

Cuyahoga River Upstream of Rockside Road

June 18, 2020

River Mile: 13.15

Station ID: 502020

Collection Method: Boat Electrofishing

Drainage Area: 703 miles²

Collection Distance: 0.5 km

Code	Species	Number	Weight (kg)	Pollution Tolerance	#	DELT Anomalies Description
20-003	<i>Dorosoma cepedianum</i> Eastern gizzard shad	1	0.045	--	0	---
37-003	<i>Esox lucius</i> Northern pike	1	1.814	--	0	---
40-008	<i>Moxostoma anisurum</i> Silver Redhorse	2	3	Moderately Intolerant	0	---
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	6	4.06	Moderately Intolerant	3	Deformity & Lesions
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	5	1.65	Moderately Intolerant	0	---
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	3	0.968	Moderately Intolerant	0	---
40-016	<i>Catostomus commersonii</i> Common white sucker	1	0.062	Highly Tolerant	0	---
43-001	<i>Cyprinus carpio</i> Common carp	7	20.638	Highly Tolerant	1	Deformity
43-013	<i>Semotilus atromaculatus</i> Creek chub	1	0.005	Highly Tolerant	0	---
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	22	0.95	--	0	---
43-034	<i>Notropis stramineus</i> Sand shiner	12	0.029	Moderately Intolerant	0	---
43-042	<i>Pimephales promelas</i> Northern fathead minnow	1	0.004	Highly Tolerant	0	---
43-043	<i>Pimephales notatus</i> Bluntnose minnow	7	0.022	Highly Tolerant	0	---
47-002	<i>Ictalurus punctatus</i> Channel catfish	19	24.956	--	0	---
47-007	<i>Pylodictis olivaris</i>	9	31.454	--	1	Lesion

Cuyahoga River Upstream of Rockside Road

June 18, 2020

River Mile: 13.15

Flathead Catfish

77-004	<i>Micropterus dolomieu</i> Smallmouth bass	1	0.21	Moderately Intolerant	0	---
77-009	<i>Lepomis macrochirus</i> Northern bluegill sunfish	1	0.012	Moderately Tolerant	0	---
77-013	<i>Lepomis gibbosus</i> Pumpkinseed sunfish	5	0.037	Moderately Tolerant	0	---
80-011	<i>Percina caprodes</i> Northern logperch darter	3	0.055	Moderately Intolerant	0	---
85-001	<i>Aplodinotus grunniens</i> Freshwater drum	4	4.082	Moderately Tolerant	0	---
87-001	<i>Neogobius melanostomus</i> Round goby	5	0.02	--	0	---
	Totals	<u>116</u>	<u>94.073</u>		<u>5</u>	

*DELT anomalies were observed on	4.31	% of the fish collected.
Index of Biotic Integrity (IBI) =	30	(Fair)
Modified Index of Well-Being (MIwb) =	9.4	(Very Good)
Shannon Diversity Index, no.	2.605	
Shannon Diversity Index, wt.	1.711	
N	188	
B	146.6	

Cuyahoga River Upstream of Rockside Road

September 23, 2020

River Mile: 13.15

Station ID: 502020

Collection Method: Boat Electrofishing

Drainage Area: 703 miles²

Collection Distance: 0.5 km

Code	Species	Number	Weight (kg)	Pollution Tolerance	#	DELT Anomalies Description
20-003	<i>Dorosoma cepedianum</i> Eastern gizzard shad	212	1.82	--	0	---
25-002	<i>Oncorhynchus mykiss</i> Rainbow trout	2	4.99	--	0	---
40-005	<i>Carpionodes cyprinus</i> Central quillback carpsucker	6	0.068	--	0	---
40-010	<i>Moxostoma erythrum</i> Golden redhorse	2	1.7	Moderately Intolerant	0	---
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	5	2.14	Moderately Intolerant	0	---
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	5	0.076	Moderately Intolerant	0	---
40-016	<i>Catostomus commersonii</i> Common white sucker	18	0.169	Highly Tolerant	0	---
43-001	<i>Cyprinus carpio</i> Common carp	24	59.421	Highly Tolerant	0	---
43-013	<i>Semotilus atromaculatus</i> Creek chub	3	0.015	Highly Tolerant	0	---
43-020	<i>Notropis atherinoides</i> Common Emerald shiner	1	0.008	--	0	---
43-022	<i>Notropis rubellus</i> Rosyface Shiner	2	0.006	Intolerant	0	---
43-026	<i>Notropis cornutus</i> Common shiner	14	0.911	--	0	---
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	169	0.65	--	0	---
43-034	<i>Notropis stramineus</i> Sand shiner	15	0.038	Moderately Intolerant	0	---
43-043	<i>Pimephales notatus</i>	15	0.032	Highly	0	---

Cuyahoga River Upstream of Rockside Road
September 23, 2020
River Mile: 13.15

	Bluntnose minnow			Tolerant		
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	2	0.012	--	0	---
47-002	<i>Ictalurus punctatus</i> Channel catfish	7	1.55	--	0	---
47-007	<i>Pylodictis olivaris</i> Flathead Catfish	4	2.53	--	0	---
74-001	<i>Morone chrysops</i> White bass	4	0.024	--	0	---
77-001	<i>Pomoxis annularis</i> White crappie	1	0.28	--	0	---
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	8	2.35	Moderately Intolerant	1	Lesion
77-006	<i>Micropterus salmoides</i> Largemouth bass	1	0.22	--	0	---
77-009	<i>Lepomis macrochirus</i> Northern bluegill sunfish	5	0.265	Moderately Tolerant	0	---
77-013	<i>Lepomis gibbosus</i> Pumpkinseed sunfish	1	0.022	Moderately Tolerant	0	---
80-003	<i>Perca flavescens</i> Yellow perch	4	0.03	--	0	---
85-001	<i>Aplodinotus grunniens</i> Freshwater drum	1	1.814	Moderately Tolerant	0	---
87-001	<i>Neogobius melanostomus</i> Round goby	8	0.041	--	0	---
	Totals	<u>539</u>	<u>81.182</u>		<u>1</u>	

*DELT anomalies were observed on 0.19 % of the fish collected.
 Index of Biotic Integrity (IBI) = 34 (Fair)
 Modified Index of Well-Being (MIwb) = 8.3 (Marginally Good)
 Shannon Diversity Index, no. 1.918
 Shannon Diversity Index, wt. 1.224
 N 938
 B 33.03

Cuyahoga River Downstream of Mill Creek

July 17, 2020

River Mile: 11.30

Station ID: F01S10

Collection Method: Boat Electrofishing

Drainage Area: 730 miles²

Collection Distance: 0.5 km

Code	Species	Number	Weight (kg)	Pollution Tolerance	DELT #	Anomalies Description
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	1	0.45	Moderately Intolerant	0	---
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	10	3.13	Moderately Intolerant	0	---
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	1	0.8	Moderately Intolerant	0	---
40-016	<i>Catostomus commersonii</i> Common white sucker	5	0.02	Highly Tolerant	0	---
43-013	<i>Semotilus atromaculatus</i> Creek chub	1	0.004	Highly Tolerant	0	---
43-026	<i>Notropis cornutus</i> Common shiner	17	0.047	--	0	---
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	9	0.04	--	0	---
43-034	<i>Notropis stramineus</i> Sand shiner	24	0.062	Moderately Intolerant	0	---
43-035	<i>Notropis volucellus</i> Mimic Shiner	1	0.004	Common Intolerant	0	---
43-042	<i>Pimephales promelas</i> Northern fathead minnow	1	0.004	Highly Tolerant	0	---
43-043	<i>Pimephales notatus</i> Bluntnose minnow	4	0.03	Highly Tolerant	0	---
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	152	0.27	--	0	---
47-002	<i>Ictalurus punctatus</i> Channel catfish	18	24.315	--	3	Lesion
47-007	<i>Pylodictis olivaris</i> Flathead Catfish	2	7.881	--	0	---
77-004	<i>Micropterus dolomieu</i>	10	5.424	Moderately	0	---

Cuyahoga River Downstream of Mill Creek

July 17, 2020

River Mile: 11.30

	Smallmouth bass			Intolerant		
77-008	<i>Lepomis cyanellus</i> Green sunfish	2	0.038	Highly Tolerant	0	---
77-009	<i>Lepomis macrochirus</i> Northern bluegill sunfish	4	0.205	Moderately Tolerant	0	---
77-013	<i>Lepomis gibbosus</i> Pumpkinseed sunfish	5	0.055	Moderately Tolerant	0	---
77-016	<i>HYBRID</i> Green SF X Pumpkinseed	1	0.009	--	0	---
80-011	<i>Percina caprodes</i> Northern logperch darter	12	0.14	Moderately Intolerant	0	---
85-001	<i>Aplodinotus grunniens</i> Freshwater drum	2	1.4	Moderately Tolerant	0	---
87-001	<i>Neogobius melanostomus</i> Round goby	3	0.03	--	0	---
	Totals	<u>285</u>	<u>44.358</u>		<u>3</u>	

*DELT anomalies were observed on	1.05	% of the fish collected.
Index of Biotic Integrity (IBI) =	34	(Fair)
Modified Index of Well-Being (MIwb) =	8.7	(Good)
Shannon Diversity Index, no.	1.897	
Shannon Diversity Index, wt.	1.437	
N	536	
B	88.45	

Cuyahoga River Downstream of Mill Creek

September 23, 2020

River Mile: 11.30

Station ID: F01S10

Collection Method: Boat Electrofishing

Drainage Area: 730 miles²

Collection Distance: 0.5 km

Code	Species	Number	Weight (kg)	Pollution Tolerance	#	DELT Anomalies Description
20-003	<i>Dorosoma cepedianum</i> Eastern gizzard shad	319	2.99	--	0	---
25-002	<i>Oncorhynchus mykiss</i> Rainbow trout	4	5.443	--	0	---
40-005	<i>Carpionodes cyprinus</i> Central quillback carpsucker	4	0.049	--	0	---
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	1	0.62	Moderately Intolerant	0	---
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	5	1.864	Moderately Intolerant	0	---
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	5	1.6	Moderately Intolerant	0	---
40-016	<i>Catostomus commersonii</i> Common white sucker	10	0.044	Highly Tolerant	0	---
43-013	<i>Semotilus atromaculatus</i> Creek chub	1	0.004	Highly Tolerant	0	---
43-020	<i>Notropis atherinoides</i> Common Emerald shiner	2	0.011	--	0	---
43-026	<i>Notropis cornutus</i> Common shiner	15	0.05	--	0	---
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	36	0.137	--	0	---
43-034	<i>Notropis stramineus</i> Sand shiner	8	0.013	Moderately Intolerant	0	---
43-042	<i>Pimephales promelas</i> Northern fathead minnow	3	0.008	Highly Tolerant	0	---
43-043	<i>Pimephales notatus</i> Bluntnose minnow	8	0.015	Highly Tolerant	0	---
43-044	<i>Campostoma anomalum</i>	2	0.016	--	0	---

Cuyahoga River Downstream of Mill Creek
September 23, 2020
River Mile: 11.30

Central stoneroller minnow

47-002	<i>Ictalurus punctatus</i> Channel catfish	4	5.736	--	0	---
70-001	<i>Labidesthes sicculus</i> Brook silverside	3	0.011	Moderately Intolerant	0	---
74-001	<i>Morone chrysops</i> White bass	3	0.021	--	0	---
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	14	6.924	Moderately Intolerant	0	---
77-008	<i>Lepomis cyanellus</i> Green sunfish	1	0.025	Highly Tolerant	0	---
77-009	<i>Lepomis macrochirus</i> Northern bluegill sunfish	1	0.01	Moderately Tolerant	0	---
80-011	<i>Percina caprodes</i> Northern logperch darter	2	0.032	Moderately Intolerant	0	---
80-015	<i>Etheostoma blenniodes</i> Greenside darter	1	0.004	Moderately Intolerant	0	---
87-001	<i>Neogobius melanostomus</i> Round goby	9	0.055	--	0	---
Totals		<u>461</u>	<u>25.682</u>		<u>0</u>	

*DELT anomalies were observed on	0.00	% of the fish collected.
Index of Biotic Integrity (IBI) =	32	(Fair)
Modified Index of Well-Being (MIwb) =	8.5	(Marginally Good)
Shannon Diversity Index, no.	1.429	
Shannon Diversity Index, wt.	1.845	
N	850	
B	40.18	

Cuyahoga River Upstream of Southerly WWTC

August 13, 2020

River Mile: 10.75

Station ID: F01A25

Collection Method: Boat Electrofishing

Drainage Area: 743 miles²

Collection Distance: 0.5 km

Code	Species	Number	Weight (kg)	Pollution Tolerance	#	DELT Anomalies Description
20-003	<i>Dorosoma cepedianum</i> Eastern gizzard shad	89	3.823	--	0	---
40-005	<i>Carpodes cyprinus</i> Central quillback carpsucker	1	2.268	--	0	---
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	8	2.747	Moderately Intolerant	0	---
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	13	1.9	Moderately Intolerant	0	---
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	5	1.5	Moderately Intolerant	0	---
40-016	<i>Catostomus commersonii</i> Common white sucker	11	0.313	Highly Tolerant	0	---
43-001	<i>Cyprinus carpio</i> Common carp	5	14.515	Highly Tolerant	0	---
43-011	<i>Rhinichthys atratulus</i> Blacknose dace	4	0.011	Highly Tolerant	0	---
43-013	<i>Semotilus atromaculatus</i> Creek chub	8	0.016	Highly Tolerant	0	---
43-026	<i>Notropis cornutus</i> Common shiner	62	0.105	--	0	---
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	14	0.09	--	0	---
43-034	<i>Notropis stramineus</i> Sand shiner	24	0.041	Moderately Intolerant	0	---
43-039	<i>Ericymba buccata</i> Silverjaw minnow	4	0.012	--	0	---
43-043	<i>Pimephales notatus</i> Bluntnose minnow	9	0.042	Highly Tolerant	0	---
43-044	<i>Campostoma anomalum</i>	68	0.154	--	0	---

Cuyahoga River Upstream of Southerly WWTC

August 13, 2020

River Mile: 10.75

Central stoneroller minnow

47-002	<i>Ictalurus punctatus</i> Channel catfish	9	10.028	--	1	Erosion
47-004	<i>Ictalurus natalis</i> Yellow bullhead	1	0.015	Highly Tolerant	0	---
47-007	<i>Pylodictis olivaris</i> Flathead Catfish	1	0.15	--	0	---
47-008	<i>Noturus flavus</i> Stonecat Madtom	2	0.062	Intolerant	0	---
74-003	<i>Morone americana</i> White perch	1	0.005	--	0	---
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	3	1.015	Moderately Intolerant	0	---
77-008	<i>Lepomis cyanellus</i> Green sunfish	6	0.1	Highly Tolerant	0	---
77-009	<i>Lepomis macrochirus</i> Northern bluegill sunfish	1	0.035	Moderately Tolerant	0	---
77-013	<i>Lepomis gibbosus</i> Pumpkinseed sunfish	1	0.02	Moderately Tolerant	0	---
80-002	<i>Sander vitreus</i> Walleye	3	2.159	--	0	---
80-011	<i>Percina caprodes</i> Northern logperch darter	11	0.162	Moderately Intolerant	0	---
87-001	<i>Neogobius melanostomus</i> Round goby	30	0.138	--	0	---
Totals		<u>394</u>	<u>41.426</u>		<u>1</u>	

*DELT anomalies were observed on	0.25 % of the fish collected.
Index of Biotic Integrity (IBI) =	36 (Marginally Good)
Modified Index of Well-Being (MIwb) =	9.7 (Exceptional)
Shannon Diversity Index, no.	2.519
Shannon Diversity Index, wt.	1.983
N	638
B	52.54

Cuyahoga River Upstream of Southerly WWTC

September 22, 2020

River Mile: 10.75

Station ID: F01A25

Collection Method: Boat Electrofishing

Drainage Area: 743 miles²

Collection Distance: 0.5 km

Code	Species	Number	Weight (kg)	Pollution Tolerance	DELT #	Anomalies Description
0	<i>Dorosoma cepedianum</i> Eastern gizzard shad	204	2.425	--	0	---
40-005	<i>Carpodes cyprinus</i> Central quillback carpsucker	3	0.032	--	0	---
40-008	<i>Moxostoma anisurum</i> Silver Redhorse	2	3.175	Moderately Intolerant	0	---
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	2	0.72	Moderately Intolerant	0	---
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	6	2.181	Moderately Intolerant	0	---
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	6	0.078	Moderately Intolerant	0	---
40-016	<i>Catostomus commersonii</i> Common white sucker	13	2.3	Highly Tolerant	0	---
43-001	<i>Cyprinus carpio</i> Common carp	8	35.38	Highly Tolerant	0	---
43-013	<i>Semotilus atromaculatus</i> Creek chub	1	0.008	Highly Tolerant	0	---
43-020	<i>Notropis atherinoides</i> Common Emerald shiner	3	0.02	--	0	---
43-022	<i>Notropis rubellus</i> Rosyface Shiner	2	0.006	Intolerant	0	---
43-026	<i>Notropis cornutus</i> Common shiner	33	0.23	--	0	---
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	26	0.054	--	0	---
43-034	<i>Notropis stramineus</i> Sand shiner	41	0.06	Moderately Intolerant	0	---
43-043	<i>Pimephales notatus</i>	1	0.007	Highly	0	---

**Cuyahoga River Upstream of Southerly WWTC
September 22, 2020**

River Mile: 10.75

	Bluntnose minnow			Tolerant		
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	47	0.17	--	0	---
47-002	<i>Ictalurus punctatus</i> Channel catfish	11	11.09	--	1	Lesion
47-007	<i>Pylodictis olivaris</i> Flathead Catfish	1	0.45	--	0	---
74-001	<i>Morone chrysops</i> White bass	3	0.021	--	0	---
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	5	0.57	Moderately Intolerant	0	---
77-008	<i>Lepomis cyanellus</i> Green sunfish	1	0.01	Highly Tolerant	0	---
80-003	<i>Perca flavescens</i> Yellow perch	2	0.01	--	0	---
85-001	<i>Aplodinotus grunniens</i> Freshwater drum	1	1.2	Moderately Tolerant	0	---
87-001	<i>Neogobius melanostomus</i> Round goby	5	0.016	--	0	---
	Totals	<u><u>427</u></u>	<u><u>60.213</u></u>		<u><u>1</u></u>	

*DELT anomalies were observed on 0.23 % of the fish collected.
 Index of Biotic Integrity (IBI) = 34 (Fair)
 Modified Index of Well-Being (MIwb) = 8.6 (Marginally Good)
 Shannon Diversity Index, no. 1.964
 Shannon Diversity Index, wt. 1.442
 N 796
 B 44.98

Cuyahoga River Downstream of Southerly WWTC

August 13, 2020

River Mile: 10.10

Station ID: F99Q02

Collection Method: Boat Electrofishing

Drainage Area: 744 miles²

Collection Distance: 0.5 km

Code	Species	Number	Weight (kg)	Pollution Tolerance	#	DELT Anomalies Description
20-003	<i>Dorosoma cepedianum</i> Eastern gizzard shad	116	1.375	--	0	---
40-005	<i>Carpiodes cyprinus</i> Central quillback carpsucker	9	10.886	--	0	---
40-010	<i>Moxostoma erythrurum</i> Golden redbhorse	1	0.275	Moderately Intolerant	0	---
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redbhorse	5	2.8	Moderately Intolerant	0	---
40-016	<i>Catostomus commersonii</i> Common white sucker	6	0.65	Highly Tolerant	0	---
43-001	<i>Cyprinus carpio</i> Common carp	15	34.473	Highly Tolerant	0	---
43-013	<i>Semotilus atromaculatus</i> Creek chub	2	0.005	Highly Tolerant	0	---
43-020	<i>Notropis atherinoides</i> Common Emerald shiner	1	0.008	--	0	---
43-026	<i>Notropis cornutus</i> Common shiner	7	0.023	--	0	---
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	5	0.046	--	0	---
43-034	<i>Notropis stramineus</i> Sand shiner	4	0.008	Moderately Intolerant	0	---
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	1	0.004	--	0	---
47-002	<i>Ictalurus punctatus</i> Channel catfish	20	22.68	--	1	Lesion
47-004	<i>Ictalurus natalis</i> Yellow bullhead	1	0.065	Highly Tolerant	0	---
47-007	<i>Pylodictis olivaris</i>	13	12.15	--	0	---

Cuyahoga River Downstream of Southerly WWTC

August 13, 2020

River Mile: 10.10

Flathead Catfish

74-001	<i>Morone chrysops</i> White bass	2	0.15	--	0	---
74-003	<i>Morone americana</i> White perch	2	0.09	--	0	---
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	14	2.52	Moderately Intolerant	0	---
77-008	<i>Lepomis cyanellus</i> Green sunfish	4	0.075	Highly Tolerant	0	---
77-009	<i>Lepomis macrochirus</i> Northern bluegill sunfish	1	0.06	Moderately Tolerant	0	---
80-003	<i>Perca flavescens</i> Yellow perch	1	0.004	--	0	---
80-011	<i>Percina caprodes</i> Northern logperch darter	13	0.17	Moderately Intolerant	0	---
85-001	<i>Aplodinotus grunniens</i> Freshwater drum	8	1.81	Moderately Tolerant	0	---
87-001	<i>Neogobius melanostomus</i> Round goby	11	0.071	--	0	---

Totals	<u>262</u>	<u>90.398</u>		<u>1</u>
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*DELT anomalies were observed on	0.38 % of the fish collected.
Index of Biotic Integrity (IBI) =	36 (Marginally Good)
Modified Index of Well-Being (MIwb) =	9.3 (Very Good)
Shannon Diversity Index, no.	2.232
Shannon Diversity Index, wt.	1.702
N	442
B	109.9

Cuyahoga River Downstream of Southerly WWTC

September 22, 2020

River Mile: 10.10

Station ID: F99Q02

Collection Method: Boat Electrofishing

Drainage Area: 744 miles²

Collection Distance: 0.5 km

Code	Species	Number	Weight (kg)	Pollution Tolerance	DELT #	Anomalies Description
20-003	<i>Dorosoma cepedianum</i> Eastern gizzard shad	69	3.45	--	0	---
40-005	<i>Carpiodes cyprinus</i> Central quillback carpsucker	1	1.814	--	0	---
40-008	<i>Moxostoma anisurum</i> Silver Redhorse	5	9.185	Moderately Intolerant	0	---
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	3	1.25	Moderately Intolerant	0	---
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	10	3.044	Moderately Intolerant	0	---
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	2	0.773	Moderately Intolerant	0	---
40-016	<i>Catostomus commersonii</i> Common white sucker	3	0.145	Highly Tolerant	0	---
43-001	<i>Cyprinus carpio</i> Common carp	4	12.927	Highly Tolerant	0	---
43-003	<i>Notemigonus crysoleucas</i> Golden shiner	1	0.003	Highly Tolerant	0	---
43-013	<i>Semotilus atromaculatus</i> Creek chub	4	0.048	Highly Tolerant	0	---
43-020	<i>Notropis atherinoides</i> Common Emerald shiner	10	0.1	--	0	---
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	29	0.095	--	0	---
43-042	<i>Pimephales promelas</i> Northern fathead minnow	1	0.003	Highly Tolerant	0	---
43-043	<i>Pimephales notatus</i> Bluntnose minnow	16	0.075	Highly Tolerant	0	---
47-002	<i>Ictalurus punctatus</i>	20	25.448	--	1	Erosion

Cuyahoga River Downstream of Southerly WWTC
September 22, 2020
River Mile: 10.10

Channel catfish

47-004	<i>Ictalurus natalis</i> Yellow bullhead	1	0.065	Highly Tolerant	0	---
47-007	<i>Pylodictis olivaris</i> Flathead Catfish	2	1.45	--	0	---
70-001	<i>Labidesthes sicculus</i> Brook silverside	2	0.008	Moderately Intolerant	0	---
74-001	<i>Morone chrysops</i> White bass	4	0.022	--	0	---
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	7	1.2	Moderately Intolerant	0	---
77-008	<i>Lepomis cyanellus</i> Green sunfish	3	0.088	Highly Tolerant	0	---
77-013	<i>Lepomis gibbosus</i> Pumpkinseed sunfish	2	0.08	Moderately Tolerant	0	---
85-001	<i>Aplodinotus grunniens</i> Freshwater drum	1	1.35	Moderately Tolerant	0	---
87-001	<i>Neogobius melanostomus</i> Round goby	5	0.063	--	0	---

Totals	<u>205</u>	<u>62.686</u>	<u>1</u>
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*DELT anomalies were observed on	0.49	% of the fish collected.
Index of Biotic Integrity (IBI) =	34	(Fair)
Modified Index of Well-Being (MIwb) =	9.4	(Very Good)
Shannon Diversity Index, no.	2.387	
Shannon Diversity Index, wt.	1.844	
N	334	
B	98.54	

Cuyahoga River Upstream of Big Creek

August 13, 2020

River Mile: 8.60

Station ID: 20025

Collection Method: Boat Electrofishing

Drainage Area: 745 miles²

Collection Distance: 0.5 km

Code	Species	Number	Weight (kg)	Pollution Tolerance	#	DELTA Anomalies Description
20-003	<i>Dorosoma cepedianum</i> Eastern gizzard shad	253	3.36	--	1	Deformity
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	4	0.93	Moderately Intolerant	0	---
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	11	3.665	Moderately Intolerant	0	---
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	2	0.451	Moderately Intolerant	0	---
40-016	<i>Catostomus commersonii</i> Common white sucker	5	0.36	Highly Tolerant	0	---
43-011	<i>Rhinichthys atratulus</i> Blacknose dace	1	0.002	Highly Tolerant	0	---
43-013	<i>Semotilus atromaculatus</i> Creek chub	3	0.04	Highly Tolerant	0	---
43-020	<i>Notropis atherinoides</i> Common Emerald shiner	2	0.008	--	0	---
43-026	<i>Notropis cornutus</i> Common shiner	20	0.034	--	0	---
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	6	0.06	--	0	---
43-034	<i>Notropis stramineus</i> Sand shiner	5	0.014	Moderately Intolerant	0	---
43-043	<i>Pimephales notatus</i> Bluntnose minnow	1	0.002	Highly Tolerant	0	---
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	46	0.15	--	0	---
47-002	<i>Ictalurus punctatus</i> Channel catfish	8	7.914	--	0	---
47-007	<i>Pylodictis olivaris</i>	4	2.041	--	0	---

**Cuyahoga River Upstream of Big Creek
August 13, 2020**

River Mile: 8.60

Flathead Catfish

74-003	<i>Morone americana</i> White perch	1	0.03	--	0	---
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	7	4.395	Moderately Intolerant	0	---
80-011	<i>Percina caprodes</i> Northern logperch darter	8	0.1	Moderately Intolerant	0	---
80-015	<i>Etheostoma blenniodes</i> Greenside darter	1	0.003	Moderately Intolerant	0	---
85-001	<i>Aplodinotus grunniens</i> Freshwater drum	3	0.51	Moderately Tolerant	0	---
87-001	<i>Neogobius melanostomus</i> Round goby	19	0.04	--	0	---
Totals		<u>410</u>	<u>24.109</u>		<u>1</u>	

*DELT anomalies were observed on	0.24	% of the fish collected.
Index of Biotic Integrity (IBI) =	28	(Fair)
Modified Index of Well-Being (MIwb) =	8.7	(Good)
Shannon Diversity Index, no.	1.595	
Shannon Diversity Index, wt.	1.908	
N	760	
B	47.27	

Cuyahoga River Upstream of Big Creek
September 22, 2020
River Mile: 8.60
Station ID: 200025
Collection Method: Boat Electrofishing
Drainage Area: 745 miles²
Collection Distance: 0.5 km

Code	Species	Number	Weight (kg)	Pollution Tolerance	DELT Anomalies #	Description
20-003	<i>Dorosoma cepedianum</i> Eastern gizzard shad	368	3.25	--	0	---
40-005	<i>Carpodes cyprinus</i> Central quillback carpsucker	3	0.06	--	0	---
40-008	<i>Moxostoma anisurum</i> Silver Redhorse	2	4.536	Moderately Intolerant	0	---
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	2	0.28	Moderately Intolerant	0	---
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	2	0.359	Moderately Intolerant	0	---
40-016	<i>Catostomus commersonii</i> Common white sucker	3	0.029	Highly Tolerant	0	---
43-013	<i>Semotilus atromaculatus</i> Creek chub	3	0.019	Highly Tolerant	0	---
43-026	<i>Notropis cornutus</i> Common shiner	13	0.057	--	0	---
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	11	0.031	--	0	---
43-034	<i>Notropis stramineus</i> Sand shiner	28	0.063	Moderately Intolerant	0	---
43-039	<i>Ericymba buccata</i> Silverjaw minnow	2	0.011	--	0	---
43-042	<i>Pimephales promelas</i> Northern fathead minnow	1	0.002	Highly Tolerant	0	---
43-043	<i>Pimephales notatus</i> Bluntnose minnow	9	0.034	Highly Tolerant	0	---
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	56	0.19	--	0	---
47-002	<i>Ictalurus punctatus</i>	13	17.758	--	2	Erosion

Cuyahoga River Upstream of Big Creek

September 22, 2020

River Mile: 8.60

Channel catfish

47-007	<i>Pylodictis olivaris</i> Flathead Catfish	1	0.28	--	0	---
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	3	0.22	Moderately Intolerant	0	---
77-009	<i>Lepomis macrochirus</i> Northern bluegill sunfish	1	0.04	Moderately Tolerant	0	---
80-011	<i>Percina caprodes</i> Northern logperch darter	1	0.048	Moderately Intolerant	0	---
85-001	<i>Aplodinotus grunniens</i> Freshwater drum	1	1.814	Moderately Tolerant	0	---
87-001	<i>Neogobius melanostomus</i> Round goby	18	0.043	--	0	---
	Totals	<u>541</u>	<u>29.124</u>		<u>2</u>	

*DELT anomalies were observed on	0.37	% of the fish collected.
Index of Biotic Integrity (IBI) =	28	(Fair)
Modified Index of Well-Being (MIwb) =	8.2	(Fair)
Shannon Diversity Index, no.	1.346	
Shannon Diversity Index, wt.	1.32	
N	1014	
B	57.99	