



Cuyahoga River Upstream of Rockside Road
9/6/2023 8:40:00 AM
River Mile: 13.15
Collection Method: Boat Electrofishing
Drainage Area: 703 square miles
0.50 km
IBI Type: Boat

Code	Species	No.	Weight (kg)	Pollution Tolerance	DELT Anomalies	
					#	Description
40-005	<i>Carpiodes cyprinus</i> Central quillback carpsucker	2	0.02	--	0	--
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	4	0.1540	Moderately Intolerant	0	--
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	66	0.77	Moderately Intolerant	0	--
40-016	<i>Catostomus commersonii</i> Common white sucker	51	0.2750	Tolerant	0	--
43-001	<i>Cyprinus carpio</i> Common carp	2	4.80	Tolerant	0	--
43-011	<i>Rhinichthys atratulus</i> Blacknose dace	1	0.0120	Tolerant	0	--
43-013	<i>Semotilus atromaculatus</i> Creek chub	2	0.0140	Tolerant	0	--
43-022	<i>Notropis rubellus</i> Rosyface shiner	2	0.0180	Intolerant	0	--
43-026	<i>Notropis cornutus</i> Common shiner	14	0.09	--	0	--
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	70	0.2320	--	0	--
43-034	<i>Notropis stramineus</i> Sand shiner	130	0.4640	Moderately Intolerant	0	--
43-039	<i>Ericymba buccata</i> Silverjaw minnow	11	0.0360	--	0	--
43-043	<i>Pimephales notatus</i> Bluntnose minnow	14	0.0840	Tolerant	0	--
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	108	0.7060	--	0	--
47-002	<i>Ictalurus punctatus</i> Channel catfish	1	0.4350	--	0	--
47-007	<i>Pylodictis olivaris</i> Flathead catfish	1	0.31	--	0	--
47-008	<i>Noturus flavus</i> Stonecat madtom	1	0.01	Intolerant	0	--



Cuyahoga River Upstream of Rockside Road
9/6/2023 8:40:00 AM
River Mile: 13.15
Collection Method: Boat Electrofishing
Drainage Area: 703 square miles
0.50 km
IBI Type: Boat

77-004	<i>Micropterus dolomieu</i> Smallmouth bass	12	0.88	Moderately Intolerant	0	--
77-008	<i>Lepomis cyanellus</i> Green sunfish	1	0.0020	Tolerant	0	--
80-011	<i>Percina caprodes</i> Northern logperch darter	8	0.0580	Moderately Intolerant	0	--
80-015	<i>Etheostoma blenniodes</i> Greenside darter	5	0.02	Moderately Intolerant	0	--
87-001	<i>Neogobius melanostomus</i> Round goby	2	0.02	--	0	--
Totals		508	9.4100		0	

*DELTA anomalies were observed on = 0 % of the fish collected

Index of Biotic Integrity (IBI) = 40 (Good)

Modified Index of Well-Being (MIwb) = 8.4 (Marginally Good)

Shannon Diversity Index, no. 2.14

Shannon Diversity Index, wt. 1.85

N = 870

B = 8.41



Cuyahoga River Upstream of Rockside Road
10/4/2023 11:00:00 AM
River Mile: 13.15
Collection Method: Boat Electrofishing
Drainage Area: 703 square miles
0.50 km
IBI Type: Boat

Code	Species	No.	Weight (kg)	Pollution Tolerance	DELT Anomalies	
					#	Description
20-003	<i>Dorosoma cepedianum</i> Eastern gizzard shad	3	0.5750	--	0	--
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	3	0.11	Moderately Intolerant	0	--
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	37	2.4780	Moderately Intolerant	0	--
40-016	<i>Catostomus commersonii</i> Common white sucker	13	0.3250	Tolerant	0	--
43-001	<i>Cyprinus carpio</i> Common carp	4	16.7830	Tolerant	0	--
43-022	<i>Notropis rubellus</i> Rosyface shiner	4	0.0060	Intolerant	0	--
43-026	<i>Notropis cornutus</i> Common shiner	28	0.74	--	0	--
43-032	<i>Cyprinella spiloptera</i> Spottfin shiner	32	0.1730	--	0	--
43-034	<i>Notropis stramineus</i> Sand shiner	15	0.0360	Moderately Intolerant	0	--
43-043	<i>Pimephales notatus</i> Bluntnose minnow	8	0.0680	Tolerant	0	--
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	2	0.0040	--	0	--
47-002	<i>Ictalurus punctatus</i> Channel catfish	3	1.40	--	0	--
47-007	<i>Pylodictis olivaris</i> Flathead catfish	1	1.30	--	0	--
77-003	<i>Ambloplites rupestris</i> Northern rockbass	1	0.2080	--	0	--
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	15	1.60	Moderately Intolerant	0	--
77-008	<i>Lepomis cyanellus</i> Green sunfish	1	0.0680	Tolerant	0	--
80-011	<i>Percina caprodes</i> Northern logperch darter	11	0.09	Moderately Intolerant	0	--



Cuyahoga River Upstream of Rockside Road
10/4/2023 11:00:00 AM
River Mile: 13.15
Collection Method: Boat Electrofishing
Drainage Area: 703 square miles
0.50 km
IBI Type: Boat

80-014	<i>Etheostoma nigrum</i> Johnny darter	3	0.0080	--	0	--
80-015	<i>Etheostoma blenniodes</i> Greenside darter	2	0.0040	Moderately Intolerant	0	--
87-001	<i>Neogobius melanostomus</i> Round goby	6	0.05	--	0	--
Totals		192	26.0260		0	

*DELT anomalies were observed on = 0 % of the fish collected

Index of Biotic Integrity (IBI) = 44 (Very Good)

Modified Index of Well-Being (MIwb) = 8.2 (Fair)

Shannon Diversity Index, no. 2.48

Shannon Diversity Index, wt. 1.40

N = 320

B = 17.46



Cuyahoga River Downstream of Mill Creek (Site 22.9)

9/6/2023 11:15:00 AM

River Mile: 11.30

Collection Method: Boat Electrofishing

Drainage Area: 730 square miles

0.50 km

IBI Type: Boat

Code	Species	No.	Weight (kg)	Pollution Tolerance	DELT Anomalies	
					#	Description
20-003	<i>Dorosoma cepedianum</i> Eastern gizzard shad	2	0.5210	--	0	--
40-005	<i>Carpionodes cyprinus</i> Central quillback carpsucker	3	0.01	--	0	--
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	22	2.1520	Moderately Intolerant	0	--
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	15	4.32	Moderately Intolerant	0	--
40-016	<i>Catostomus commersonii</i> Common white sucker	14	0.1080	Tolerant	0	--
43-013	<i>Semotilus atromaculatus</i> Creek chub	1	0.0080	Tolerant	0	--
43-022	<i>Notropis rubellus</i> Rosyface shiner	5	0.0140	Intolerant	0	--
43-026	<i>Notropis cornutus</i> Common shiner	24	0.0240	--	0	--
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	42	0.1430	--	0	--
43-034	<i>Notropis stramineus</i> Sand shiner	395	0.8650	Moderately Intolerant	0	--
43-039	<i>Ericymba buccata</i> Silverjaw minnow	1	0.0030	--	0	--
43-043	<i>Pimephales notatus</i> Bluntnose minnow	11	0.0310	Tolerant	0	--
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	23	0.1130	--	0	--
47-002	<i>Ictalurus punctatus</i> Channel catfish	8	8.5640	--	0	--
70-001	<i>Labidesthes sicculus</i> Brook silverside	1	0.0020	Moderately Intolerant	0	--
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	16	2.6150	Moderately Intolerant	0	--
80-011	<i>Percina caprodes</i> Northern logperch darter	5	0.0450	Moderately Intolerant	0	--



Cuyahoga River Downstream of Mill Creek (Site 22.9)
9/6/2023 11:15:00 AM
River Mile: 11.30
Collection Method: Boat Electrofishing
Drainage Area: 730 square miles
0.50 km
IBI Type: Boat

80-015	<i>Etheostoma blenniodes</i> Greenside darter	2	0.0040	Moderately Intolerant	0	--
87-001	<i>Neogobius melanostomus</i> Round goby	11	0.11	--	0	--
Totals		601	19.6520		0	

*DELT anomalies were observed on = 0 % of the fish collected

Index of Biotic Integrity (IBI) = 36 (Marginally Good)

Modified Index of Well-Being (MIwb) = 8.4 (Marginally Good)

Shannon Diversity Index, no. 1.49

Shannon Diversity Index, wt. 1.61

N = 1128

B = 38.79



Cuyahoga River Downstream of Mill Creek (Site 22.9)

10/4/2023 1:30:00 PM

River Mile: 11.30

Collection Method: Boat Electrofishing

Drainage Area: 730 square miles

0.50 km

IBI Type: Boat

Code	Species	No.	Weight (kg)	Pollution Tolerance	DELT Anomalies	
					#	Description
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	1	0.0210	Moderately Intolerant	0	--
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	3	1.07	Moderately Intolerant	0	--
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	50	7.35	Moderately Intolerant	0	--
40-016	<i>Catostomus commersonii</i> Common white sucker	5	0.7520	Tolerant	0	--
43-022	<i>Notropis rubellus</i> Rosyface shiner	1	0.0040	Intolerant	0	--
43-026	<i>Notropis cornutus</i> Common shiner	1	0.0050	--	0	--
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	21	0.1380	--	0	--
43-034	<i>Notropis stramineus</i> Sand shiner	43	0.0710	Moderately Intolerant	0	--
43-039	<i>Ericymba buccata</i> Silverjaw minnow	1	0.0130	--	0	--
70-001	<i>Labidesthes sicculus</i> Brook silverside	1	0.0020	Moderately Intolerant	0	--
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	32	5.95	Moderately Intolerant	0	--
77-006	<i>Micropterus salmoides</i> Largemouth bass	1	0.52	--	0	--
80-011	<i>Percina caprodes</i> Northern logperch darter	15	0.2080	Moderately Intolerant	0	--
80-014	<i>Etheostoma nigrum</i> Johnny darter	1	0.0020	--	0	--
85-001	<i>Aplodinotus grunniens</i> Freshwater drum	1	0.78	Moderately Tolerant	0	--
87-001	<i>Neogobius melanostomus</i> Round goby	9	0.10	--	0	--
Totals		186	16.9860		0	

*DELT anomalies were observed on =



Cuyahoga River Downstream of Mill Creek (Site 22.9)
10/4/2023 1:30:00 PM
River Mile: 11.30
Collection Method: Boat Electrofishing
Drainage Area: 730 square miles
0.50 km
IBI Type: Boat

	0	% of the fish collected
Index of Biotic Integrity (IBI) =	42	(Good)
Modified Index of Well-Being (MIwb) =	8.1	(Fair)
Shannon Diversity Index, no.	1.98	
Shannon Diversity Index, wt.	1.46	
N =	344	
B =	32.27	



Cuyahoga River Upstream of Southerly WWTC (Site 22.76)
9/7/2023 8:40:00 AM
River Mile: 10.75
Collection Method: Boat Electrofishing
Drainage Area: 743 square miles
0.50 km
IBI Type: Boat

Code	Species	No.	Weight (kg)	Pollution Tolerance	DELT Anomalies	
					#	Description
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	42	7.3450	Moderately Intolerant	0	--
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	54	2.9740	Moderately Intolerant	0	--
40-016	<i>Catostomus commersonii</i> Common white sucker	366	0.9820	Tolerant	0	--
43-001	<i>Cyprinus carpio</i> Common carp	8	24.9480	Tolerant	0	--
43-013	<i>Semotilus atromaculatus</i> Creek chub	34	0.1090	Tolerant	0	--
43-022	<i>Notropis rubellus</i> Rosyface shiner	2	0.0040	Intolerant	0	--
43-026	<i>Notropis cornutus</i> Common shiner	17	0.1630	--	0	--
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	81	0.2160	--	0	--
43-034	<i>Notropis stramineus</i> Sand shiner	309	0.5980	Moderately Intolerant	0	--
43-039	<i>Ericymba buccata</i> Silverjaw minnow	17	0.0480	--	0	--
43-042	<i>Pimephales promelas</i> Northern fathead minnow	21	0.0580	Tolerant	0	--
43-043	<i>Pimephales notatus</i> Bluntnose minnow	48	0.1830	Tolerant	0	--
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	322	0.0960	--	0	--
43-047	<i>Ctenopharyngodon idella</i> Grass carp	1	9.0720	--	0	--
47-002	<i>Ictalurus punctatus</i> Channel catfish	6	7.2050	--	0	--
47-004	<i>Ictalurus natalis</i> Yellow bullhead	1	0.0220	Tolerant	0	--
47-007	<i>Pylodictis olivaris</i> Flathead catfish	2	0.70	--	0	--



Cuyahoga River Upstream of Southerly WWTC (Site 22.76)
9/7/2023 8:40:00 AM
River Mile: 10.75
Collection Method: Boat Electrofishing
Drainage Area: 743 square miles
0.50 km
IBI Type: Boat

70-001	<i>Labidesthes sicculus</i> Brook silverside	1	0.0030	Moderately Intolerant	0	--
74-003	<i>Morone americana</i> White perch	2	0.0080	--	0	--
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	25	4.7050	Moderately Intolerant	0	--
77-006	<i>Micropterus salmoides</i> Largemouth bass	2	0.02	--	0	--
77-008	<i>Lepomis cyanellus</i> Green sunfish	1	0.01	Tolerant	0	--
77-009	<i>Lepomis macrochirus</i> Bluegill sunfish	1	0.01	Moderately Tolerant	0	--
77-015	<i>HYBRID</i> Green sunfish X Bluegill sunfish	1	0.01	--	0	--
80-011	<i>Percina caprodes</i> Northern logperch darter	13	0.1280	Moderately Intolerant	0	--
80-015	<i>Etheostoma blenniodes</i> Greenside darter	3	0.0060	Moderately Intolerant	0	--
80-022	<i>Etheostoma caeruleum</i> Rainbow darter	2	0.0030	Moderately Intolerant	0	--
87-001	<i>Neogobius melanostomus</i> Round goby	10	0.0580	--	0	--
Totals		1392	59.6840		0	

*DELT anomalies were observed on = 0 % of the fish collected

Index of Biotic Integrity (IBI) = 32 (Fair)

Modified Index of Well-Being (MIwb) = 9.6 (Very Good)

Shannon Diversity Index, no. 2.09

Shannon Diversity Index, wt. 1.80

N = 1798

B = 48.45



Cuyahoga River Upstream of Southerly WWTC (Site 22.76)
10/5/2023 10:00:00 AM
River Mile: 10.75
Collection Method: Boat Electrofishing
Drainage Area: 743 square miles
0.50 km
IBI Type: Boat

Code	Species	No.	Weight (kg)	Pollution Tolerance	DELT Anomalies	
					#	Description
25-002	<i>Oncorhynchus mykiss</i> Rainbow trout	5	4.69	--	0	--
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	1	1.10	Moderately Intolerant	0	--
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	3	0.0930	Moderately Intolerant	0	--
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	26	6.26	Moderately Intolerant	0	--
40-016	<i>Catostomus commersonii</i> Common white sucker	71	2.88	Tolerant	0	--
43-020	<i>Notropis atherinoides</i> Common emerald shiner	5	0.0360	--	0	--
43-022	<i>Notropis rubellus</i> Rosyface shiner	1	0.0020	Intolerant	0	--
43-026	<i>Notropis cornutus</i> Common shiner	1	0.0030	--	0	--
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	7	0.04	--	0	--
43-034	<i>Notropis stramineus</i> Sand shiner	2	0.0030	Moderately Intolerant	0	--
43-042	<i>Pimephales promelas</i> Northern fathead minnow	2	0.0250	Tolerant	0	--
43-043	<i>Pimephales notatus</i> Bluntnose minnow	4	0.0380	Tolerant	0	--
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	5	0.0420	--	0	--
47-004	<i>Ictalurus natalis</i> Yellow bullhead	1	0.06	Tolerant	0	--
47-007	<i>Pylodictis olivaris</i> Flathead catfish	1	0.27	--	0	--
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	16	3.1470	Moderately Intolerant	0	--
80-011	<i>Percina caprodes</i> Northern logperch darter	12	0.18	Moderately Intolerant	0	--



Cuyahoga River Upstream of Southerly WWTC (Site 22.76)
10/5/2023 10:00:00 AM
River Mile: 10.75
Collection Method: Boat Electrofishing
Drainage Area: 743 square miles
0.50 km
IBI Type: Boat

80-015	<i>Etheostoma blenniodes</i> Greenside darter	2	0.0040	Moderately Intolerant	0	--
87-001	<i>Neogobius melanostomus</i> Round goby	10	0.07	--	0	--
Totals		175	18.9430		0	

*DELT anomalies were observed on = 0 % of the fish collected

Index of Biotic Integrity (IBI) = 28 (Fair)

Modified Index of Well-Being (MIwb) = 7.9 (Fair)

Shannon Diversity Index, no. 2.11

Shannon Diversity Index, wt. 1.70

N = 164

B = 22.36



Cuyahoga River Downstream of Southerly WWTC (Site
22.71)

9/7/2023 11:15:00 AM

River Mile: 10.10

Collection Method: Boat Electrofishing

Drainage Area: 744 square miles

0.50 km

IBI Type: Boat

Code	Species	No.	Weight (kg)	Pollution Tolerance	DELT Anomalies	
					#	Description
20-003	<i>Dorosoma cepedianum</i> Eastern gizzard shad	2	0.73	--	0	--
40-005	<i>Carpionodes cyprinus</i> Central quillback carpsucker	4	2.31	--	0	--
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	2	1.04	Moderately Intolerant	0	--
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	19	2.7630	Moderately Intolerant	0	--
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	9	1.81	Moderately Intolerant	0	--
40-016	<i>Catostomus commersonii</i> Common white sucker	36	0.5830	Tolerant	0	--
43-001	<i>Cyprinus carpio</i> Common carp	6	19.0510	Tolerant	0	--
43-013	<i>Semotilus atromaculatus</i> Creek chub	5	0.0120	Tolerant	0	--
43-020	<i>Notropis atherinoides</i> Common emerald shiner	1	0.0050	--	0	--
43-022	<i>Notropis rubellus</i> Rosyface shiner	11	0.0150	Intolerant	0	--
43-026	<i>Notropis cornutus</i> Common shiner	26	0.0480	--	0	--
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	150	0.1970	--	0	--
43-033	<i>Notropis dorsalis</i> Bigmouth shiner	1	0.0030	--	0	--
43-034	<i>Notropis stramineus</i> Sand shiner	211	0.3020	Moderately Intolerant	0	--
43-035	<i>Notropis volucellus</i> Mimic shiner	1	0.0020	Intolerant	0	--
43-039	<i>Ericymba buccata</i> Silverjaw minnow	5	0.01	--	0	--
43-042	<i>Pimephales promelas</i> Northern fathead minnow	7	0.0120	Tolerant	0	--



Cuyahoga River Downstream of Southerly WWTC (Site 22.71)

9/7/2023 11:15:00 AM

River Mile: 10.10

Collection Method: Boat Electrofishing

Drainage Area: 744 square miles

0.50 km

IBI Type: Boat

43-043	<i>Pimephales notatus</i> Bluntnose minnow	20	0.0430	Tolerant	0	--
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	19	0.0480	--	0	--
47-002	<i>Ictalurus punctatus</i> Channel catfish	3	5.4430	--	1	Lesions
47-007	<i>Pylodictis olivaris</i> Flathead catfish	3	7.9170	--	0	--
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	16	1.85	Moderately Intolerant	0	--
77-006	<i>Micropterus salmoides</i> Largemouth bass	1	0.0030	--	0	--
77-008	<i>Lepomis cyanellus</i> Green sunfish	4	0.0150	Tolerant	0	--
77-009	<i>Lepomis macrochirus</i> Bluegill sunfish	4	0.1720	Moderately Tolerant	0	--
80-011	<i>Percina caprodes</i> Northern logperch darter	18	0.1320	Moderately Intolerant	0	--
80-014	<i>Etheostoma nigrum</i> Johnny darter	1	0.0020	--	0	--
80-015	<i>Etheostoma blenniodes</i> Greenside darter	5	0.0080	Moderately Intolerant	0	--
87-001	<i>Neogobius melanostomus</i> Round goby	13	0.06	--	0	--
Totals		603	44.5860		1	

*DELT anomalies were observed on = 0.1 % of the fish collected

Index of Biotic Integrity (IBI) = 42 (Good)

Modified Index of Well-Being (MIwb) = 9.5 (Very Good)

Shannon Diversity Index, no. 2.23

Shannon Diversity Index, wt. 1.87

N = 1024

B = 49.62



**Cuyahoga River Downstream of Southerly WWTC (Site
 22.71)**
10/5/2023 12:00:00 PM
River Mile: 10.10
Collection Method: Boat Electrofishing
Drainage Area: 744 square miles
0.50 km
IBI Type: Boat

Code	Species	No.	Weight (kg)	Pollution Tolerance	DELT Anomalies	
					#	Description
20-003	<i>Dorosoma cepedianum</i> Eastern gizzard shad	10	2.90	--	0	--
40-008	<i>Moxostoma anisurum</i> Silver redhorse	1	0.1080	Moderately Intolerant	0	--
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	1	0.1020	Moderately Intolerant	0	--
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	3	0.8120	Moderately Intolerant	0	--
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	3	1.2310	Moderately Intolerant	0	--
40-016	<i>Catostomus commersonii</i> Common white sucker	50	0.80	Tolerant	0	--
43-001	<i>Cyprinus carpio</i> Common carp	1	3.6290	Tolerant	0	--
43-026	<i>Notropis cornutus</i> Common shiner	7	0.0210	--	0	--
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	25	0.0590	--	0	--
43-034	<i>Notropis stramineus</i> Sand shiner	8	0.0280	Moderately Intolerant	0	--
43-035	<i>Notropis volucellus</i> Mimic shiner	5	0.0120	Intolerant	0	--
43-042	<i>Pimephales promelas</i> Northern fathead minnow	2	0.0040	Tolerant	0	--
43-043	<i>Pimephales notatus</i> Bluntnose minnow	6	0.0280	Tolerant	0	--
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	9	0.0570	--	0	--
43-047	<i>Ctenopharyngodon idella</i> Grass carp	1	9.0720	--	0	--
47-002	<i>Ictalurus punctatus</i> Channel catfish	3	4.5920	--	0	--
47-007	<i>Pylodictis olivaris</i> Flathead catfish	2	0.58	--	0	--



**Cuyahoga River Downstream of Southerly WWTC (Site
 22.71)**
10/5/2023 12:00:00 PM
River Mile: 10.10
Collection Method: Boat Electrofishing
Drainage Area: 744 square miles
0.50 km
IBI Type: Boat

77-004	<i>Micropterus dolomieu</i> Smallmouth bass	10	1.48	Moderately Intolerant	0	--
77-009	<i>Lepomis macrochirus</i> Bluegill sunfish	1	0.02	Moderately Tolerant	0	--
80-011	<i>Percina caprodes</i> Northern logperch darter	5	0.0490	Moderately Intolerant	0	--
80-015	<i>Etheostoma blenniodes</i> Greenside darter	1	0.0020	Moderately Intolerant	0	--
87-001	<i>Neogobius melanostomus</i> Round goby	10	0.0750	--	0	--
Totals		164	25.6610		0	

*DELTA anomalies were observed on = 0 % of the fish collected

Index of Biotic Integrity (IBI) = 28 (Fair)

Modified Index of Well-Being (MIwb) = 8.6 (Marginally Good)

Shannon Diversity Index, no. 2.45

Shannon Diversity Index, wt. 1.95

N = 188

B = 24.11



Cuyahoga River Upstream of Big Creek
9/7/2023 2:20:00 PM
River Mile: 8.60
Collection Method: Boat Electrofishing
Drainage Area: 745 square miles
0.50 km
IBI Type: Boat

Code	Species	No.	Weight (kg)	Pollution Tolerance	DELT Anomalies	
					#	Description
40-005	<i>Carpiodes cyprinus</i> Central quillback carpsucker	4	0.0080	--	0	--
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	1	0.03	Moderately Intolerant	0	--
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	21	1.56	Moderately Intolerant	0	--
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	67	0.9160	Moderately Intolerant	0	--
40-016	<i>Catostomus commersonii</i> Common white sucker	84	0.2640	Tolerant	0	--
43-011	<i>Rhinichthys atratulus</i> Blacknose dace	1	0.0020	Tolerant	0	--
43-013	<i>Semotilus atromaculatus</i> Creek chub	3	0.0080	Tolerant	0	--
43-020	<i>Notropis atherinoides</i> Common emerald shiner	16	0.0710	--	0	--
43-022	<i>Notropis rubellus</i> Rosyface shiner	4	0.01	Intolerant	0	--
43-026	<i>Notropis cornutus</i> Common shiner	21	0.72	--	0	--
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	50	0.1370	--	0	--
43-033	<i>Notropis dorsalis</i> Bigmouth shiner	8	0.0110	--	0	--
43-034	<i>Notropis stramineus</i> Sand shiner	331	0.7120	Moderately Intolerant	0	--
43-035	<i>Notropis volucellus</i> Mimic shiner	27	0.0350	Intolerant	0	--
43-039	<i>Ericymba buccata</i> Silverjaw minnow	12	0.0290	--	0	--
43-042	<i>Pimephales promelas</i> Northern fathead minnow	4	0.01	Tolerant	0	--
43-043	<i>Pimephales notatus</i> Bluntnose minnow	26	0.0710	Tolerant	0	--



Cuyahoga River Upstream of Big Creek
9/7/2023 2:20:00 PM
River Mile: 8.60
Collection Method: Boat Electrofishing
Drainage Area: 745 square miles
0.50 km
IBI Type: Boat

43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	169	0.6330	--	0	--
47-007	<i>Pylodictis olivaris</i> Flathead catfish	2	0.6250	--	0	--
47-008	<i>Noturus flavus</i> Stonecat madtom	1	0.0250	Intolerant	0	--
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	8	2.88	Moderately Intolerant	0	--
77-006	<i>Micropterus salmoides</i> Largemouth bass	1	0.0080	--	0	--
80-011	<i>Percina caprodes</i> Northern logperch darter	19	0.1280	Moderately Intolerant	0	--
80-015	<i>Etheostoma blenniodes</i> Greenside darter	7	0.01	Moderately Intolerant	0	--
80-022	<i>Etheostoma caeruleum</i> Rainbow darter	1	0.0020	Moderately Intolerant	0	--
85-001	<i>Aplodinotus grunniens</i> Freshwater drum	3	4.5360	Moderately Tolerant	0	--
87-001	<i>Neogobius melanostomus</i> Round goby	10	0.0150	--	0	--
Totals		901	13.4560		0	

*DELT anomalies were observed on = 0 % of the fish collected

Index of Biotic Integrity (IBI) = 42 (Good)

Modified Index of Well-Being (MIwb) = 9.5 (Very Good)

Shannon Diversity Index, no. 2.18

Shannon Diversity Index, wt. 2.05

N = 1546

B = 26.17



Cuyahoga River Upstream of Big Creek
10/5/2023 2:00:00 PM
River Mile: 8.60
Collection Method: Boat Electrofishing
Drainage Area: 745 square miles
0.50 km
IBI Type: Boat

Code	Species	No.	Weight (kg)	Pollution Tolerance	DELT Anomalies	
					#	Description
20-003	<i>Dorosoma cepedianum</i> Eastern gizzard shad	1	0.0220	--	0	--
40-008	<i>Moxostoma anisurum</i> Silver redhorse	1	2.40	Moderately Intolerant	0	--
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	3	1.01	Moderately Intolerant	0	--
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	15	2.50	Moderately Intolerant	0	--
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	41	2.50	Moderately Intolerant	0	--
40-016	<i>Catostomus commersonii</i> Common white sucker	9	0.0980	Tolerant	0	--
43-011	<i>Rhinichthys atratulus</i> Blacknose dace	2	0.0040	Tolerant	0	--
43-013	<i>Semotilus atromaculatus</i> Creek chub	1	0.0030	Tolerant	0	--
43-020	<i>Notropis atherinoides</i> Common emerald shiner	39	0.15	--	0	--
43-022	<i>Notropis rubellus</i> Rosyface shiner	4	0.0240	Intolerant	0	--
43-026	<i>Notropis cornutus</i> Common shiner	1	0.0030	--	0	--
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	25	0.0640	--	0	--
43-034	<i>Notropis stramineus</i> Sand shiner	354	0.4140	Moderately Intolerant	0	--
43-035	<i>Notropis volucellus</i> Mimic shiner	15	0.05	Intolerant	0	--
43-039	<i>Ericymba buccata</i> Silverjaw minnow	3	0.02	--	0	--
43-042	<i>Pimephales promelas</i> Northern fathead minnow	2	0.0040	Tolerant	0	--
43-043	<i>Pimephales notatus</i> Bluntnose minnow	3	0.0180	Tolerant	0	--



Cuyahoga River Upstream of Big Creek
10/5/2023 2:00:00 PM
River Mile: 8.60
Collection Method: Boat Electrofishing
Drainage Area: 745 square miles
0.50 km
IBI Type: Boat

43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	15	0.0420	--	0	--
47-007	<i>Pylodictis olivaris</i> Flathead catfish	1	0.36	--	0	--
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	11	2.1870	Moderately Intolerant	0	--
80-011	<i>Percina caprodes</i> Northern logperch darter	25	0.19	Moderately Intolerant	0	--
85-001	<i>Aplodinotus grunniens</i> Freshwater drum	1	1.45	Moderately Tolerant	0	--
87-001	<i>Neogobius melanostomus</i> Round goby	10	0.08	--	0	--
Totals		582	13.5930		0	

*DELT anomalies were observed on = 0 % of the fish collected

Index of Biotic Integrity (IBI) = 40 (Good)

Modified Index of Well-Being (MIwb) = 9.0 (Good)

Shannon Diversity Index, no. 1.65

Shannon Diversity Index, wt. 2.14

N = 1110

B = 26.77