

ADEM Fish Tissue Monitoring Program 2021 Annual Report

*Black Warrior and Cahaba River Basins with additional
Coastal sites*

June 8, 2022

Alabama Department of Environmental Management

Field Operations Division

Montgomery Branch

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INTRODUCTION

The Alabama Department of Environmental Management (ADEM) and its predecessor, the Alabama Water Improvement Commission (AWIC), have collected fish for analysis of contaminant levels since 1970. For the 20 years that followed, fish collections focused on areas of known or suspected contamination. In 1991, the ADEM expanded its Fish Tissue Monitoring Program (FTMP) to provide a statewide screening of bioaccumulative contaminants in fish tissue. The expanded program was designed to provide the Alabama Department of Public Health (ADPH) with the data needed for determination of potential risk to those who consume fish from Alabama waters and to issue/modify fish consumption advisories within the state. The expanded program historically exists as a cooperative effort between the ADEM, the ADPH, the Alabama Department of Conservation and Natural Resources (ADCNR) and the Tennessee Valley Authority (TVA).

Following expansion of the program to statewide screening, fish from all of Alabama's major reservoirs, rivers, streams and state-managed public fishing lakes were collected over a five-year period. Data from these locations were provided to the ADPH for issuance, modification, or removal of fish consumption advisories to the public. The results of the program over the five-year period indicated that the majority of Alabama waterbodies supported healthy fish populations with low to undetectable contaminant levels where any contaminants existed. However, the ADPH determined that fish from certain waterbodies were found to contain contaminant levels in excess of Environmental Protection Agency (EPA) and Food and Drug Administration (FDA) guidance levels.

In 1997, the FTMP was incorporated into the ADEM Watershed Management Approach. Pursuant to this approach, water quality of each major drainage basin in the state was assessed by

ADEM on a five-year rotating basis. The initial rotation was completed in 2001 with the five major basins and years sampled as follows:

- a) Black Warrior and Cahaba Rivers (1997)
- b) Tennessee River (1998)
- c) Chattahoochee and Conecuh Rivers (1999)
- d) Coosa, Tallapoosa and Alabama Rivers (2000)
- e) Escatawpa, Mobile and Tombigbee Rivers (2001)

In addition to the basin locations sampled each year, the ADEM continued to sample areas of concern outside the focus basin as needed or requested by cooperating agencies and as resources allowed.

Because of the variability in contaminant concentrations observed in fish collected from locations over several years, and the need for additional monitoring at a number of locations, the approach to annual monitoring was refined in 2002. Annual fish tissue monitoring by ADEM became multi-faceted and directed toward accomplishing three goals:

- a) sampling locations throughout the focus basin,
- b) repetitive sampling of sites where the ADPH has determined that EPA/FDA limits have been exceeded and
- c) sampling remaining areas in Alabama where fish have not been collected for the FTMP.

Repetitive sampling of sites where EPA/FDA action levels had been exceeded proceeded as follows:

- a) Sites that exceeded EPA/FDA limits for the first time the previous year were sampled for a minimum of two concurrent years to provide verification of contaminant concentrations as requested by the ADPH.
- b) Sites where ADPH consumption advisories currently existed were sampled at a minimum of every three years to provide data for analysis of trends in contaminant concentrations.

In June 2006 the ADPH adopted the EPA guidance level of 0.33 ug/g mercury in fish for issuance of public consumption advisories, replacing the FDA guidance level of 1.0 ug/g previously used.

The program was further modified in 2015 to meet the data needs of the ADEM water quality assessment and listing process. In order to meet these needs, fish tissue samples were collected within each major river basin in the state on a three-year rotating basis, providing two repetitions of sampling within the six-year period required for monitoring data in the assessment and listing methodology. The initial regional rotation was as follows:

- a) Alabama, Cahaba, Tallapoosa and Tennessee Rivers,
- b) Coosa, Mobile and Tombigbee Rivers,
- c) Black Warrior, Perdido-Escambia, Choctawhatchee, Pea and Chattahoochee Rivers.

In addition to the major river basin schedule, coastal sample locations (locations south of the I-65 Mobile River Bridge) were divided into three geographic regions, eastern, central and western, and sampled on a three-year rotation as well.

Within the river basins and coastal zones, site selection was directed toward accomplishing three goals:

- a) Repetitive sampling of sites where the ADPH has determined that EPA/FDA limits have been exceeded,
- b) Repetitive sampling of sites within each major Alabama reservoir in support of Alabama's Assessment and Listing Methodology,
- c) Sampling remaining areas in Alabama where fish have not been collected for the FTMP or other areas of concern as they arise.

Due to the adoption of the lower EPA guidance level for mercury in 2006 the number of sample locations with consumption advisories for mercury steadily increased. The combination of this increase in advisory locations with the three year basin rotation instituted in 2015 caused an increase in the number of yearly sample locations to a point that became unsustainable due to laboratory limitations as well as funding constraints. In order to maximize available laboratory resources, as well as streamline data reporting, the program was further modified in 2017 as follows. Beginning in 2017 annual fish tissue sampling was directed toward accomplishing four main goals:

- a) Sampling locations throughout the focus basin,
- b) Repetitive sampling of sites within the focus basin where the ADPH has determined that EPA/FDA action limits have been exceeded,

- c) Repetitive sampling of sites within the focus basin in support of Alabama's Assessment and Listing Methodology,
- d) Sampling remaining areas in Alabama where fish have not been collected for the FTMP or other areas of concern as they arise.

Each major drainage basin will be monitored once on a five-year rotating basis. The basin rotation will be as follows:

- a) Black Warrior and Cahaba Rivers (2017)
- b) Tennessee River (2018)
- c) Perdido-Escambia, Choctawhatchee, Pea and Chattahoochee Rivers (2019)
- d) Mobile and Tombigbee Rivers (2020)
- e) Alabama, Coosa and Tallapoosa Rivers (2021)

In addition to the major river basin schedule, coastal sample locations (locations south of the I-65 Mobile River bridge) will be divided roughly into five geographic regions and sampled on a five-year rotation as well.

The extent to which the above goals are accomplished each year is dependent upon available resources.

METHODS

Fish sampling and tissue preparation procedures for the FTMP are as described in the ADEM documents: *Fish Tissue Monitoring Program Sample Collection Procedures (SOP #2300)*, *Fish Tissue Monitoring Program Sample Processing and Data Reporting Procedures (SOP# 2301)* and *Fish Tissue Monitoring Program Non-Lethal Biopsy Plug Sample Collection and Processing Procedures (SOP#2302)*.

Sampling is typically conducted in the fall of the year, generally October-December for the FTMP. These months are preferred in fish tissue monitoring programs because:

- a) Organic pollutants, primarily stored in fatty (lipid) tissue, would be at the greatest concentration as fat content of fish is highest at this time of year.
- b) Target species are more easily collected while water levels are low and as water temperatures cool.
- c) Fall collections do not interfere with spawning seasons of target species.

Collection methods may include electrofishing and/or gillnets as needed. Typically six individuals of the same species are collected at each location from each of two primary feeding groups, predators and bottom-feeders. At stations where FDA and/or EPA guidance levels have been exceeded, multiple commercial and/or sport fish species may be collected if available and as resources allow. Collected fish are within a size range identified in the SOP, with the additional requirement that catfish weigh a minimum of one pound as requested by the ADPH.

After collection, fish are weighed and measured with any abnormalities noted. Tissue samples are collected as described in the ADEM documents *SOP#2301* and *SOP#2302* and

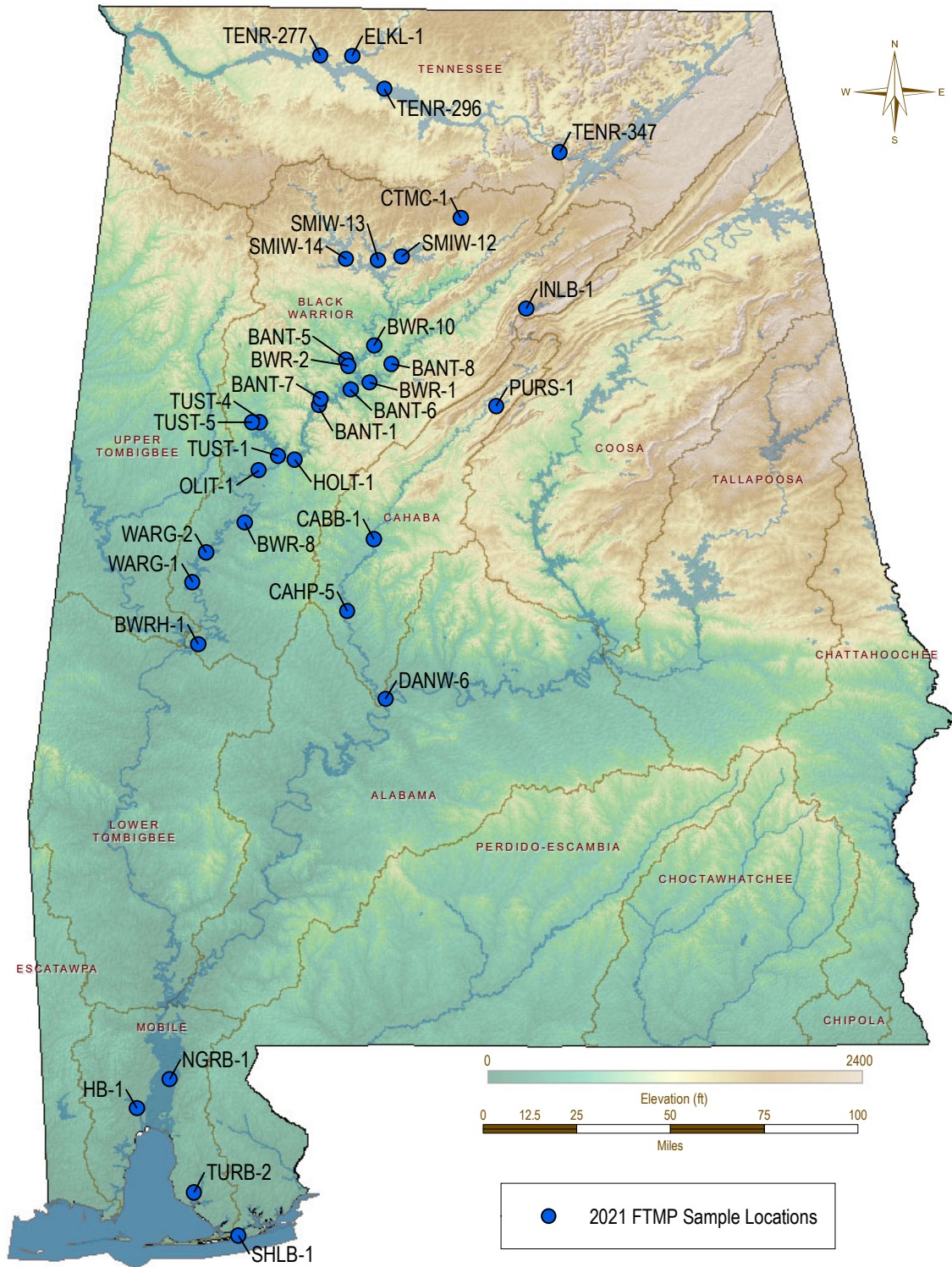
packaged for laboratory analysis (Table 1) and/or storage as needed. Otoliths and/or spines are removed from the carcass if available and preserved for age determinations.

Table 1. Analytical parameters for the ADEM Fish Tissue Monitoring Program.

Parameter	Method	RL	MDL	FDA Guidance Level	EPA Guidance Level
Arsenic, Total	EPA200.9	0.5 ug/g	0.177 ug/g		
Cadmium	EPA200.9	0.02 ug/g	0.005 ug/g		
Mercury, Total	EPA245.6	0.1 ug/g	0.015 ug/g	1.0 ug/g	0.33 ug/g
Selenium, Total	EPA200.9	0.5 ug/g	0.144 ug/g		
Chlordane, Total	SW8081A	0.01 ug/g		0.3 ug/g	
4,4-DDD	SW8081A	0.01 ug/g		Total DDT 5.0 ug/g	
4,4-DDE	SW8081A	0.01 ug/g			
4,4-DDT	SW8081A	0.01 ug/g			
2,4-DDD	SW8081A	0.01 ug/g			
2,4-DDE	SW8081A	0.01 ug/g			
2,4-DDT	SW8081A	0.01 ug/g			
Chlorpyrifos	SW8081A	0.01 ug/g			
Dieldrin	SW8081A	0.01 ug/g		0.3 ug/g	
Endosulfan I	SW8081A	0.01 ug/g			
Endosulfan II	SW8081A	0.01 ug/g			
Endrin	SW8081A	0.01 ug/g			
gamma-BHC (Lindane)	SW8081A	0.01 ug/g			
Heptachlor	SW8081A	0.01 ug/g		0.3 ug/g	
Heptachlor Epoxide	SW8081A	0.01 ug/g		0.3 ug/g	
Hexachlorobenzene	SW8081A	0.05 ug/g			
Mirex	SW8081A	0.01 ug/g		0.1 ug/g	
Arochlor 1016	SW8082	0.125 ug/g			
Arochlor 1221	SW8082	0.125 ug/g			
Arochlor 1232	SW8082	0.125 ug/g			
Arochlor 1242	SW8082	0.125 ug/g			
Arochlor 1248	SW8082	0.125 ug/g			
Arochlor 1254	SW8082	0.125 ug/g			
Arochlor 1260	SW8082	0.125 ug/g			
Total PCBs	SW8082	0.35 ug/g		2.0 ug/g	
Toxaphene	SW8081A	0.05 ug/g		5.0 ug/g	
Percent lipids	SW3640A	0.10%			

Following completion of analyses, all data are compiled and distributed to cooperating agencies. Analytical results are published and provided to the public through the ADEM website.

Figure 1. CY2021 FTMP sample locations.



RESULTS

In an effort to prevent the spread of corona virus, all in lab processing of fish tissue samples was canceled for the 2021 sampling season. All samples were collected as field biopsy plugs and analyzed only for individual mercury.

From September through December 2021, samples from 365 fish (9 different species) from 34 locations (Figure 1 and Table 2) were collected and analyzed for the FTMP. Twenty-seven different waterbodies were sampled. Fifteen locations with current consumption advisories for mercury and one location with a current consumption advisory for PFOS were sampled. No PFOS analysis was performed in 2021. To date, samples comprised of several thousand fish have been collected from 388 sites for the FTMP. Analytical results for the 2021 FTMP are presented in Table 3. Information on current fish consumption advisories that were developed from FTMP data is available on the ADPH website at <http://www.adph.org/tox/index.asp?id=1360>. Nutritional information and safe practices for selecting and preparing fish are also available at this site.

ADEM's monitoring program also includes an evaluation of the physical condition of important sport and/or commercial fish species. Results of the evaluation indicate the majority of the fish evaluated were in good to excellent condition. Fish were also checked for anomalies, such as lesions, tumors, parasites and deformities. Some 97 percent of the fish observed had no anomalies, a value higher than previous years. The lower incidence of anomalies is likely due to the fact that no fish were fileted, therefore internal anomalies and parasites were not observed. The most commonly observed anomalies were lesions and wounds on the body surface. The occurrence of lesions on fish during spring and fall may be the result of bacterial infections associated with changing water temperatures, spawning stress or a combination of natural

occurrences. These infections are not dangerous to the consumer and the fish are edible if properly prepared.

For more information regarding ADEM's Fish Tissue Monitoring Program please contact Michael Len at 334-260-2787.

Table 2. CY 2021 FTMP sample location information; basin, locale, station ID, county, species collected and location description.

Basin	Locale	Station ID	County	Species Collected	Location Description
Black Warrior	Bankhead Res	BANT-1	Tuscaloosa	Channel catfish Largemouth bass	Lower reservoir. Deepest point, main river channel, dam forebay.
Black Warrior	Big Yellow Ck (Bankhead)	BANT-7	Tuscaloosa	Channel catfish Largemouth bass	Big Yellow Creek embayment, approximately 1 mile upstream of confluence with Warrior River.
Black Warrior	Binion Ck (Tuscaloosa)	TUST-5	Tuscaloosa	Channel catfish Largemouth bass	Binion Creek, deepest point, main channel, immediately upstream of Hwy 43.
Black Warrior	Black Warrior R	BWRH-1	Greene	Blue catfish Largemouth bass	Deepest point, main river channel, approximately 1 mile upstream of Hwy 43 bridge near Demopolis.
Black Warrior	Holt Res	HOLT-1	Tuscaloosa	Channel catfish Largemouth bass	Lower reservoir. Forebay area, downstream of Deerlick Creek public access area.
Black Warrior	Inland Res	INLB-1	Blount	Largemouth bass	Lower reservoir. Deepest point, main river channel, dam forebay.
Black Warrior	Lake Catoma	CTMC-1	Cullman	River redhorse Largemouth bass	Lake Catoma lower reservoir. Deepest point of main river channel dam forebay.

Table 2. CY 2021 FTMP sample location information; basin, locale, station ID, county, species collected and location description.

Basin	Locale	Station ID	County	Species Collected	Location Description
Black Warrior	Locust Fk	BWR-1	Jefferson	Channel catfish Largemouth bass Spotted bass	Locust Fork at river mile 388.5 near Vines Fish Camp.
Black Warrior	Lost Ck (Bankhead)	BANT-5	Walker	Channel catfish Largemouth bass	Deepest point, main creek channel, Lost Creek embayment. Approximately 0.5 mile downstream of Walker Co. Rd. 53 bridge.
Black Warrior	Mulberry Fk	BWR-10	Walker	Channel catfish Largemouth bass	Mulberry Fk, Black Warrior River downstream of Hwy 78.
Black Warrior	Mulberry Fk	BWR-2	Walker	Channel catfish Largemouth bass	Mulberry Fork at river mile 391.8 downstream of Lost Creek.
Black Warrior	Oliver Res	OLIT-1	Tuscaloosa	Channel catfish Largemouth bass	Lower reservoir. Deepest point, main river channel, dam forebay.
Black Warrior	Rock Ck (Lewis Smith)	SMIW-13	Winston	Channel catfish Largemouth bass	Rock Creek, Smith Reservoir in vicinity of Little Crooked Creek and Rock Creek Marina. Approximately 5.0 miles upstream from Sipsey Fork.
Black Warrior	Ryan Ck (Lewis Smith)	SMIW-12	Cullman	Channel catfish Largemouth bass Spotted bass	Ryan Creek, Smith Reservoir approximately 2.2 miles upstream of Cullman County Road 222 and approximately 12 miles upstream of Sipsey Fork.

Table 2. CY 2021 FTMP sample location information; basin, locale, station ID, county, species collected and location description.

Basin	Locale	Station ID	County	Species Collected	Location Description
Black Warrior	Smith Res	SMIW-14	Winston	Channel catfish Largemouth bass	Smith Reservoir mouth of Clear Creek, mouth of Butler Creek, Sipsey Fork in vicinity of Clear and Butler creeks. 2.3 miles upstream of State Rt. 257 bridge.
Black Warrior	Tuscaloosa Res	TUST-1	Tuscaloosa	Channel catfish Largemouth bass	Lower reservoir. Deepest point, main river channel, dam forebay.
Black Warrior	Tuscaloosa Res	TUST-4	Tuscaloosa	Largemouth bass	North River immediately upstream of Bull Slough Road crossing, deepest point, main channel.
Black Warrior	Valley Ck (Bankhead)	BANT-6	Jefferson	Channel catfish Largemouth bass	Deepest point, main creek channel, Valley Creek embayment. Approximately 1.0 mile upstream of confluence with Warrior River.
Black Warrior	Village Ck	BANT-8	Jefferson	Blacktail redhorse Spotted bass Spotted sucker Golden redhorse	Village Creek embayment approximately 0.5 mile upstream of confluence with Warrior River.
Black Warrior	Warrior Res	BWR-8	Tuscaloosa	Channel catfish Largemouth bass Blue catfish	Black Warrior River at Moundville, approximately river mile 302.7.
Black Warrior	Warrior Res	WARG-1	Greene	Blue catfish Largemouth bass	Lower reservoir. Deepest point, main river channel, dam forebay.

Table 2. CY 2021 FTMP sample location information; basin, locale, station ID, county, species collected and location description.

Basin	Locale	Station ID	County	Species Collected	Location Description
Black Warrior	Warrior Res	WARG-2	Greene	Channel catfish Largemouth bass	Mid reservoir. Deepest point, main river channel, immediately downstream of Lock 8 Public Use Area.
Cahaba	Cahaba R	CABB-1	Bibb	Channel catfish Spotted bass	Cahaba River at AL Hwy 219.
Cahaba	Cahaba R	CAHP-5	Perry	Channel catfish Spotted bass	Cahaba River at AL Hwy 183.
Cahaba	Cahaba R (Dannelly)	DANW-6	Dallas	Channel catfish Spotted bass Largemouth bass	Deepest point, main river channel, Cahaba River embayment, approximately 0.5 miles upstream of lake confluence.
Cahaba	Purdy Res	PURS-1	Shelby	Channel catfish Largemouth bass	Lower reservoir. Deepest point, main river channel, dam forebay
Mobile	Hog Bayou	HB-1	Mobile	Striped mullet Largemouth bass	Hog Bayou at buried pipeline crossing 1/2 mile upstream from mouth.
Mobile	Negro Sl	NGRB-1	Baldwin	Channel catfish Largemouth bass Blue catfish	Negro Slough at Tensaw River, lat/lon calculated 1.0 mile upstream of confluence with the Tensaw River.

Table 2. CY 2021 FTMP sample location information; basin, locale, station ID, county, species collected and location description.

Basin	Locale	Station ID	County	Species Collected	Location Description
Mobile	Turkey Br	TURB-2	Baldwin	Largemouth bass Striped mullet	Turkey Branch upstream of Fish River confluence.
Perdido	L Shelby	SHLB-1	Baldwin	Striped mullet Largemouth bass	Lake Shelby in Gulf State Park in deep hole ~ 15-18 feet deep created by a spring.
Tennessee	Elk R (Wheeler)	ELKL-1	Lauderdale	Channel catfish Largemouth bass	Elk River embayment approximately river mile 6 (NE 1/4, Sec 12).
Tennessee	Wheeler Res	TENR-277	Lauderdale	Channel catfish Largemouth bass	Upstream of the dam at Tennessee River mile 277.0, near the confluence of First Creek with the main channel.
Tennessee	Wheeler Res	TENR-296	Limestone	Channel catfish Largemouth bass	Mid station, main river channel, Tennessee River mile 296.
Tennessee	Wheeler Res	TENR-347	Marshall	Channel catfish Largemouth bass	Wheeler Reservoir, Tennessee River mile 347, 2.0 miles downstream of Guntersville dam.



Table 3. CY2021 Fish Tissue Monitoring Program Analytical Results

BANT-1 Bankhead Res - Lower reservoir. Deepest point, main river channel, dam forebay.**Channel Catfish (*Ictalurus punctatus*)**

	Fish 1	Fish 2	Fish 3	Fish 4
Length (mm)	464	404	466	381
Length (inches)	18.27	15.91	18.35	15.00
Weight (g)	820	480	800	380
Weight (oz)	28.92	16.93	28.22	13.40
Sex/Age				
Age Method	N/A	N/A	N/A	N/A
Collection Date	10-12-21	10-12-21	10-12-21	10-12-21
Skin on Fillet	N	N	N	N

MERCURY, TOTAL ug/g	.054 JI	.0549 JI	.0426 JI	.0371 JI
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Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	421	410	368	424	447	363
Length (inches)	16.57	16.14	14.49	16.69	17.60	14.29
Weight (g)	1,010	890	630	1,110	1,310	630
Weight (oz)	35.63	31.39	22.22	39.15	46.21	22.22
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	10-12-21	10-12-21	10-12-21	10-12-21	10-12-21	10-12-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.2442	.2128	.1629	.2765	.3948	.1229
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BANT-7 Big Yellow Ck (Bankhead) - Big Yellow Creek embayment, approximately 1 mile upstream of confluence with Warrior River.**Channel Catfish (*Ictalurus punctatus*)**

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	501	415	456	426	455	421
Length (inches)	19.72	16.34	17.95	16.77	17.91	16.57
Weight (g)	1,070	490	760	600	820	710
Weight (oz)	37.74	17.28	26.81	21.16	28.92	25.04
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	10-12-21	10-12-21	10-12-21	10-12-21	10-12-21	10-12-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.0479 JI	.0477 JI	.0652 JI	.0551 JI	.2224	.1093
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Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	425	325	372	333	344	342
Length (inches)	16.73	12.80	14.65	13.11	13.54	13.46
Weight (g)	1,060	540	670	460	510	470
Weight (oz)	37.39	19.05	23.63	16.23	17.99	16.58
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	10-12-21	10-12-21	10-12-21	10-12-21	10-12-21	10-12-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.3172	.2487	.2134	.1393	.1409	.2302
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TUST-5 Binion Ck (Tuscaloosa) - Binion Creek, deepest point, main channel, immediately upstream of Hwy 43.**Channel Catfish (Ictalurus punctatus)**

	Fish 1	Fish 2
Length (mm)	485	679
Length (inches)	19.09	26.73
Weight (g)	840	1,900
Weight (oz)	29.63	67.02
Sex/Age		
Age Method	N/A	N/A
Collection Date	09-14-21	09-14-21
Skin on Fillet	N	N
MERCURY, TOTAL ug/g	.443	.4125

Largemouth Bass (Micropterus salmoides)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	370	345	322	315	305	315
Length (inches)	14.57	13.58	12.68	12.40	12.01	12.40
Weight (g)	550	450	490	320	250	340
Weight (oz)	19.40	15.87	17.28	11.29	8.82	11.99
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	09-14-21	09-14-21	09-14-21	09-14-21	09-14-21	09-14-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.7956	.6138	.5052	.5115	.5673	.4685

Greene County

BWRH-1 Black Warrior R - Deepest point, main river channel, approximately 1 mile upstream of Hwy 43 bridge near Demopolis.**Blue Catfish (Ictalurus furcatus)**

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	402	668	515	450	460	590
Length (inches)	15.83	26.30	20.28	17.72	18.11	23.23
Weight (g)	530	3,170	1,210	790	790	1,850
Weight (oz)	18.70	111.82	42.68	27.87	27.87	65.26
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	09-14-21	09-14-21	09-14-21	09-14-21	09-14-21	09-14-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.1296	.6145	.2167	.2685	.06 JI	.27

Largemouth Bass (Micropterus salmoides)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	445	355	357	450	350	402
Length (inches)	17.52	13.98	14.06	17.72	13.78	15.83
Weight (g)	1,180	570	560	1,410	500	950
Weight (oz)	41.62	20.11	19.75	49.74	17.64	33.51
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	09-14-21	09-14-21	09-14-21	09-14-21	09-14-21	09-14-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.2555	.2444	.2987	.3656	.2572	.4503

DANW-6 Cahaba R (Dannelly) - Deepest point, main river channel, Cahaba River embayment, approximately 0.5 miles upstream of lake confluence.

Channel Catfish (*Ictalurus punctatus*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	451	446	485	400	385	381
Length (inches)	17.76	17.56	19.09	15.75	15.16	15.00
Weight (g)	680	580	940	470	450	380
Weight (oz)	23.99	20.46	33.16	16.58	15.87	13.40
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	11-18-21	11-18-21	11-18-21	11-18-21	11-18-21	11-18-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.1533	.0336 JI	.0908 JI	.1372	.0682 JI	.0771 JI
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Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3
Length (mm)	404	506	360
Length (inches)	15.91	19.92	14.17
Weight (g)	810	1,690	580
Weight (oz)	28.57	59.61	20.46
Sex/Age			
Age Method	N/A	N/A	N/A
Collection Date	11-18-21	11-18-21	11-18-21
Skin on Fillet	N	N	N

MERCURY, TOTAL ug/g	.2022	.535	.2155
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Spotted Bass (*Micropterus punctulatus*)

	Fish 1	Fish 2	Fish 3
Length (mm)	463	345	371
Length (inches)	18.23	13.58	14.61
Weight (g)	1,170	340	470
Weight (oz)	41.27	11.99	16.58
Sex/Age			
Age Method	N/A	N/A	N/A
Collection Date	11-18-21	11-18-21	11-18-21
Skin on Fillet	N	N	N

Lesions			Slight/Mild
Comments			Injured eye.

MERCURY, TOTAL ug/g	.2265	.3686	.2215
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Channel Catfish (*Ictalurus punctatus*)

	Fish 1
Length (mm)	435
Length (inches)	17.13
Weight (g)	670
Weight (oz)	23.63
Sex/Age	
Age Method	N/A
Collection Date	11-30-21
Skin on Fillet	N

MERCURY, TOTAL ug/g	.1089
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Spotted Bass (*Micropterus punctulatus*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	450	323	269	273	227	229
Length (inches)	17.72	12.72	10.59	10.75	8.94	9.02
Weight (g)	1,100	340	190	210	100	100
Weight (oz)	38.80	11.99	6.70	7.41	3.53	3.53
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	11-30-21	11-30-21	11-30-21	11-30-21	11-30-21	11-30-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.3911	.2542	.2997	.3352	.3243	.3117
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Channel Catfish (*Ictalurus punctatus*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	387	445	434	349	505	566
Length (inches)	15.24	17.52	17.09	13.74	19.88	22.28
Weight (g)	390	670	630	270	880	1,540
Weight (oz)	13.76	23.63	22.22	9.52	31.04	54.32
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	11-17-21	11-17-21	11-17-21	11-17-21	11-17-21	11-17-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.0685 JI	.0762 JI	.1063	.1566	.0929 JI	.1679
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Spotted Bass (*Micropterus punctulatus*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	392	305	289	311	300	405
Length (inches)	15.43	12.01	11.38	12.24	11.81	15.94
Weight (g)	680	280	240	310	260	760
Weight (oz)	23.99	9.88	8.47	10.93	9.17	26.81
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	11-17-21	11-17-21	11-17-21	11-17-21	11-17-21	11-17-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.4929	.3055	.4758	.4901	.2902	.5462
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ELKL-1 Elk R (Wheeler) - Elk River embayment approximately river mile 6 (NE 1/4, Sec 12).

Channel Catfish (*Ictalurus punctatus*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	458	433	426	487	434	459
Length (inches)	18.03	17.05	16.77	19.17	17.09	18.07
Weight (g)	863	778	663	1,246	729	749
Weight (oz)	30.44	27.44	23.39	43.95	25.71	26.42
Sex/Age	/4	/5	/5	/5	/4	/5
Age Method	Spine	Spine	Spine	Spine	Spine	Spine
Collection Date	10-14-21	10-14-21	10-14-21	10-14-21	10-14-21	10-14-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.0587 JI	.0466 JI	.0535 JI	.0983 JI	.0478 JI	.0433 JI
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Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	455	380	408	437	391	421
Length (inches)	17.91	14.96	16.06	17.20	15.39	16.57
Weight (g)	1,412	865	1,089	1,227	1,020	1,043
Weight (oz)	49.81	30.51	38.41	43.28	35.98	36.79
Sex/Age	/4	/3	/5	/5	/5	/4
Age Method	Otolith	Otolith	Otolith	Otolith	Otolith	Otolith
Collection Date	10-14-21	10-14-21	10-14-21	10-14-21	10-14-21	10-14-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.094 JI	.0847 JI	.1265	.1584	.1547	.0979 JI
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Mobile County

HB-1 Hog Bayou - Hog Bayou at buried pipeline crossing 1/2 mile upstream from mouth.

Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	272	282	322	319	334	393
Length (inches)	10.71	11.10	12.68	12.56	13.15	15.47
Weight (g)	240	280	410	380	490	780
Weight (oz)	8.47	9.88	14.46	13.40	17.28	27.51
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	12-01-21	12-01-21	12-01-21	12-01-21	12-01-21	12-01-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.2944	.2609	.296	.3193	.3888	.8401
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Striped Mullet (*Muqil cephalus*)

	Fish 1	Fish 2
Length (mm)	391	347
Length (inches)	15.39	13.66
Weight (g)	540	620
Weight (oz)	19.05	21.87
Sex/Age		
Age Method	N/A	N/A
Collection Date	12-01-21	12-01-21
Skin on Fillet	N	N

MERCURY, TOTAL ug/g	.0293 JI	.0171 JI
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HOLT-1 Holt Res - Lower reservoir. Forebay area, downstream of Deerlick Creek public access area.**Channel Catfish (Ictalurus punctatus)**

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	387	273	415	446	391	444
Length (inches)	15.24	10.75	16.34	17.56	15.39	17.48
Weight (g)	420	140	600	700	450	680
Weight (oz)	14.82	4.94	21.16	24.69	15.87	23.99
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	10-08-21	10-08-21	10-08-21	10-08-21	10-08-21	10-08-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.0722 JI	.1345	.1795	.1085	.1542	.3811

Largemouth Bass (Micropterus salmoides)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	460	400	371	368	410	385
Length (inches)	18.11	15.75	14.61	14.49	16.14	15.16
Weight (g)	1,340	930	650	700	890	700
Weight (oz)	47.27	32.80	22.93	24.69	31.39	24.69
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	10-08-21	10-08-21	10-08-21	10-08-21	10-08-21	10-08-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.235	.2508	.3568	.1954	.2976	.2119

Blount County**INLB-1 Inland Res - Lower reservoir. Deepest point, main river channel, dam forebay.****Largemouth Bass (Micropterus salmoides)**

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	489	465	431	435	394	341
Length (inches)	19.25	18.31	16.97	17.13	15.51	13.43
Weight (g)	1,630	1,340	1,040	1,060	720	500
Weight (oz)	57.50	47.27	36.68	37.39	25.40	17.64
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	11-16-21	11-16-21	11-16-21	11-16-21	11-16-21	11-16-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	1.3662	.7637	.9577	.4388	.5712	.33

SHLB-1 L Shelby - Lake Shelby in Gulf State Park in deep hole ~ 15-18 feet deep created by a spring.

Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	358	315	303	340	375	450
Length (inches)	14.09	12.40	11.93	13.39	14.76	17.72
Weight (g)	670	420	340	470	610	1,100
Weight (oz)	23.63	14.82	11.99	16.58	21.52	38.80
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	12-02-21	12-02-21	12-02-21	12-02-21	12-02-21	12-02-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.181	.1967	.1562	.1369	.5254	.863

Striped Mullet (*Mugil cephalus*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	429	370	315	336	282	311
Length (inches)	16.89	14.57	12.40	13.23	11.10	12.24
Weight (g)	750	600	260	280	120	300
Weight (oz)	26.46	21.16	9.17	9.88	4.23	10.58
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	12-02-21	12-02-21	12-02-21	12-02-21	12-02-21	12-02-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.026 JI	.0563 JI	< .017	.0432 JI	< .017	< .017

Cullman County

CTMC-1 Lake Catoma - Lake Catoma lower reservoir. Deepest point of main river channel dam forebay.

Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	435	351	373	431	416	422
Length (inches)	17.13	13.82	14.69	16.97	16.38	16.61
Weight (g)	1,180	540	700	1,060	950	900
Weight (oz)	41.62	19.05	24.69	37.39	33.51	31.75
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	11-17-21	11-17-21	11-17-21	11-17-21	11-17-21	11-17-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.7019	.8278	.5232	.7324	.8075	.6133

River Redhorse (*Moxostoma carinatum*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	445	459	372	460	358	370
Length (inches)	17.52	18.07	14.65	18.11	14.09	14.57
Weight (g)	1,080	1,100	550	1,230	490	560
Weight (oz)	38.10	38.80	19.40	43.39	17.28	19.75
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	11-17-21	11-17-21	11-17-21	11-17-21	11-17-21	11-17-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.153	.0935 JI	.0891 JI	.4062	.0731 JI	.0725 JI

BWR-1 Locust Fk - Locust Fork at river mile 388.5 near Vines Fish Camp.**Channel Catfish (*Ictalurus punctatus*)**

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	309	385	441	500	375	440
Length (inches)	12.17	15.16	17.36	19.69	14.76	17.32
Weight (g)	210	440	530	1,130	390	600
Weight (oz)	7.41	15.52	18.70	39.86	13.76	21.16
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	10-07-21	10-07-21	10-07-21	10-07-21	10-07-21	10-07-21
Skin on Fillet	N	N	N	N	N	N

Deformities	Slight/Mild					
External Parasit	Slight/Mild					
Comments	Deformed caudal fin.					

MERCURY, TOTAL ug/g	.0773 JI	.0517 JI	.0464 JI	.1132	.0786 JI	.0522 JI
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Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5
Length (mm)	465	331	325	446	320
Length (inches)	18.31	13.03	12.80	17.56	12.60
Weight (g)	1,530	420	430	1,120	350
Weight (oz)	53.97	14.82	15.17	39.51	12.35
Sex/Age					
Age Method	N/A	N/A	N/A	N/A	N/A
Collection Date	10-07-21	10-07-21	10-07-21	10-07-21	10-07-21
Skin on Fillet	N	N	N	N	N

Deformities	Moderate				
External Parasit	Slight/Mild				
Lesions	Moderate				
Comments	Hook wound, external parasites, deformed caudal fin.				

MERCURY, TOTAL ug/g	.8999	.1304	.1225	.3109	.1645
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Spotted Bass (*Micropterus punctulatus*)

	Fish 1
Length (mm)	432
Length (inches)	17.01
Weight (g)	930
Weight (oz)	32.80
Sex/Age	
Age Method	N/A
Collection Date	10-07-21
Skin on Fillet	N

Lesions	Slight/Mild
Comments	Slight wound.

MERCURY, TOTAL ug/g	.2052
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Walker County

Lat/Lon: 33.63799 / -87.24702

BANT-5 Lost Ck (Bankhead) - Deepest point, main creek channel, Lost Creek embayment. Approximately 0.5 mile downstream of Walker Co. Rd. 53 bridge.

Channel Catfish (*Ictalurus punctatus*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	400	490	390	509	432	532
Length (inches)	15.75	19.29	15.35	20.04	17.01	20.94
Weight (g)	460	830	430	1,360	670	1,410
Weight (oz)	16.23	29.28	15.17	47.97	23.63	49.74
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	10-19-21	10-19-21	10-19-21	10-19-21	10-19-21	10-19-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.0489 JI	.0513 JI	.0515 JI	.1919	.0672 JI	.0765 JI

Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	379	435	345	329	330	333
Length (inches)	14.92	17.13	13.58	12.95	12.99	13.11
Weight (g)	690	1,070	490	390	430	450
Weight (oz)	24.34	37.74	17.28	13.76	15.17	15.87
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	10-19-21	10-19-21	10-19-21	10-19-21	10-19-21	10-19-21
Skin on Fillet	N	N	N	N	N	N
Lesions		Moderate				
Comments		Hook wound in mouth.				
MERCURY, TOTAL ug/g	.353	.4511	.2859	.231	.3044	.2683

Walker County

Lat/Lon: 33.69376 / -87.13884

BWR-10 Mulberry Fk - Mulberry Fk, Black Warrior River downstream of Hwy 78.

Channel Catfish (*Ictalurus punctatus*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	419	429	381	415	535	460
Length (inches)	16.50	16.89	15.00	16.34	21.06	18.11
Weight (g)	610	700	380	610	1,320	770
Weight (oz)	21.52	24.69	13.40	21.52	46.56	27.16
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	11-03-21	11-03-21	11-03-21	11-03-21	11-03-21	11-03-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.0454 JI	.0235 JI	.0795 JI	.0728 JI	.0964 JI	.1708

Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	474	473	380	366	330	355
Length (inches)	18.66	18.62	14.96	14.41	12.99	13.98
Weight (g)	1,400	1,360	620	580	460	490
Weight (oz)	49.38	47.97	21.87	20.46	16.23	17.28
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	11-03-21	11-03-21	11-03-21	11-03-21	11-03-21	11-03-21
Skin on Fillet	N	N	N	N	N	N
Lesions		Slight/Mild				
Comments		Slight lesions				
MERCURY, TOTAL ug/g	.2477	.2189	.2561	.414	.1163	.1432

BWR-2 Mulberry Fk - Mulberry Fork at river mile 391.8 downstream of Lost Creek.

Channel Catfish (*Ictalurus punctatus*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	447	461	459	532	517	550
Length (inches)	17.60	18.15	18.07	20.94	20.35	21.65
Weight (g)	760	840	790	1,320	1,260	1,470
Weight (oz)	26.81	29.63	27.87	46.56	44.45	51.85
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	10-19-21	10-19-21	10-19-21	10-19-21	10-19-21	10-19-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.0517 JI	.0989 JI	.0495 JI	.1064	.1143	.1337

Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	350	340	333	400	360	330
Length (inches)	13.78	13.39	13.11	15.75	14.17	12.99
Weight (g)	490	390	450	720	610	410
Weight (oz)	17.28	13.76	15.87	25.40	21.52	14.46
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	10-19-21	10-19-21	10-19-21	10-19-21	10-19-21	10-19-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.1978	.1819	.1882	.2664	.2061	.1749

NGRB-1 Negro Sl - Negro Slough at Tensaw River, lat/lon calculated 1.0 mile upstream of confluence with the Tensaw River.

Blue Catfish (*Ictalurus furcatus*)

	Fish 1
Length (mm)	690
Length (inches)	27.17
Weight (g)	2,590
Weight (oz)	91.36
Sex/Age	
Age Method	N/A
Collection Date	11-30-21
Skin on Fillet	N

MERCURY, TOTAL ug/g	.2659
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Channel Catfish (*Ictalurus punctatus*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5
Length (mm)	364	419	370	445	405
Length (inches)	14.33	16.50	14.57	17.52	15.94
Weight (g)	330	510	330	620	450
Weight (oz)	11.64	17.99	11.64	21.87	15.87
Sex/Age					
Age Method	N/A	N/A	N/A	N/A	N/A
Collection Date	11-30-21	11-30-21	11-30-21	11-30-21	11-30-21
Skin on Fillet	N	N	N	N	N

MERCURY, TOTAL ug/g	.3814	.2231	.2638	.3018	.2911
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Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	350	344	354	362	391	339
Length (inches)	13.78	13.54	13.94	14.25	15.39	13.35
Weight (g)	480	500	510	630	760	490
Weight (oz)	16.93	17.64	17.99	22.22	26.81	17.28
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	11-30-21	11-30-21	11-30-21	11-30-21	11-30-21	11-30-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.5323	.539	.2419	.6165	.6614	.4514
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OLIT-1 Oliver Res - Lower reservoir. Deepest point, main river channel, dam forebay.

Channel Catfish (*Ictalurus punctatus*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	535	310	341	337	298	312
Length (inches)	21.06	12.20	13.43	13.27	11.73	12.28
Weight (g)	1,230	250	280	250	160	180
Weight (oz)	43.39	8.82	9.88	8.82	5.64	6.35
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	10-07-21	10-07-21	10-07-21	10-07-21	10-07-21	10-07-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.1704	.2171	.2592	.1099	.1491	.049 JI

Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	376	317	450	410	421	410
Length (inches)	14.80	12.48	17.72	16.14	16.57	16.14
Weight (g)	590	340	1,110	790	960	930
Weight (oz)	20.81	11.99	39.15	27.87	33.86	32.80
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	10-07-21	10-07-21	10-07-21	10-07-21	10-07-21	10-07-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.4042	.4713	.7039	.9415	.2853	.7541

Shelby County

PURS-1 Purdy Res - Lower reservoir. Deepest point, main river channel, dam forebay .

Channel Catfish (*Ictalurus punctatus*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	492	553	443	449	525	522
Length (inches)	19.37	21.77	17.44	17.68	20.67	20.55
Weight (g)	780	1,480	690	700	1,070	1,120
Weight (oz)	27.51	52.21	24.34	24.69	37.74	39.51
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	12-03-21	12-03-21	12-03-21	12-03-21	12-03-21	12-03-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.0553 JI	.0498 JI	.0258 JI	.1048	.1154	.0875 JI

Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	351	383	365	344	465	422
Length (inches)	13.82	15.08	14.37	13.54	18.31	16.61
Weight (g)	510	630	520	420	1,150	1,090
Weight (oz)	17.99	22.22	18.34	14.82	40.57	38.45
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	12-03-21	12-03-21	12-03-21	12-03-21	12-03-21	12-03-21
Skin on Fillet	N	N	N	N	N	N
Disease					Slight/Mild	
Tumors					Slight/Mild	
Lesions					Slight/Mild	
Comments					Slight diseaes, lesions, tumors	
MERCURY, TOTAL ug/g	.1379	.1591	.1037	.0994 JI	.5611	.162

Channel Catfish (*Ictalurus punctatus*)

	Fish 1	Fish 2
Length (mm)	394	530
Length (inches)	15.51	20.87
Weight (g)	430	1,200
Weight (oz)	15.17	42.33
Sex/Age		
Age Method	N/A	N/A
Collection Date	11-10-21	11-10-21
Skin on Fillet	N	N
MERCURY, TOTAL ug/g	.1141	.2215

Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	515	489	463	373	315	380
Length (inches)	20.28	19.25	18.23	14.69	12.40	14.96
Weight (g)	1,840	1,550	1,320	700	380	640
Weight (oz)	64.90	54.67	46.56	24.69	13.40	22.58
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	11-10-21	11-10-21	11-10-21	11-10-21	11-10-21	11-10-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.9584	.5922	.4423	.255	.3963	.3446

SMIW-12 Ryan Ck (Lewis Smith) - Ryan Creek, Smith Reservoir approximately 2.2 miles upstream of Cullman County

Road 222 and approximately 12 miles upstream of Sipsey Fork.

Channel Catfish (*Ictalurus punctatus*)

	Fish 1	Fish 2	Fish 3	Fish 4
Length (mm)	535	547	533	575
Length (inches)	21.06	21.54	20.98	22.64
Weight (g)	1,240	1,420	1,360	1,420
Weight (oz)	43.74	50.09	47.97	50.09
Sex/Age				
Age Method	N/A	N/A	N/A	N/A
Collection Date	11-11-21	11-11-21	11-11-21	11-11-21
Skin on Fillet	N	N	N	N
MERCURY, TOTAL ug/g	.2716	.2917	.2215	.3251

Largemouth Bass (*Micropterus salmoides*)

	Fish 1
Length (mm)	341
Length (inches)	13.43
Weight (g)	520
Weight (oz)	18.34
Sex/Age	
Age Method	N/A
Collection Date	11-11-21
Skin on Fillet	N
MERCURY, TOTAL ug/g	.2823

Spotted Bass (*Micropterus punctulatus*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5
Length (mm)	503	438	430	356	381
Length (inches)	19.80	17.24	16.93	14.02	15.00
Weight (g)	1,720	960	900	530	590
Weight (oz)	60.67	33.86	31.75	18.70	20.81
Sex/Age					
Age Method	N/A	N/A	N/A	N/A	N/A
Collection Date	11-11-21	11-11-21	11-11-21	11-11-21	11-11-21
Skin on Fillet	N	N	N	N	N
MERCURY, TOTAL ug/g	.623	.7939	.6519	.3571	.562

Winston County

Lat/Lon: 34.02756 / -87.24664

SMIW-14 Smith Res - Smith Reservoir mouth of Clear Creek, mouth of Butler Creek, Sipsey Fork in vicinity of Clear and Butler creeks. 2.3 miles upstream of State Rt. 257 bridge.**Channel Catfish (*Ictalurus punctatus*)**

	Fish 1	Fish 2
Length (mm)	543	565
Length (inches)	21.38	22.24
Weight (g)	1,280	1,520
Weight (oz)	45.15	53.62
Sex/Age		
Age Method	N/A	N/A
Collection Date	11-02-21	11-02-21
Skin on Fillet	N	N
MERCURY, TOTAL ug/g	.4183	1.0204

Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	465	397	432	315	344	409
Length (inches)	18.31	15.63	17.01	12.40	13.54	16.10
Weight (g)	1,140	710	1,080	400	420	810
Weight (oz)	40.21	25.04	38.10	14.11	14.82	28.57
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	11-02-21	11-02-21	11-02-21	11-02-21	11-02-21	11-02-21
Skin on Fillet	N	N	N	N	N	N
Deformities	Moderate					
Comments	Deformed back.					
MERCURY, TOTAL ug/g	.9333	.8475	1.1211	.4259	.3235	1.0322

Baldwin County

Lat/Lon: 30.42583 / -87.83361

TURB-2 Turkey Br - Turkey Branch upstream of Fish River confluence.**Largemouth Bass (*Micropterus salmoides*)**

	Fish 1	Fish 2
Length (mm)	411	435
Length (inches)	16.18	17.13
Weight (g)	780	1,220
Weight (oz)	27.51	43.03
Sex/Age		
Age Method	N/A	N/A
Collection Date	12-01-21	12-01-21
Skin on Fillet	N	N
Disease	Severe/Heavy	
Comments	Severe infection/disease on body.	
MERCURY, TOTAL ug/g	4.525	.7053

Striped Mullet (*Mugil cephalus*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	397	345	405	389	319	260
Length (inches)	15.63	13.58	15.94	15.31	12.56	10.24
Weight (g)	530	480	620	510	330	190
Weight (oz)	18.70	16.93	21.87	17.99	11.64	6.70
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	12-01-21	12-01-21	12-01-21	12-01-21	12-01-21	12-01-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.0371 JI	.0122 JI	.0253 JI	.0514 JI	.0238 JI	< .017

TUST-1 Tuscaloosa Res - Lower reservoir. Deepest point, main river channel, dam forebay.**Channel Catfish (*Ictalurus punctatus*)**

	Fish 1	Fish 2	Fish 3	Fish 4
Length (mm)	527	579	599	522
Length (inches)	20.75	22.80	23.58	20.55
Weight (g)	1,330	2,120	2,270	1,340
Weight (oz)	46.91	74.78	80.07	47.27
Sex/Age				
Age Method	N/A	N/A	N/A	N/A
Collection Date	09-15-21	09-15-21	09-15-21	09-15-21
Skin on Fillet	N	N	N	N
MERCURY, TOTAL ug/g	.1909	.1446	.1296	.1651

Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	387	329	341	325	350	459
Length (inches)	15.24	12.95	13.43	12.80	13.78	18.07
Weight (g)	760	430	470	390	500	1,250
Weight (oz)	26.81	15.17	16.58	13.76	17.64	44.09
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	09-15-21	09-15-21	09-15-21	09-15-21	09-15-21	09-15-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	1.4254	.3731	.3999	.4587	.3372	.555

TUST-4 Tuscaloosa Res - North River immediately upstream of Bull Slough Road crossing, deepest point, main channel.**Largemouth Bass (*Micropterus salmoides*)**

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	340	305	451	338	350	402
Length (inches)	13.39	12.01	17.76	13.31	13.78	15.83
Weight (g)	490	260	990	430	450	670
Weight (oz)	17.28	9.17	34.92	15.17	15.87	23.63
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	09-15-21	09-15-21	09-15-21	09-15-21	09-15-21	09-15-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.4808	.544	1.149	.6147	.7163	.8733

BANT-6 Valley Ck (Bankhead) - Deepest point, main creek channel, Valley Creek embayment. Approximately 1.0 mile upstream of confluence with Warrior River.

Channel Catfish (*Ictalurus punctatus*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	285	297	340	289	301	355
Length (inches)	11.22	11.69	13.39	11.38	11.85	13.98
Weight (g)	160	160	310	180	200	330
Weight (oz)	5.64	5.64	10.93	6.35	7.05	11.64
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	10-07-21	10-07-21	10-07-21	10-07-21	10-07-21	10-07-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.0328 JI	.0438 JI	.0559 JI	.0484 JI	.02 JI	.0513 JI
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Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	375	408	380	396	358	370
Length (inches)	14.76	16.06	14.96	15.59	14.09	14.57
Weight (g)	790	970	920	110	580	790
Weight (oz)	27.87	34.22	32.45	3.88	20.46	27.87
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	10-07-21	10-07-21	10-07-21	10-07-21	10-07-21	10-07-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.0862 JI	.121	.1598	.1203	.0777 JI	.0982 JI
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BANT-8 Village Ck - Village Creek embayment approximately 0.5 mile upstream of confluence with Warrior River.**Blacktail Redhorse (Moxostoma poecilurum)**

	Fish 1	Fish 2	Fish 3
Length (mm)	340	324	325
Length (inches)	13.39	12.76	12.80
Weight (g)	420	330	340
Weight (oz)	14.82	11.64	11.99
Sex/Age			
Age Method	N/A	N/A	N/A
Collection Date	11-01-21	11-01-21	11-01-21
Skin on Fillet	N	N	N

MERCURY, TOTAL ug/g	.0961 JI	.0986 JI	.0528 JI
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Golden Redhorse (Moxostoma erythrurum)

	Fish 1	Fish 2
Length (mm)	435	390
Length (inches)	17.13	15.35
Weight (g)	760	540
Weight (oz)	26.81	19.05
Sex/Age		
Age Method	N/A	N/A
Collection Date	11-01-21	11-01-21
Skin on Fillet	N	N

MERCURY, TOTAL ug/g	.1545	.0794 JI
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Spotted Bass (Micropterus punctulatus)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	500	325	374	360	325	290
Length (inches)	19.69	12.80	14.72	14.17	12.80	11.42
Weight (g)	1,340	390	570	550	480	280
Weight (oz)	47.27	13.76	20.11	19.40	16.93	9.88
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	11-01-21	11-01-21	11-01-21	11-01-21	11-01-21	11-01-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.4186	.1581	.2239	.1305	.1199	.1012
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Spotted Sucker (Minytrema melanops)

	Fish 1
Length (mm)	312
Length (inches)	12.28
Weight (g)	260
Weight (oz)	9.17
Sex/Age	
Age Method	N/A
Collection Date	11-01-21
Skin on Fillet	N

MERCURY, TOTAL ug/g	.0709 JI
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BWR-8 Warrior Res - Black Warrior River at Moundville, approximately river mile 302.7.**Blue Catfish (*Ictalurus furcatus*)**

	Fish 1	Fish 2	Fish 3
Length (mm)	867	383	440
Length (inches)	34.13	15.08	17.32
Weight (g)	2,400	450	620
Weight (oz)	84.66	15.87	21.87
Sex/Age			
Age Method	N/A	N/A	N/A
Collection Date	09-23-21	09-23-21	09-23-21
Skin on Fillet	N	N	N
MERCURY, TOTAL ug/g	.2769	.1327	.1565

Channel Catfish (*Ictalurus punctatus*)

	Fish 1	Fish 2	Fish 3
Length (mm)	439	300	462
Length (inches)	17.28	11.81	18.19
Weight (g)	650	170	770
Weight (oz)	22.93	6.00	27.16
Sex/Age			
Age Method	N/A	N/A	N/A
Collection Date	09-23-21	09-23-21	09-23-21
Skin on Fillet	N	N	N
MERCURY, TOTAL ug/g	.1854	.0517 JI	.0856 JI

Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	335	346	450	371	339	334
Length (inches)	13.19	13.62	17.72	14.61	13.35	13.15
Weight (g)	400	530	1,050	600	460	490
Weight (oz)	14.11	18.70	37.04	21.16	16.23	17.28
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	09-23-21	09-23-21	09-23-21	09-23-21	09-23-21	09-23-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.2746	.2295	.2648	.5151	.2052	.1907

WARG-1 Warrior Res - Lower reservoir. Deepest point, main river channel, dam forebay.**Blue Catfish (Ictalurus furcatus)**

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	602	563	445	540	425	371
Length (inches)	23.70	22.17	17.52	21.26	16.73	14.61
Weight (g)	1,930	1,600	700	1,410	590	380
Weight (oz)	68.08	56.44	24.69	49.74	20.81	13.40
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	09-15-21	09-15-21	09-15-21	09-15-21	09-15-21	09-15-21
Skin on Fillet	N	N	N	N	N	N
Deformities	Slight/Mild					
Comments	Deformed eye.					
MERCURY, TOTAL ug/g	.2908	.3141	.1269	.2812	.2048	.1499

Largemouth Bass (Micropterus salmoides)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	373	363	359	439	325	345
Length (inches)	14.69	14.29	14.13	17.28	12.80	13.58
Weight (g)	590	510	520	1,010	390	480
Weight (oz)	20.81	17.99	18.34	35.63	13.76	16.93
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	09-15-21	09-15-21	09-15-21	09-15-21	09-15-21	09-15-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.4028	.2829	.3811	.3815	.4739	.3281

WARG-2 Warrior Res - Mid reservoir. Deepest point, main river channel, immediately downstream of Lock 8 Public Use Area.**Channel Catfish (Ictalurus punctatus)**

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	380	357	343	327	377	387
Length (inches)	14.96	14.06	13.50	12.87	14.84	15.24
Weight (g)	380	340	280	250	380	410
Weight (oz)	13.40	11.99	9.88	8.82	13.40	14.46
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	09-23-21	09-23-21	09-23-21	09-23-21	09-23-21	09-23-21
Skin on Fillet	N	N	N	N	N	N
External Parasit	Slight/Mild					
Comments	Slight external parasites.					
MERCURY, TOTAL ug/g	.1771	.0497 JI	.0693 JI	.0899 JI	.1228	.0912 JI

Largemouth Bass (Micropterus salmoides)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	341	420	328	346	376	348
Length (inches)	13.43	16.54	12.91	13.62	14.80	13.70
Weight (g)	490	1,010	430	510	670	520
Weight (oz)	17.28	35.63	15.17	17.99	23.63	18.34
Sex/Age						
Age Method	N/A	N/A	N/A	N/A	N/A	N/A
Collection Date	09-23-21	09-23-21	09-23-21	09-23-21	09-23-21	09-23-21
Skin on Fillet	N	N	N	N	N	N
MERCURY, TOTAL ug/g	.3476	.4428	.2058	.2758	.2627	.2645

TENR-277 Wheeler Res - Upstream of the dam at Tennessee River mile 277.0, near the confluence of First Creek with the main channel.**Channel Catfish (*Ictalurus punctatus*)**

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	470	425	535	418	446	422
Length (inches)	18.50	16.73	21.06	16.46	17.56	16.61
Weight (g)	825	772	1,469	735	750	736
Weight (oz)	29.10	27.23	51.82	25.93	26.46	25.96
Sex/Age	/5	/5	/6	/6	/6	/3
Age Method	Spine	Spine	Spine	Spine	Spine	Spine
Collection Date	10-13-21	10-13-21	10-13-21	10-13-21	10-13-21	10-13-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.0497 JI	.0552 JI	.1231	.0689 JI	.0311 JI	.05 JI
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Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	450	421	368	432	380	326
Length (inches)	17.72	16.57	14.49	17.01	14.96	12.83
Weight (g)	1,646	1,073	805	993	918	516
Weight (oz)	58.06	37.85	28.40	35.03	32.38	18.20
Sex/Age	/5	/3	/3	/5	/4	/1
Age Method	Otolith	Otolith	Otolith	Otolith	Otolith	Otolith
Collection Date	10-13-21	10-13-21	10-13-21	10-13-21	10-13-21	10-13-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.1056	.0548 JI	.0734 JI	.1684	.1657	.0322 JI
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Limestone County

Lat/Lon: 34.68500 / -87.09861

TENR-296 Wheeler Res - Mid station, main river channel, Tennessee River mile 296.**Channel Catfish (*Ictalurus punctatus*)**

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	517	451	532	526	531	486
Length (inches)	20.35	17.76	20.94	20.71	20.91	19.13
Weight (g)	1,027	838	1,470	1,657	1,549	1,115
Weight (oz)	36.23	29.56	51.85	58.45	54.64	39.33
Sex/Age	/6	/3	/5	/4	/5	/4
Age Method	Spine	Spine	Spine	Spine	Spine	Spine
Collection Date	10-13-21	10-13-21	10-13-21	10-13-21	10-13-21	10-13-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.1316	.103	.078 JI	.0503 JI	.1295	.0457 JI
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Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	400	338	405	330	386	310
Length (inches)	15.75	13.31	15.94	12.99	15.20	12.20
Weight (g)	1,054	601	1,007	706	926	614
Weight (oz)	37.18	21.20	35.52	24.90	32.66	21.66
Sex/Age	/3	/2	/2	/2	/2	/2
Age Method	Otolith	Otolith	Otolith	Otolith	Otolith	Otolith
Collection Date	10-13-21	10-13-21	10-13-21	10-13-21	10-13-21	10-13-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.1029	.0526 JI	.0936 JI	.0694 JI	.0749 JI	.0472 JI
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Channel Catfish (*Ictalurus punctatus*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	484	428	468	500	504	410
Length (inches)	19.06	16.85	18.43	19.69	19.84	16.14
Weight (g)	1,057	552	827	1,208	1,127	495
Weight (oz)	37.28	19.47	29.17	42.61	39.75	17.46
Sex/Age	/4	/4	/3	/5	/5	/3
Age Method	Spine	Spine	Spine	Spine	Spine	Spine
Collection Date	10-14-21	10-14-21	10-14-21	10-14-21	10-14-21	10-14-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.0822 JI	.0431 JI	.0825 JI	.1007	.0511 JI	.0478 JI
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Largemouth Bass (*Micropterus salmoides*)

	Fish 1	Fish 2	Fish 3	Fish 4	Fish 5	Fish 6
Length (mm)	466	340	381	300	406	378
Length (inches)	18.35	13.39	15.00	11.81	15.98	14.88
Weight (g)	1,564	609	798	550	1,290	1,005
Weight (oz)	55.17	21.48	28.15	19.40	45.50	35.45
Sex/Age	/5	/2	/3	/2	/3	/3
Age Method	Otolith	Otolith	Otolith	Otolith	Otolith	Otolith
Collection Date	10-14-21	10-14-21	10-14-21	10-14-21	10-14-21	10-14-21
Skin on Fillet	N	N	N	N	N	N

MERCURY, TOTAL ug/g	.2669	.083 JI	.1297	.0694 JI	.1465	.1677
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ADEM Qualifiers *

JI - Estimated/Between MDL & PQL

*** See SOP #4910 for more details.**