.06400 | -81.52600 | Little Satilla River at Honey Creek, Glynn | | |
| 6201 | 31.03900 | -81.49100 | Little Satilla River, Camden | X | X |
| 6210 | 30.89200 | -81.51200 | Cabin Bluff, Camden | X | X |
| 6212 | 30.90400 | -81.46100 | North Brickhill River, Camden | | |
| 6213 | 30.86300 | -81.49700 | Delaroche Creek Mouth, Camden | | |
| 6214 | 30.85000 | -81.47700 | South Brickhill River, Camden | | |
| 6215 | 30.85800 | -81.54100 | Mouth Black Point Creek, Camden | | |
| 6216 | 30.84900 | -81.54200 | Crooked River, Camden | X | X |
| 6217 | 30.84100 | -81.52100 | Crooked River South, Camden | X | X |
| 6218 | 30.82300 | -81.49800 | South Crooked River Mouth, Camden | X | X |
| 6300 | 30.92700 | -81.45200 | Cumberland River-Marker #39, Camden | X | X |
| 6317 | 30.91100 | -81.48500 | Cumberland River East Shellbine, Camden | | |
| 6318 | 30.86100 | -81.50800 | Delaroche Creek Headwaters, Camden | X | X |
| 6323 | 30.85500 | -81.46700 | Brickhill River Upstream 6214, Camden | X | X |
| 6343 | 30.86800 | -81.48500 | Brickhill River West Bend, Camden | | |
| 6344 | 30.88300 | -81.47900 | Mumford Creek at Brickhill River, Camden | | |
| 6360 | 31.06930 | -81.54500 | Maiden Creek | X | X |
| 6361 | 31.05470 | -81.53900 | Honey Creek | X | X |
| 6411 | 30.88100 | -81.51100 | Downstream from Cabin Bluff @ marker 51A, Camden | | |
| 6412 | 30.87000 | -81.49900 | Upstream from DeLaroache ck @ marker 55, Camden | | |

In addition to participating in the National projects, beginning in 2010, GAEPD began to conduct probabilistic monitoring of the State's streams. Between 2010 and 2013 approximately 75 streams were sampled as part of the probabilistic monitoring project. The results of these four years of data predict that approximately 59% of Georgia's streams are supporting their designated uses; that 21% of the streams are impaired due to low dissolved oxygen; that approximately 3% are impaired for pH, 10% are impaired for metals, and 93% are impaired for fecal coliform bacteria. None of the streams monitored as part of the probability survey were impaired for high temperature, so temperature is not predicted to be source of impairment for many waters in the State. It is important to note that accuracy of predictions is highly dependent upon the sample size. The more sites that are sampled under the probabilistic study, the more likely it is that the results seen in the sampled sites will reflect the stream population as a whole. Typically, one would want a sample size of at least 30 to 50 sites. While 75 sites were sampled as part of the probabilistic study, all the parameters reported above were not measured at each site. Dissolved oxygen, pH and temperature data were collected at each of the 75 sites, but metals were only collected at 21 of the 75 sites and only 14 of the sites had fecal coliform bacteria data available. The low sample size for fecal coliform bacteria causes there to be a very wide confidence interval in predicting the number of streams that may be impaired for bacteria in the State (the predicted percentage of impairment ranges from 66% to 100%).

Georgia EPD is currently in the process of reevaluating the State's instream criteria for dissolved oxygen. There are places in the State (particularly in South Georgia) where dissolved oxygen concentrations are often naturally lower than the State's current criteria. The percentage of streams assessed as impaired for dissolved oxygen may change once the new criteria are adopted.

**Surface Water Quality Summary**

**Data Assessment** Water quality data are assessed to determine if standards are met and if the water body supports its designated or classified water use. If monitoring data show that standards are not achieved, the water body is said to be "not supporting" the designated use. The data reviewed included GAEPD monitoring data, and data from other State, Federal, local governments, and data from groups with GAEPD approved QA/QC programs. Table 3-13 provides a list of agencies that contributed data used to develop the 2014 report. The data may have been submitted specifically for the 2014 list or for previous listing cycles.

Appendix A includes an integrated list of waters for which data have been assessed. This list includes waters that have been assessed as "supporting" their designated uses and those assessed as "not supporting" their designated uses. In addition, some waters were placed in a third category called "assessment pending". Waters were placed in the "assessment pending" group when the data available for a water were insufficient to make an assessment as to whether the water was supporting its designated uses or not. Appendix A also includes Georgia's 2014 Listing Assessment Methodology which provides a description of how Georgia compares different types of water quality data with Georgia's water quality criteria in making assessment decisions.

**Evaluation of Use Support** Table 3-14 provides summary information from Appendix A on the total number of stream miles, lake acres, or square miles of sounds/harbors that fall in each assessment category.

**Assessment of Causes of Nonsupport of Designated Uses** There are many potential pollutants that may interfere with the designated use of rivers, streams, lakes, estuarine, and coastal waters. These can be termed the causes of use nonsupport. Based on information presented in Appendix A, Table 3-15 summarizes the parameters of

concern or the causes which contributed to nonsupport of water quality standards or designated uses of a particular water body type.

**Assessment of Potential Sources of Nonsupport of Designated Uses**

Pollutants that impact water bodies in Georgia may come from point or nonpoint sources. Point sources are discharges into waterways through discrete conveyances, such as pipes or channels. Municipal and industrial wastewater treatment facilities are the most common point sources. Point sources also include overflows of combined storm and sanitary sewers. Nonpoint sources are diffuse sources of pollution primarily associated with run off from the land following a rainfall event. Table 3-16 summarizes information presented in Appendix A concerning the sources of pollutants that prevent achievement of water

**TABLE 3-13. CONTRIBUTORS OF WATER QUALITY DATA FOR ASSESSMENT OF GEORGIA WATERS**

| | |
|---|---|
| DNR-EPD, Watershed Planning & Monitoring Program | City of Cartersville |
| DNR-EPD, Wastewater Reg. Program (Municipal) | Georgia Ports Authority |
| DNR-EPD, Wastewater Reg. Program (Industrial) | Chattahoochee/Flint RDC |
| DNR, Wildlife Resources Division | Upper Etowah Adopt-A-Stream |
| DNR, Coastal Resources Division | Middle Flint RDC |
| State University of West Georgia | Central Savannah RDC |
| Gainesville College | Chatham County |
| Georgia Institute of Technology | City of Savannah |
| U.S. Environmental Protection Agency | Heart of Georgia RDC |
| U.S. Geological Survey | City of Augusta |
| U.S. Army Corps of Engineers | Southwire Company |
| U.S. Forest Service | DNR-EPD, Brunswick Coastal District |
| Tennessee Valley Authority | DNR-EPD, Hazardous Waste Mgmt. Branch |
| Cobb County | Ellijay High School |
| Dekalb County | DNR, Georgia Parks Recreation & Historic Sites Division |
| Douglas County Water & Sewer Authority | DNR-EPD, Ambient Monitoring Unit (Macroinvertebrate Team |
| Fulton County | Forsyth County |
| Gwinnett County | Tyson Foods, Inc. |
| City of Gainesville | South Georgia RDC |
| City of LaGrange | Northeast GA RDC |
| Georgia Mountains R.D.C. | Ogeechee Canoochee Riverkeeper |
| City of Conyers | Screven County |
| Lake Allatoona (Kennesaw State University) | Coastal GA RDC |
| Lake Blackshear (Lake Blackshear Watershed Association) | City of Roswell |
| Lake Lanier (University of Georgia) | City of Alpharetta |
| West Point (LaGrange College/Auburn University) | Columbia County |
| Georgia Power Company | Southwest GA RDC |
| Oglethorpe Power Company | Southeast GA RDC |
| Alabama DEM | Coweta County |
| City of College Park | Middle GA RDC |
| Kennesaw State University | Bartow County |
| University of Georgia | Atlanta Regional Commission |
| Town of Trion | Soquee River Watershed Partnership |
| Cherokee County | Upper Chattahoochee Riverkeeper |
| Clayton County Water Authority | Henry County |
| City of Atlanta | |
| Columbus Water Works | |
| Columbus Unified Government | |

**TABLE 3-14**
**EVALUATION OF USE SUPPORT BY WATER BODY TYPE AND ASSESSMENT CATEGORY**
**2012-2013**

| Degree of Use Support | Streams/Rivers (miles) | Lakes/Reservoirs (acres) | Sounds/Harbors (sq. miles) | Coastal Streams/Rivers (miles) | Coastal Beaches (miles) |
|---|---|---|---|---|---|
| Support | 5,480 | 208,853 | 62 | 283 | 31 |
| Not Support | 8,282 | 123,397 | 14 | 78 | 3 |
| Assessment Pending | 496 | 61,185 | 9 | 84 | 0 |
| Total | 14,258 | 393,435 | 85 | 445 | 34 |

quality standards and use support in various water bodies in Georgia.

**Priorities for Action** The list of waters in Appendix A includes all waters for which available data was assessed against applicable water quality standards and designated uses were determined to be supported, not fully supported, or it was determined that more data was needed before an assessment was made "assessment pending". This list of waters has become a comprehensive list of waters for Georgia incorporating the information requested by Sections 305(b), 303(d), 314, and 319 of the Federal CWA. Waters listed in Appendix A are active 305(b) waters. Lakes or reservoirs within these categories provide information requested in Section 314 of the CWA. Waters with nonpoint sources identified as a potential cause of a standards violation are considered to provide the information requested in the CWA Section 319 nonpoint assessment. The 303(d) list is made up of all waters within category 5 in Appendix A. The proposed date for development of a TMDL for 303(d) waters is indicated within the priority column on the list of waters.

**TABLE 3-15**
**CAUSES OF NONSUPPORT OF DESIGNATED USES BY WATER BODY TYPE**
**2012-2013**

| Cause Category | Rivers/Streams (miles) Contributions to Impairment[1] |
|---|---|
| **Pathogens** | **4,626** |
| Fecal Coliform | 4,626 |
| **Biologic Integrity (Bioassessments)** | **2,865** |
| Maroinvertebrates (Bio M) | 626 |
| Fish (Bio F) | 2,359 |
| **Bioassays** | **10** |
| Whole Effluent Toxicity | 10 |
| **Oxygen Depletion** | **1,232** |
| Dissolved Oxygen | 1,232 |
| **Thermal Impacts** | **17** |
| Temperature | 17 |
| **Toxic Inorganics** | **161** |
| Arsenic | 3 |
| Cadmium | 21 |
| Copper | 35 |
| Lead | 69 |
| Mercury | 2 |
| Zinc | 58 |
| **Toxic Organics** | **383** |
| 1,1,2-Trichloroethane | 1 |
| Tetrachloroethylene | 7 |
| PCB in Fish Tissue | 375 |

| | |
|---|---|
| **Metals**<br>Cadmium<br>Copper<br>Lead<br>Mercury<br>Zinc<br>Mercury in Fish Tissue (TWR) | **1,113**<br>21<br>35<br>69<br>2<br>58<br>991 |
| **pH/Acidity/Caustic Conditions**<br>pH | **194**<br>194 |
| **Nutrients (Macronutrients/Growth Factors)**<br>Objectionable Algae | 30<br>**30** |
| **Pesticides**<br>Alpha-BHC<br>Beta-BHC | **1**<br>1<br>1 |
| **Other**<br>Commercial Fishing Ban (CFB) | **225**<br>225 |
| **Cause Category** | **Lakes/Reservoirs (acres)**<br>**Contributions to Impairment[1]** |
| **Pathogens**<br>Fecal Coliform | **194**<br>194 |
| **Thermal Impacts**<br>Temperature | **650**<br>650 |
| **Oxygen Depletion**<br>Oxygen Dissolved | **1,540**<br>1,540 |
| **Nutrients (Macornutrients/Growth Factors)**<br>Phosphorus | **2,752**<br>2,752 |
| **Toxic Inorganics**<br>Copper | **225**<br>225 |
| **Toxic Organics**<br>PCB in Fish Tissue | **91,613**<br>91,613 |
| **Metals**<br>Copper<br>Mercury in Fish Tissue (TWR) | **1,479**<br>225<br>1,254 |
| **Pesticides**<br>DDD<br>DDE | **20**<br>20<br>20 |
| **Observed Effects**<br>Chlorophyll *a* | **7,424**<br>7,424 |
| **pH/Acidity/Caustic Conditions**<br>pH | **19,197**<br>19,197 |
| **Cause Category** | **Coastal Streams (miles)**<br>**Contributions to Impairment[1]** |
| **Pathogens**<br>Fecal Coliform | **36**<br>36 |
| **Oxygen Depletion**<br>Dissolved Oxygen | **35**<br>35 |
| **Toxic Organics**<br>Polychlorinated biphenyls<br>PCB in Fish Tissue | **26**<br>4<br>26 |
| **Metals/Toxic Inorganics**<br>Cadmium<br>Mercury<br>Selenium | **9**<br>2<br>4<br>5 |
| **Pesticides**<br>Dieldrin in Fish Tissue<br>Toxaphene in Fish Tissue | **8**<br>3<br>5 |
| **Other**<br>Commercial Fishing Ban (CFB) & Shellfish Ban (SB) | **30**<br>30 |
| **Cause Category** | **Coastal Beaches (miles)**<br>**Contributions to Impairment[1]** |
| **Pathogens**<br>Enterococcus | **3.04**<br>3.04 |
| **Cause Category** | **Sounds/Harbors (sq. miles)**<br>**Contributions to Impairment[1]** |
| **Oxygen Depletion**<br>Dissolved Oxygen | **4**<br>4 |

| | |
|---|---|
| **Toxic Inorganics** | **10** |
| Arsenic | 10 |

[1]The total mileage/acreage provided for each impairment category (e.g. Pathogens, Toxic Organics, Metals, etc.) is a summation of the mileage/acreage of all the waters impaired by one or more of the pollutants in the category. Since a water may be negatively affected by more than one pollutant in a given impairment category, the total mileage/acreage for the impairment category may be less than the sum of the miles of each of the individual pollutants in that category.

## TABLE 3-16
## POTENTIAL SOURCES OF NONSUPPORT OF DESIGNATED USES BY WATER BODY TYPE
## 2012-2013

| Source Category | Rivers/Streams (miles) Contributions to Impairment[1] |
|---|---|
| **Hydromodification** | **20** |
| Dams of Impoundments (Dam) | 20 |
| **Industrial Sources** | **293** |
| Industrial Point Source Discharge (I1) | 42 |
| Industrial Stormwater Discharge (I2) | 285 |
| **Municipal Permitted Discharges** | **288** |
| Combined Sewer Overflows | 93 |
| Municipal Point Source Discharges | 195 |
| **Nonpoint Sources** | **8,208** |
| Non-Point Source (NP) | 6,402 |
| Urban Runoff (UR) | 2,238 |

| Source Category | Lakes/Reservoirs (acres) Contributions to Impairment[1] |
|---|---|
| **Industrial Sources** | **56,600** |
| Industrial Point Source Discharge (I1) | 650 |
| Industrial Stormwater Discharge (I2) | 55,950 |
| **Nonpoint Sources** | **66,797** |
| Non-Point Source (NP) | 66,603 |
| Urban Runoff (UR) | **35,639** |

| Source Category | Coastal Beaches (Miles) Contributions to Impairment[1] |
|---|---|
| **Nonpoint Sources** | **3.04** |
| Non-Point Source (NP) | 3.04 |

| Source Category | Coastal Streams (Miles) Contributions to Impairment[1] |
|---|---|
| **Industrial Sources** | **31** |
| Industrial Point Source Discharge (I1) | 29 |
| Industrial Stormwater Discharge (I2) | 10 |
| **Municipal Permitted Discharges** | **21** |
| Municipal Point Source Discharges | 21 |
| **Nonpoint Sources** | **50** |
| Non-Point Source (NP) | 18 |
| Urban Runoff (UR) | 40 |

| Source Category | Sounds/Harbors (Sq. Miles) Contributions to Impairment[1] |
|---|---|
| **Nonpoint Sources** | **14** |
| Urban Runoff (UR) | 14 |
| Non-Point Source (NP) | 10 |
| **Municipal** | **4** |
| Municipal Point Sources (M) | 4 |
| **Industrial Sources** | **4** |
| Industrial Point Source Discharge (I1) | 4 |

[1]The total mileage/acreage provided for each source category (e.g. Industrial, Municipal, Nonpoint, etc.) is a summation of the mileage/acreage of all the waters impaired by one or more of the sources in the category. Since a water may be negatively affected by more than one source in a given source category, the total mileage/acreage for the source category may be less than the sum of the miles of each of the individual sources in that category.

## CHAPTER 4
# Wetland Programs

Estimates of the total extent of Georgia's wetlands have varied from 4.9 to 7.7 million acres, including more than 600,000 acres of open water habitat found in estuarine, riverine, palustrine, and lacustrine environments. Estimates of wetland losses in the state from colonial times to the present range between 20-25% of the original wetland acreage.

Georgia has approximately 100 miles of shoreline along the south Atlantic coast, with extensive tidal marshes separating barrier islands composed of Pleistocene and Holocene sediments from the mainland. Georgia's barrier islands and tidal marshes are well preserved compared to other South Atlantic states. Georgia's coastline and tidal marshes are managed under the Coastal Marshlands Protection and Shore Protection Acts of 1970 and 1979 respectively, and are considered to be well preserved compared to other South Atlantic states.

Elevations within Georgia's boundaries range from sea level to 4,788 feet at Brasstown Bald in the Blue Ridge Mountain Province. At the higher elevations, significant, pristine cool water streams originate and flow down steep to moderate gradients until they encounter lower elevations of the Piedmont Province. Many of the major tributaries originating in the mountains and Piedmont have been impounded for hydropower and water supply reservoirs. These man-made lakes constitute significant recreational resources and valuable fishery habitat. At the Fall Line, streams flowing southeasterly to the Atlantic, or south-southwesterly to the Gulf, have formed large floodplains as each encounters the soft sediments of the upper Coastal Plain.

Other significant wetlands found in the state are associated with blackwater streams originating in the Coastal Plain, lime sink-holes, spring heads, Carolina bays, and the Okefenokee Swamp, a vast bog-swamp measuring approximately one-half million acres in south Georgia and north Florida. The swamp drains to the east by the St. Marys River into the Atlantic, and to the west by the Suwannee River into the Gulf.

The lower Coastal Plain has frequently been referred to as the Atlantic Coastal Flatwoods region, where seven tidal rivers headwater in the ancient shoreline terraces and sediments of Pleistocene age. Scattered throughout the flatwoods are isolated depressional wetlands and drainageways dominated by needle-leaved and broad-leaved tree species adapted to long hydroperiods.

Due to considerable variation in the landscape in topography, hydrology, geology, soils, and climatic regime, the state has one of the highest levels of biodiversity in the eastern United States. The state provides a diversity of habitats for nearly 4,000 vascular plant species and slightly less that 1,000 vertebrate species. Numerous plant and animal species are endemic to the state. Many of the rarer species are dependent upon wetlands for survival.

### Extent of Wetland Resources

Assessments of wetland resources in Georgia have been conducted by the USDA Natural Resources Conservation Service, the U.S. Fish and Wildlife Service (USFWS), and the Georgia Department of Natural Resources. The extent and location of specific tidal marsh types have been reported in numerous scientific papers and reports. Estimates of other specific wetlands types, such as bottomland hardwood swamps, are also reported in studies on a regional scale.

Hydric soils as mapped in county soil surveys are useful indicators of the location and extent of wetlands for the majority of Georgia counties with complete surveys. The dates of photography from which the survey maps are derived vary widely across the state. There is an ongoing effort by NRCS to develop digital databases at the soil mapping unit level. Published soil surveys have proven useful in wetland delineation in the field and in the development of wetland inventories. County acreage summaries provide useful information on the distribution of wetlands across the state.

The USFWS National Wetland Inventory (NWI) utilizes soil survey information during photo-interpretation in the development of the 7.5 minute, 1:24,000 scale products of this nationwide wetland inventory effort. Wetlands are classified according to a system developed by Cowardin et al. (1979), providing some level of detail as to the characterization of individual wetlands. Draft products are available for the 1,017 7.5-minute quadrangles in the state of Georgia, and many final map products have been produced. All of these quadrangles are available in a digital format, and an effort is underway to combine them into a single, seamless database for Georgia. Although not intended for use in jurisdictional determinations of wetlands, these products are invaluable for site surveys, trends analysis, and landuse planning.

A complementary database was completed by Georgia DNR in 1991 and was based on classification of Landsat TM satellite imagery. Due to the limitations of remote sensing technology, the classification scheme was simplified in comparison to the Cowardin system used with NWI. The targeted accuracy level for the overall landcover assessment using Landsat imagery was 85%. However, the classification error was not necessarily distributed equally throughout all classes.

Similar Landsat-based landcover databases have been produced with more recent satellite imagery. The Federal government completed mapping in Georgia using imagery from the mid-1990s as part of the National Landcover Database. The Georgia Gap Analysis Program, supported in part by funding from Georgia DNR, completed an 18-class database using imagery from 1997-1999. Both these databases include wetland landcover classes. More recently, the Natural Resources Spatial Analysis Laboratory at the University of Georgia completed an updated landcover dataset using 2008 imagery. This dataset is available from the Georgia GIS Clearinghouse.

Additional habitats have been mapped through the Georgia Coastal Land Conservation Initiative that may be helpful in identifying wetlands. Mapping was done by botanists with the Wildlife Resources Division (WRD) for the 11 coastal county area in 2010 to show the NatureServe classification of habitats within this area.

NWI for Georgia's six coastal counties was updated by the Coastal Resources Division (CRD) using 2006 base imagery. This dataset represents an approximately 25-year update considering the inventory was originally mapped in the early 1980s. A summary of wetland acreages derived from this database is as follows: Estuarine: Emergent=351,236, Unconsolidated Shore=10,700, Scrub-Shrub=4,495, and Forested=2,053; Lacustrine: Aquatic Bed=108, Uncosolidated Shore=32, Emergent=10; Marine: Uncosolidated Shore=3,084; Palustrine: Forested=339,743, Emergent=52,511, Scrub-Shrub=30,899, Unconsolidated Bottom=8,242, Aquatic Bed=832, Unconsolidated Shore=193; Riverine: Unconsolidated Shore=90. A full report can be found on CRD's website and the data from NWI can be found at www.fws.gov.

CRD also produced an NWI Plus database, which adds additional descriptors to the updated NWI dataset and provides a functional component to wetlands in the six-county area. Wetlands are rated as having either a High Potential, Moderate Potential, or Low to No Potential to function in a given capacity. Eleven functions are identified for the six coastal counties.

In addition, CRD completed an Impacted Wetland Inventory that was initiated to identify, assess, and inventory impacted wetlands in Chatham, Bryan, Liberty, McIntosh, Glynn, and Camden counties along the coast. The project area includes all estuarine and marine and tidal fresh wetlands, as defined by Cowardin et. al (1979) and delineated by the NWI updates for the six coastal counties (completed in 2009, based on 2006 base imagery). For more information about the dataset, contact CRD.

**Wetland Trends In Georgia**

The loss of wetlands has become an issue of increasing concern to the general public because of associated adverse impacts to flood control, water quality, aquatic wildlife habitat, rare and endangered species habitat, aesthetics, and recreation. Historically,

wetlands were often treated as "wastelands" that needed "improvement". Today, "swamp reclamation" acts are no longer funded or approved by Congress and wetland losses are in part lessened. However, we still lack accurate assessments for current and historic wetland acreages. For this reason, we have varying accounts of wetland losses, which provide some confusion in the public's mind as to trends.

The most precise measure of Georgia's wetland acreage has been developed by the USFWS's National Wetland Inventory Status and Trends projects. The *Status And Trends in the Conterminous United States, Mid-1970 's to Mid-1980' s* report (1991), provides details of a statistically sound study based upon 206 sample plots of four (4) square miles each that were delineated and measured from 1975 and 1982 aerial photography. The total acreage of wetlands for Georgia was estimated at 7,714,285 acres in 1982 as compared to earlier estimates of 5.2 million acres. This estimate is considerably higher than the total shown in a 1984 trend study and is due in part to higher quality photography and an increase in the number of man-made ponds.

Georgia's total wetland area covers an estimated 20 percent of the State's landscape. This total includes approximately 367,000 acres of estuarine wetlands and 7.3 million acres of palustrine wetlands (forested wetlands, scrub-shrub, and emergents). A net wetland loss due to conversion of approximately 78,000 acres was estimated for the 7-year period (1975 – 1982), while 455,000 acres were altered by timber harvesting. These latter estimates are less reliable than the total acreage and are slightly higher than the 1984 study. Regardless of the method used to measure total acreage or wetland losses, Georgia still retains the highest percentage of pre-colonial wetland acreage of any southeastern state. The state lacks the resources to conduct an independent monitoring program on the rate of freshwater wetland loss or degradation. The most recent NWI report, *Status and Trends of Wetlands in the Conterminous United States, 2004 to 2009*, provides information on a national scale.

All dredge and fill activities in freshwater wetlands are regulated in Georgia by the U.S. Army Corps of Engineers (COE). Joint permit procedures between the COE and DNR, including public notices, are carried out in tidally influenced wetlands. Separate permits for alterations to salt marsh and the State's waterbottoms are issued by the Coastal Marshlands Protection Committee, a State permitting authority. Enforcement is carried out by the State, COE and EPA in tidal waters, and by the COE and EPA in freshwater systems. Normal agricultural and silvicultural operations are exempted under Section 404 regulations with certain conditions.

**Integrity of Wetland Resources**

**Wetland Functions and Uses.** In Georgia, wetland uses are tied to both the state water quality standards through the definition of "water" or "waters of the state," and to established criteria for wetlands protection (Chap. 391-3-16-.03) associated with the Comprehensive Planning Act of 1989 (O.C.G.A. § 12-2-8).

The definition of "water" or "waters of the State" (Chap. 391-3-6) means "any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, wetlands, and all other bodies of surface or subsurface water, natural or artificial, lying within or forming a part of the boundaries of the state which are not entirely confined and retained completely upon the property of a single individual partnership, or corporation". The waters use classifications and general criteria for all waters are discussed elsewhere in this report.

The Comprehensive Planning Act requires all local governments and regional development commissions to recognize or acknowledge the importance of wetlands for the public good in the landuse planning process. All local governments (municipalities and county governments) were required, beginning in 1990 and ending in 1995, to meet minimum criteria for wetland use and protection. Each government is required to map wetlands using DNR or NWI maps, and describe how wetlands will be protected from future development.

The wetlands protection criteria define freshwater "wetlands" as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. (33 CFR 32.93)." This definition is not intended to include "coastal marshlands" as defined by the Coastal Marshlands Protection Act. The minimum area of wetlands to be identified in landuse planning is not to exceed five acres.

The categories of freshwater wetlands and aquatic habitats to be identified, defined and mapped by the State and included in landuse planning are open water, non-forested emergent, scrub/shrub, forested and altered wetlands. Landuse plans must address at least the following considerations with regard to wetland classes identified in the database:

1) Whether impacts to an area would adversely affect the public health, safety, welfare, or the property of others.
2) Whether the area is unique or significant in the conservation of flora and fauna including threatened, rare or endangered species.
3) Whether alteration or impacts to wetlands will adversely affect the function, including the flow or quality of water, cause erosion or shoaling, or impact navigation.
4) Whether impacts or modification by a project would adversely affect fishing or recreational use of wetlands.
5) Whether an alteration or impact would be temporary in nature.
6) Whether the project contains significant state historical and archaeological resources, defined as "Properties On or Eligible for the National Register of Historic Places".
7) Whether alteration of wetlands would have measurable adverse impacts on adjacent sensitive natural areas.
8) Where wetlands have been created for mitigation purposes under Section 404 of the Clean Water Act, such wetlands shall be considered for protection.

The mapping of altered wetlands – defined as "areas with hydric soils that have been denuded of natural vegetation and put to other uses, such as pasture, row crops, etc., but that otherwise retain certain wetland functions and values" – has not been completed due to a lack of resources. It is unlikely that there will be any significant resources committed at the state or federal levels for monitoring wetland alterations and conversions in the near future.

Acceptable uses of wetlands were identified in wetland protection criteria as the following:

Timber production and harvesting. The socio-economic value of wetlands for consumptive uses such as timber and wood products production is extremely high. High quality hardwoods are produced along the major river corridors throughout the state. There are established "best management practices" for harvesting in wetlands; the level of compliance with these voluntary standards is monitored by the Georgia Forestry Commission in cooperation with the DNR-EPD.

Wildlife and fisheries management. Wetlands are an invaluable resource, both ecologically and economically. They are among the state's most biologically productive ecosystems and are crucial as habitats for wildlife. Wetlands function as essential breeding, spawning, nursery, nesting, migratory, and/or wintering habitat for much of the migratory and resident fauna. More than 40% of the state threatened and endangered plant and animal species depend heavily on wetlands. Coastal wetlands function as nursery and spawning grounds for 60-90% of commercial fin and shellfish catches. In addition, high levels of plant productivity in coastal wetlands contribute to corresponding levels of invertebrate organisms upon which fish and other animals feed. Plant decomposition in wetlands is also an important process in providing suitable habitat for waterfowl, which contributes to the economy through hunting-related expenditures.

Wastewater treatment. Wetlands help to maintain water quality and improve degraded water by removing, transforming, or retaining nutrients; processing chemical and organic wastes and pollutants; and reducing sediment loads. Wetlands function as sediment, toxic substance, and nutrient traps, performing functions similar to a waste treatment plant. Wetland vegetation filters and retains sediments which otherwise enter lakes, streams, and reservoirs, often necessitating costly maintenance dredging activities. Wetlands may also perform similar purification functions with respect to ground water. Wetlands that are hydrologically connected to ground water can also be a source of aquifer recharge, in which case the natural settling and filtering of pollutants can help protect groundwater quality. As with any filter, wetlands can be damaged, overloaded, or made nonfunctional. Wetlands conservation and careful management of point and non-point pollutants can provide good wetland filtration of materials.

Recreation. The non-consumptive uses of wetlands may contribute most significantly and positively to quality of life, yet these uses are often undervalued or unrecognized. Wetlands are habitats of great diversity and beauty and provide open space for recreational and visual enjoyment. They support a myriad of recreational activities including boating, swimming, birdwatching, and photography. In addition, tidal, coastal, and inland wetlands provide educational opportunities for nature observation and scientific study.

Natural water quality treatment or purification. (See "Wastewater treatment" above). Maintaining the biological and ecological integrity of wetlands is essential to the capitalization of these natural systems for the improvement of water quality and quantity. The polluting, filling, silting, channelizing, draining, dredging, and converting to other uses of wetlands are destructive to the ecological functions of wetlands.

Other uses permitted under Section 404 of the Clean Water Act. Such uses must have an overwhelming public interest. Unacceptable uses of wetlands include:

- Receiving areas for toxic or hazardous waste or other contaminants;
- Hazardous or sanitary waste landfills; and
- Other uses unapproved by local governments.

The criteria established by the State for freshwater wetlands are designed to assist in the identification and protection of wetlands, and do not constitute a state or local permit program. The protection of coastal marshlands, seashores, and tidal waterbottoms is described under the Estuary and Coastal Assessment section of this report.

LLWW descriptors were added to the updated wetland inventory data (2006 base imagery) to create CRD's NWI Plus database for the six coastal counties. The NWI Plus data will be used to better characterize wetlands in this region and to be able to predict wetland functions at the landscape level. The functions used are:

- Surface Water Detention
- Coastal Storm Surge Detention
- Streamflow Maintenance
- Nutrient Transformation
- Carbon Sequestration
- Retention of Sediment and Other Particulates
- Bank and Shoreline Stabilization
- Provision of Fish and Aquatic Invertebrate Habitat
- Provision of Waterfowl and Waterbird Habitat
- Provision of Other Wildlife Habitat
- Provision of Habitat for Unique, Uncommon, or Highly Diverse Plant Communities

**Wetland Monitoring.** The state maintains monitoring and enforcement procedures for estuarine marshes under authority of the Coastal Marshlands Protection Act of 1970. Over-flights are made of the Georgia coastline to locate potential violations. Restoration and penalties are provided for in the Act.

In 2011, CRD and EPD conducted field monitoring for the National Wetlands Condition Assessment (NWCA) effort initiated by EPA. The overall goal of the NWCA was to monitor freshwater and estuarine wetlands nationally during 2011 to determine their current

condition. Pre-existing point locations were used to randomly select wetlands to be evaluated during this project. CRD sampled 32 estuarine wetland sites, and EPD sampled 18 palustrine forested wetland sites. Multiple indicators were used to assess wetland health including vegetation characterization, soil profiles, hydrology and algal community. In addition, a Rapid Assessment Method (RAM) was evaluated across regions and wetland classes to determine the effectiveness of RAMs in wetland management disciplines. Specifically, the RAM identifies stressors to the wetland. Collectively, these parameters provide an indication of overall wetland condition.

Also in 2011, EPD initiated a wetland monitoring and assessment program using an ecoregion-level approach. The goal of the program is to develop appropriate wetland assessment protocols. To date, forty-five wetland sites within three ecoregions have been selected and monitored using various protocols, including NWCA protocols. This approach will be continued in other ecoregions in Georgia, and to the extent possible, is being coordinated with wetland monitoring being conducted by other Region 4 states within the same ecoregions.

**Additional Wetland Protection Activities**

Georgia is protecting its wetlands through land acquisition, public education, land use planning, regulatory programs, and wetland restoration. Additional protection to wetlands is provided either directly or indirectly by several statutes listed below, but described elsewhere in this report. These state laws are as follows:

- Coastal Marshlands Protection Act
- Shore Protection Act
- Water Quality Control Act
- Ground Water Use Act
- Safe Drinking Water Act
- Erosion and Sedimentation Control Act
- Metropolitan Rivers Protection Act

In 2011, a Wetlands Management Unit was formed within EPD to enhance the capabilities of EPD's regulatory functions (401 water quality certification review/issuance for Section 404 permits, and compensatory mitigation program oversight) and to coordinate and advance EPD's wetlands program.

**Land Conservation**. To date, the Department of Natural Resources has protected in fee over 460,000 acres of conservation land and another 11,374 acres through permanent conservation easements. Between 2012 and September 2014, the Department of Natural Resources acquired 24,531 acres of conservation land. Notable acquisitions protecting stream and wetland habitat included additions to the Paulding Forest WMA, Flat Tub WMA, Sheffield WMA, Penholoway Swamp WMA and Griffins Ridge WMA.

Between 2008 and 2010, the Coastal and Estuarine Land Conservation Program through CRD has assisted in acquiring 11,000 acres at Ft. Barrington and the Murff Tracts along the Altamaha River. These acquisitions, along with others by various partners, bring the protection of properties in the lower Altamaha Delta to just over 100,000 acres.

Through its Private Lands Program, Georgia DNR provides technical assistance to private landowners to encourage protection and restoration of natural habitats. Working with other state and federal agencies as well as non-governmental organizations, DNR biologists assist private landowners in the development of management plans that will protect important wildlife habitats, including wetlands and streams. An online publication entitled "Landowner's Guide- Conservation Easements for Natural Resource Protection" can be found at the following web address: http://www.georgiawildlife.com/node/2275

**Education And Public Outreach**. The Wildlife Resources Division is involved in aquatic education, providing training for educators in wetland values and developing and coordinating teaching materials. The Aquatic Education Program consists of three key components: Youth Education, Adult Education, and Kids Fishing Events. Youth Education involves training educators to use Aquatic Project Wild (APW), which consists of instructional workshops and supplementary conservation curriculum materials for teachers of K-12 grade children. Adult Education consists primarily of producing educational

materials such as the annual Freshwater and Saltwater Sport Fishing Regulations, Reservoir and Southeast Rivers Fishing Predictions, Small Georgia Lakes Open to Public Fishing, Introduction to Trout Fishing, news releases, brochures, radio Public Service Announcements, videos, and staff presentations to sportsmen and civic organizations, as well as large events. The purpose of Kids Fishing Events (KFEs) is to introduce youth and their families to the joys of recreational fishing. The Aquatic Education Program touches tens of thousands of youths and adults each year, bringing these people closer to the environment, and teaching them conservation principles that are important to sustaining wetlands and healthy fish populations.

The Coastal Resources Division has one position within the Division that assumes the role of coastal educator. The largest coastal education gathering, Coastfest, is hosted by CRD each October. In addition, CRD relies on partners such as the Coastal Adopt-a-Wetland program and the Sapelo Island National Estuarine Research Reserve to carry out messages important to CRD.

The Adopt-a-Wetland (AAW) program facilitates volunteer-based monitoring of wetlands in Georgia, and fosters a sense of personal and community responsibility. The program provides training for volunteers to perform monitoring in freshwater and coastal wetlands. To date, over 150 volunteers have conducted chemical and biological monitoring at over 130 coastal sites.

**State Wildlife Action Plan**

In 2005, the Wildlife Resources Division of Georgia DNR completed “A Comprehensive Wildlife Conservation Strategy for Georgia”. This document, also known as the State Wildlife Action Plan, identified high priority species and habitats in Georgia, described problems affecting these species and habitats, and outlined specific research, conservation and monitoring needs to maintain the state’s wildlife diversity. Protection of wetland and aquatic habitats was identified as a critical wildlife conservation need. The following are some specific conservation challenges that are being addressed by Georgia DNR and its conservation partners:

**1. Protection and Maintenance of Healthy Vegetated Stream Buffers**

Establishment and maintenance of vegetated riparian buffers is one of the most important and cost-effective conservation measures for protection of water quality and aquatic ecosystem health. Many of Georgia’s streams suffer from insufficient stream buffers and are thus at risk of water quality impairment resulting from land-disturbing activities, introduction of toxic chemicals or excess nutrients, and thermal impacts from lack of shading. These impacts can greatly influence the aquatic biodiversity within a watershed. Establishment of substantial vegetated buffers is highly recommended for all high priority streams.

Strategies to protect and maintain healthy stream buffers include working with state and county road departments to improve placement and design of road turnouts, developing standards for stream corridor protection on public lands, and providing information on high priority streams to mitigation bankers to encourage restoration and enhancement of vegetated buffers. Other strategies include providing financial incentives to private landowners to fence livestock out of streams and working with local governments and developers to ensure protection of stream buffers when development plans are considered.

**2. Protection of Isolated Wetlands**

Isolated wetlands comprise an important group of habitats for wildlife, including more than 45 Georgia species of conservation concern (Comer et al., 2005). Studies of the extent and condition of isolated wetlands indicate a consistent trend toward degradation and loss. A study of Carolina bays in Georgia indicated that the majority of the smaller bays showed evidence of hydrologic alterations or other forms of degradation (VandeGenachte and Cammack, 2002). Other examples of important isolated wetlands include solution pits on granite outcrops, shallow depressions in pine flatwoods, Grady ponds, limesink ponds, and sandhill ponds. Depression wetlands that have direct connections to

groundwater may be significantly impacted by excessive groundwater withdrawals. Other isolated wetlands have been impacted by introduction of predatory fish, excessive inputs of sediments or nutrients, ditching and draining, or conversion to agricultural uses.

Georgia DNR and other organizations are working to protect examples of these wetland habitats through fee-simple acquisition or conservation easements. Programs providing financial and other incentives are being directed to private landowners to encourage the protection, restoration, and management of these important wetlands. Permits for groundwater and surface water withdrawals should be administered with careful consideration of resulting impacts to these and other wetlands.

**3. Protection of Headwater Streams**
Headwater streams are found in the upper reaches of watersheds and may have flowing water for only a portion of the year. Headwater streams account for the majority of stream miles in a given watershed. Like isolated wetlands, these habitats are important for a wide variety of wildlife species, including several rare species of concern. These headwater systems are also important for maintenance of habitat quality in the higher-order perennial streams which they feed (Meyer et al 2003). Intermittent/ephemeral streams and associated seepage wetlands are often overlooked when streams and wetlands are mapped. In areas where development pressures are high or agricultural uses are prevalent, these habitats may be adversely affected by land disturbing activities.

Protection of headwater streams and associated wetlands is critical for protection of wildlife diversity and maintenance of water quality. Greater emphasis should be placed on accurate mapping and delineation of headwater streams. The effects of groundwater and surface water withdrawals on headwater streams and associated wetlands should be monitored.

**4, Control of Invasive Species**
The long-term effects of nonnative species on native wildlife species are generally considered to be second only to direct habitat destruction or conversion. Approximately 42% of the species listed as Endangered or Threatened under the federal Endangered Species Act are significantly impacted by invasive exotic species. Feral hogs, red shiners, and flathead catfish are examples of nonnative animals that can cause serious impacts to wetland or aquatic communities. A number of nonnative plants such as Nepal grass, Chinese tallow tree, hydrilla, water hyacinth, common reed, and Chinese privet also pose serious threats to Georgia's streams and wetlands.

In response to these threats, Georgia DNR coordinated the development of a statewide invasive species strategy, which was completed in 2009. Implementation of this strategy will be coordinated by the Georgia Invasive Species Task Force, which was formally established through a memorandum of understanding between the Georgia Forestry Commission, Georgia DNR, Georgia Department of Agriculture, and the University of Georgia in 2009. The Georgia Invasive Species Strategy can be found at: http://www.georgiawildlife.com/conservation/invasives-pests.

**5. Protection of Caves and Other Karst Environments**
Caves, limesinks, sagponds, and springs represent some of the most sensitive natural habitats in Georgia. These karst environments harbor many of Georgia's rarest and most imperiled species, and are susceptible to impacts from a wide variety of human activities, from residential and commercial development to road and utility construction, excessive groundwater withdrawal, recreational activities, and altered water quality. Protection of karst environments is essential for maintenance of Georgia's biological diversity. Georgia's Cave Protection Act of 1977 (O.C.G.A. § 12-4-140) provides for protection of caves, sinkholes, and speleothems (cave formations), prohibits the storage of hazardous materials and dumping of litter, garbage, or other materials in caves, and prohibits the harming, killing or removal of wildlife found within caves except by authorized personnel.

**6. Reducing Impacts from Development and Other Activities**

Continued growth of Georgia's human population and associated loss or fragmentation of natural habitats will result in additional impacts to native species found in wetland and aquatic habitats. Of particular concern are habitat specialist species adapted to rare or sensitive habitats. The highest rated conservation actions related to reduction or avoidance of impacts from development and other activities on wetland and aquatic habitats include:

- Decrease the impact of poorly designed road crossings on fish passage. Work with FEMA, Georgia DOT, and county road departments to improve fish passage with bottomless culverts or free-span bridges.
- Expand use of WRD biodiversity data for environmental review, public outreach, permitting, and development of site management plans to minimize impacts on rare species and sensitive habitats.
- Reduce impacts of unpaved roads, parking lots, boat ramps, and camping areas on aquatic habitats.
- Work with Georgia DOT and federal agencies to minimize impacts from highway construction and facilitate protection and mitigation of high priority habitats.
- Facilitate training for and compliance with Best Management Practices for erosion and sedimentation control, stormwater runoff, and stream buffer protection.

Specific programs and funding mechanisms for protection of natural habitats in Georgia are outlined in the State Wildlife Action Plan, which can be found at the following website: http://www.georgiawildlife.com/conservation/wildlife-action-plan

**M.A.R.S.H. Projects**

The Wildlife Resources Division has a cooperative agreement with Ducks Unlimited (DU) for the purpose of acquiring, developing, restoring, or enhancing waterfowl habitat. A major aspect of this agreement is the M.A.R.S.H. program (Matching Aid to Restore States Habitat). Under the M.A.R.S.H. program, 7.5% of the money raised by DU in Georgia is made available as matching funds for work to develop, improve, or restore waterfowl habitat.

## CHAPTER 5
# Estuary and Coastal Programs

### Background
The Georgia Department of Natural Resources (DNR) Coastal Resources Division (CRD) manages Georgia's coastal resources. The CRD's Ecological Services Section administers Georgia's Coastal Management Program and its enforceable authorities, manages Georgia's shellfish harvest program, and conducts water quality monitoring based on specific grants and programmatic requirements. The CRD's Marine Fisheries Section manages Georgia's marine fisheries, balancing the long-term health of fish populations with the needs of those who fish for commercial and recreational purposes. The Section conducts scientific surveys of marine organisms and their habitats; collects harvest and fishing effort information; and assesses, restores and enhances fish habitats; along with other responsibilities. The DNR Wildlife Resources (WRD) and Environmental Protection Divisions (GAEPD) each play additional roles to manage resources in the Georgia coastal environment.

### Georgia Coastal Management Program
Recognizing the economic importance of environmentally sensitive coastal areas, the Federal Coastal Zone Management Act of 1972 encourages states to balance sustainable development with resource protection in their coastal zone. As an incentive, the federal government awards states financial assistance to develop and implement coastal zone management programs that fulfill the guidelines established by the Act. Georgia entered this national framework in 1998 upon the approval of the Georgia Coastal Management Program (GCMP) by the National Oceanic and Atmospheric Administration. Financial assistance under the federal grant to the GCMP has been used, in part, to support the Public Health Water Quality Monitoring Program described below.

The Coastal Management Program has provided guidance and technical assistance to improve coastal water quality in general, and in the development of a Coastal Non-Point Source Control Program in particular. Under the Coastal Zone Management Act Reauthorization Amendments of 1990, Congress added a section entitled "Protecting Coastal Waters." That section directs states with federally approved coastal management programs to develop a Coastal Non-Point Source Program. To that end, the GAEPD is assisting the GCMP in l) identifying land uses which may cause or contribute to the degradation of coastal waters, 2) identifying critical coastal areas adjacent to affected coastal waters, 3) identification of appropriate measures related to land use impacts to achieve and maintain water quality standards and designated uses, and 4) identifying management boundaries to more effectively manage land use impacts and water uses to protect coastal waters.

### Public Health Water Quality Monitoring Program
The CRD conducts water quality monitoring in estuarine and near-shore coastal waters through its Public Health Water Quality Monitoring Program. This Program has three distinct parts. The Shellfish Sanitation and Beach Water Quality Monitoring Programs are concerned with public health. The Nutrient Sampling Program is designed to generate baseline-monitoring data for trends.

### Shellfish Sanitation Program
CRD's Shellfish Sanitation Program monitors the quality of Georgia's shellfish harvest waters for harmful bacteria that might affect the safety of shellfish for human consumption. Seven (7) harvest areas are designated for recreational picking of oysters and clams by the general public. An additional seventeen (17) harvest areas are designated for the commercial harvest of oysters and clams.

The US Food and Drug Administration's National Shellfish Sanitation Program (NSSP) establishes national standards to show that shellfish harvest areas are "not subject to contamination from human and/or animal fecal

matter in amounts that in the judgment of the State Shellfish Control Authority may present an actual or potential hazard to public health." Water samples from each approved harvest area are collected by CRD and analyzed regularly to ensure the area is below the established fecal coliform threshold. Waters approved for shellfish harvest must have a geometric mean that does not exceed the threshold set forth by the NSSP.

| County | Approved | Leased | Public |
|---|---|---|---|
| **Chatham** | 15,351 acres | 4,887 acres | 1,267 acres |
| **Bryan/Liberty** | 55,747 acres | 1,706 acres | 936 acres |
| **McIntosh** | 50,170 acres | 13,756 acres | 1,974 acres |
| **Glynn/Camden** | 37,018 acres | 4,855 acres | 4,355 acres |

**TABLE 5-1. LOCATION AND SIZE OF AREAS APPROVED FOR SHELLFISH HARVEST**

Water quality sampling occurs every other month at eighty- eight (88) stations in five (5) counties on the coast including Chatham, Liberty, McIntosh, Glynn, and Camden counties. These stations are located to provide representative coverage of all the approved harvest areas along the coast.

### Beach Monitoring Program

The Beach Monitoring Program was developed in response to the federal Beaches Environmental Assessment and Coastal Health (BEACH) Act of 2000. The BEACH Act is an amendment to the Federal Clean Water Act. The Act requires states to: 1) identify and prioritize their coastal recreational beaches; 2) monitor the beaches for the presence of the bacterial indicator Enterococcus; 3) notify the public when the EPA threshold for Enterococcus has been exceeded; and 4) report the location, monitoring, and notification data to EPA.

Georgia's recreational beaches have been identified and prioritized into three (3) tiers based on their use and proximity to potential pollution sources. Tier 1 beaches are high-use beaches. Tier 2 beaches are lower-use beaches. Tier 3 beaches are lowest-use or at low probability for potential pollution. Water quality sampling occurs regularly depending upon the tier: Tier 1 beaches are monitored weekly year-round; Tier 2 beaches are monitored monthly from April through October and Tier 3 beaches are not monitored. Beaches that exceed the threshold for Enterococcus are put under a swimming advisory that is not lifted until the levels of bacteria are sufficiently reduced, based on resampling. Beaches under a permanent swimming advisory are monitored quarterly.

### Nutrient Sampling Program

The Nutrient Sampling Program collects nutrient baseline data in coastal sounds and estuaries. High nutrient loads have been linked to outbreaks of harmful algal blooms in other states and can result in large kills of fish and other marine life as well as human sickness. CRD has been collecting nutrients at eighty-four (84) stations along the coast since 2000 to establish baseline trends in nitrite nitrogen, ammonia nitrogen, total dissolved phosphorus, ortho- phosphate, and silicate.

Due to budget reductions in 2010, changes were made to both the coastal river and estuarine sampling regimes. In response to drought conditions between 2011 and 2013, temperature, salinity, conductivity, dissolved oxygen and pH were collected monthly in the Ogeechee, Altamaha, Satilla, and St. Mary's Rivers at seven (7) sites in each river to provide data for the upper estuary/lower salinity environments. Due to continued budget reductions and higher rainfall totals in 2013, river sampling was terminated in 2014. Samples are also collected at thirty-five (35) of the eighty-eight (88) shellfish sample sites to provide nutrient, chlorophyll a and fecal coliform bacteria data from tidal rivers and sounds. Currently, through a memorandum of understanding, Coastal Resources Division has agreed to collect the samples and ship

them to the contract laboratory in Athens, GA and the Georgia Environmental Protection Division has agreed to pay for the analysis of the nutrient samples.

**Coastal Streams, Harbors, and Sounds**

This 305(b) report contains information on many coastal streams, harbors, and sounds. Several water bodies have been shown to have low dissolved oxygen (DO) readings over discrete periods of time during an annual cycle. EPD has categorized these streams as needing further assessment. A large percentage of the low dissolved oxygen readings occurred in the late summer and early fall of 2003, a period of prolonged, extreme drought. In addition to the dry conditions, water temperatures and salinities during this period were noted to be well above average for all of the water quality monitoring stations in coastal Georgia. To more accurately represent and report on natural dissolved oxygen levels in coastal water bodies, additional directed effort will be required at each location to increase the general state of knowledge for these estuarine systems.

**Coastal Beaches**

This report contains information on twenty-seven (27) coastal beaches. Of these, twenty-three (23) are considered to be supporting their designated use of coastal recreation. Four (4) beaches are considered as not supporting their designated use. Two (2) are located on Jekyll Island at the St. Andrews picnic area and at Clam Creek These beaches are Tier 1 and are sampled weekly year-round. The other two (2) “not supporting” beaches are Tier 2 beaches, which are sampled less frequently. The Kings Ferry beach is located at a small municipal park on the Ogeechee River in Chatham County. Reimold’s Pasture is a small island in Buttermilk sound at the mouth of the Altamaha River.

**Data Not Included in Assessment**

Much of the data used to generate the 305(b)/303(d) list for coastal streams, harbors, and sounds were collected by CRD for the programs as described earlier in this chapter. Other data are used by CRD to address fisheries management or recreational use in specific areas along the coast, but much of these data do not meet the minimum spatial or temporal (frequency) criteria of the GAEPD 2010 listing methodology guidance document and cannot be used to assess the ability of a water body to support its designated use(s).

Data from the Georgia National Coastal Assessment (NCA) Program (2000-2006) were not included for this listing period. NCA data are based on a probabilistic, random sampling design with only one sample per year at each location. For the purposes of 305(b)/303(d), these data may be used in the future to augment existing data sets.

The state’s list of assessed waters for beaches does not contain all the coastal beaches that have been identified and prioritized by CRD. Tier 3 beaches are not monitored, so no data are available for assessment. Tier 3 beaches have few potential pollution sources.

**Commercial and Recreational Fisheries**

CRD has several projects that produce information used to determine the status of commercially and recreationally important fish, crustaceans, and mollusks. The Ecological Monitoring Survey (EMS) conducts monthly assessment trawls (blue crabs, shrimp, and beginning in 2003, finfish) in the Wassaw, Ossabaw, Sapelo, St. Simons, St. Andrew and Cumberland estuaries. Data from this survey are used to describe the abundance, size composition, reproductive status of penaeid shrimp and blue crab. In addition, information collected on finfish and other invertebrate species since 2003 provides a broad ecologically based evaluation of species’ abundance, distribution, and diversity in these estuaries. The EMS conducts several other surveys including: a small trawl survey targeting juvenile specimens in the upper creeks monthly in three sound systems, Ossabaw, Altamaha, St. Andrews using similar techniques and protocols (albeit on a smaller

scale) as the assessment survey; and the American Eel young-of-the-year YOY survey used to assess annual recruitment success of glass eels. The Marine Sportfish Population Health Survey uses gill and trammel nets to capture finfish in the Wassaw and Altamaha River Delta estuaries from June to November. These data have been used in coast-wide stock assessments for red drum.

The Fisheries Statistics Work Unit collects catch and effort information from the recreational and commercial fisheries in cooperation with the National Marine Fisheries Service. Total annual commercial landings in Georgia ranged from 6.65 to 11.26 million pounds of product during the period from 2002 to 2012, with an annual average of 8.08 million pounds. Penaeid shrimps are the most valuable catch in Georgia commercial landings, averaging nearly 8.65 million dollars (2.50 million pounds of tails) in unadjusted, ex-vessel value during recent years. Catches are composed primarily of white shrimp (*Litopenaeus setiferus*) during the fall, winter and spring, and brown shrimp (*Farfantepenaeus aztecus*) during the summer. These shrimp spawn in oceanic waters, but depend on the salt marsh wetlands to foster their juvenile and sub-adult stages. White shrimp landings have varied over the last 50 years with a recent downward trend due to declining fishing effort. Research has shown that densities of spawning stock, and to a lesser extent fall harvest, respond strongly to cold air outbreaks during the early winter that can produce wide scale kills of white shrimp, and to a suite of environmental variables impacting the salt marsh ecosystem that produce a range of growing conditions. Cold weather kills have been associated with abnormally cold winters in 1984, 1989, and 2000.

Blue crabs live longer than penaeid shrimps (3-4 years versus 1-2 years), and also exhibit less extreme fluctuations in annual abundance from one year to the next. Reported annual blue crab (*Callinectes sapidus*) landings in 2012 were above the most recent 10-year average of 3.73 million pounds (2010 = 4.21 million pounds). A severe drought from 1998 to 2002 reduced annual harvest 80% of the long-term average of 7.99 million pounds. That drought resulted in a reduction in the quantity of oligohaline and mesohaline areas within Georgia's estuaries. This effect was more pronounced in estuaries that did not receive direct freshwater inflow from rivers. It is believed this altered salinity profile resulted in: (1) higher blue crab predation; (2) increased prevalence of the fatal disease caused by the organism, *Hematodinium* sp*;* (3) reduction in the quantity of oligohaline nursery habitat and (4) recruitment failure. Although drought conditions persisted over the last few years (2010-12), the effects were not as severe as seen in the previous drought period.

Commercial finfish landings fluctuate annually depending on market conditions and the impacts of management. American shad populations in the Altamaha River have fluctuated over the past 30 years. Anecdotal evidence indicates that participation in the American shad fishery continues to decline. Apparently, as older fishermen leave, there are few new entrants into the fishery. Since 2001, effort estimates have been collected using a trip ticket system with effort being recorded as the number of trips for both the set and drift gill net fisheries. Effort generally declined from a high of 538 reported trips in 2006 to a low of 247 reported trips in 2011. Regulations enacted by the Atlantic States Marine Fisheries Commission's Fishery Management Plan on American Shad (Amendment 3), mandated additional monitoring efforts. Additionally, sustainability plans were required of any water system where commercial fishing is conducted. In Georgia, only the Altamaha, Ogeechee, and Savannah Rivers have commercial fisheries. The commercial fishery on the Ogeechee is very small, with effort averaging < 10 reported trips,, landings averaging < 500 lbs, and participation averaging < 3 fishers. By contrast, the Altamaha accounts for the majority of the harvest and reported trips.

Total landings of bivalve mollusks have fluctuated greatly over the last 30 years. During the 1970's landings were totally dominated by oysters (*Crassostrea sp.*),

generally over 50,000 pounds of raw meats per annum. During the early 1980's fishermen increasingly focused on hard clams (*Mercenaria sp.*) due to stock declines in other areas along the east coast and their market value. This combined with increasing acreages available for harvest activities due to water quality certifications, allowed the replacement of oysters by clams as the premier species from 1986-1988. From 1988-1992 clam landings again declined and oyster landings grew. Since 1990, the clam landings have shown a general increase in contrast to the oyster fishery that, after large catches from 1989-92, have shown a steady decline since. In 2009, clam harvest was approximately 73,254 lbs of meat, while oyster harvest was only 9,676 lbs of meat. Shellfish harvest landings have continued to increase since 2009. In 2013, clam harvest increased to approximately 131,131 lbs of meat and oyster harvest was down and totaled 16, 220 lbs of meat. Labor costs have effected this change in combination with temporary inaccessibility to some grounds because of conflicts over harvest rights. No acreage has been lost due to deteriorating water quality. Current research is focusing on improvements in stock genetics (growth and appearance enhancements), cultch substrate comparisons, and establishing new populations.