

Cuyahoga River Upstream of Southerly WWTC

July 16, 2018

River Mile: 10.75

Collection Method: Boat Electrofishing

Drainage Area: 743 miles²

Collection Distance: 0.5 km

Code	Species	Number	Weight (kg)	Pollution Tolerance	#	DELT Anomalies Description
40-004	<i>Ictiobus bubalus</i> Smallmouth buffalo	5	17.237	--	0	---
40-005	<i>Carpoides cyprinus</i> Central quillback carpsucker	4	4.309	--	0	---
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	3	1.8	Moderately Intolerant	0	---
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	1	0.265	Moderately Intolerant	0	---
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	2	0.4	Moderately Intolerant	0	---
43-001	<i>Cyprinus carpio</i> Common carp	15	35.607	Highly Tolerant	0	---
43-025	<i>Notropis chrysocephalus</i> Striped shiner	4	0.055	--	0	---
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	6	0.04	--	0	---
43-034	<i>Notropis stramineus</i> Sand shiner	8	0.022	Moderately Intolerant	0	---
43-047	<i>Ctenopharyngodon idella</i> Grass carp	3	29.03	--	0	---
47-002	<i>Ictalurus punctatus</i> Channel catfish	23	27.442	--	4	Lesion
47-008	<i>Noturus flavus</i> Stonecat Madtom	1	0.052	Intolerant	0	---
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	4	2.101	Moderately Intolerant	1	Lesion
77-006	<i>Micropterus salmoides</i> Largemouth bass	1	0.005	--	0	---
80-011	<i>Percina caprodes</i> Northern logperch darter	2	0.005	Moderately Intolerant	0	---

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85-001	<i>Aplodinotus grunniens</i> Freshwater drum	1	1.08	Moderately Tolerant	0	---
87-001	<i>Neogobius melanostomus</i> Round goby	8	0.05	--	0	---
	Totals	<u>91</u>	<u>119.500</u>		<u>5</u>	

*DELT anomalies were observed on	5.49	% of the fish collected.
Index of Biotic Integrity (IBI) =	24	(Poor)
Modified Index of Well-Being (MIwb) =	8.9	(Good)
Shannon Diversity Index, no.	2.414	
Shannon Diversity Index, wt.	1.666	
N	130	
B	109.6	

Cuyahoga River Downstream of Southerly WWTC

July 16, 2018

River Mile: 10.10

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	14	6.62	--	0	---
40-004	<i>Ictiobus bubalus</i> Smallmouth buffalo	1	5.897	--	0	---
40-008	<i>Moxostoma anisurum</i> Silver Redhorse	1	0.34	Moderately Intolerant	0	---
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	2	1.7	Moderately Intolerant	0	---
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	2	2.15	Moderately Intolerant	1	Erosion
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	2	0.3	Moderately Intolerant	0	---
40-016	<i>Catostomus commersonii</i> Common white sucker	8	0.23	Highly Tolerant	1	Erosion
43-001	<i>Cyprinus carpio</i> Common carp	1	2.722	Highly Tolerant	0	---
43-013	<i>Semotilus atromaculatus</i> Creek chub	1	0.002	Highly Tolerant	0	---
43-020	<i>Notropis atherinoides</i> Common Emerald shiner	14	0.045	--	0	---
43-025	<i>Notropis chrysocephalus</i> Striped shiner	1	0.003	--	0	---
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	7	0.022	--	0	---
43-034	<i>Notropis stramineus</i> Sand shiner	6	0.012	Moderately Intolerant	0	---
43-042	<i>Pimephales promelas</i> Northern fathead minnow	6	0.019	Highly Tolerant	0	---
43-043	<i>Pimephales notatus</i> Bluntnose minnow	1	0.005	Highly Tolerant	0	---

Cuyahoga River Downstream of Southerly WWTC

July 16, 2018

River Mile: 10.10

43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	8	0.005	--	0	---
47-002	<i>Ictalurus punctatus</i> Channel catfish	20	20.185	--	6	Lesion
47-004	<i>Ictalurus natalis</i> Yellow bullhead	1	0.002	Highly Tolerant	0	---
47-007	<i>Pylodictis olivaris</i> Flathead Catfish	3	1.457	--	0	---
74-001	<i>Morone chrysops</i> White bass	1	0.075	--	0	---
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	8	7.4	Moderately Intolerant	0	---
77-008	<i>Lepomis cyanellus</i> Green sunfish	1	0.01	Highly Tolerant	0	---
77-009	<i>Lepomis macrochirus</i> Northern bluegill sunfish	1	0.1	Moderately Tolerant	0	---
77-016	<i>HYBRID</i> Green SF X Pumpkinseed	1	0.022	--	0	---
80-011	<i>Percina caprodes</i> Northern logperch darter	2	0.02	Moderately Intolerant	0	---
87-001	<i>Neogobius melanostomus</i> Round goby	2	0.015	--	0	---
Totals		<u>115</u>	<u>49.358</u>		<u>8</u>	

*DELTA anomalies were observed on	6.96 % of the fish collected.
Index of Biotic Integrity (IBI) =	32 (Fair)
Modified Index of Well-Being (MIwb) =	9.5 (Very Good)
Shannon Diversity Index, no.	2.753
Shannon Diversity Index, wt.	1.831
N	186
B	92.66

Cuyahoga River Upstream of Big Creek
July 16, 2018
River Mile: 8.60
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	16	5.121	--	0	---
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	10	3.18	Moderately Intolerant	0	---
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	12	1.578	Moderately Intolerant	0	---
40-016	<i>Catostomus commersonii</i> Common white sucker	12	0.022	Highly Tolerant	0	---
43-011	<i>Rhinichthys atratulus</i> Western blacknose dace	2	0.006	Highly Tolerant	0	---
43-013	<i>Semotilus atromaculatus</i> Creek chub	4	0.012	Highly Tolerant	0	---
43-020	<i>Notropis atherinoides</i> Common Emerald shiner	4	0.011	--	0	---
43-025	<i>Notropis chrysocephalus</i> Striped shiner	10	0.18	--	0	---
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	9	0.034	--	0	---
43-034	<i>Notropis stramineus</i> Sand shiner	84	0.104	Moderately Intolerant	0	---
43-042	<i>Pimephales promelas</i> Northern fathead minnow	2	0.006	Highly Tolerant	0	---
43-043	<i>Pimephales notatus</i> Bluntnose minnow	4	0.017	Highly Tolerant	0	---
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	19	0.04	--	0	---
47-002	<i>Ictalurus punctatus</i> Channel catfish	18	7.939	--	0	---
74-003	<i>Morone americana</i> White perch	2	0.008	--	0	---

Cuyahoga River Upstream of Big Creek

July 16, 2018

River Mile: **8.60**

77-004	<i>Micropterus dolomieu</i> Smallmouth bass	2	0.425	Moderately Intolerant	0	---
77-009	<i>Lepomis macrochirus</i> Northern bluegill sunfish	1	0.05	Moderately Tolerant	0	---
80-011	<i>Percina caprodes</i> Northern logperch darter	3	0.03	Moderately Intolerant	0	---
80-015	<i>Etheostoma blenniodes</i> Greenside darter	1	0.002	Moderately Intolerant	0	---
85-001	<i>Aplodinotus grunniens</i> Freshwater drum	1	0.907	Moderately Tolerant	0	---
87-001	<i>Neogobius melanostomus</i> Round goby	9	0.044	--	0	---
Totals		<u>225</u>	<u>19.716</u>		<u>0</u>	

*DELT anomalies were observed on	0.00	% of the fish collected.
Index of Biotic Integrity (IBI) =	34	(Fair)
Modified Index of Well-Being (MIwb) =	8.7	(Good)
Shannon Diversity Index, no.	2.326	
Shannon Diversity Index, wt.	1.601	
N	380	
B	39.2	

Cuyahoga River Downstream of Big Creek
July 19, 2018
River Mile: 7.00
Collection Method: Boat Electrofishing
Drainage Area: 786 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	107	7.032	--	13	Erosion
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	4	2.75	Moderately Intolerant	0	---
40-011	<i>Moxostoma macrolepidotum</i> Shorthead redhorse	2	1.4	Moderately Intolerant	0	---
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	1	0.54	Moderately Intolerant	0	---
40-016	<i>Catostomus commersonii</i> Common white sucker	7	1.71	Highly Tolerant	0	---
43-001	<i>Cyprinus carpio</i> Common carp	2	12.701	Highly Tolerant	0	---
43-020	<i>Notropis atherinoides</i> Common Emerald shiner	12	0.045	--	0	---
43-025	<i>Notropis chrysocephalus</i> Striped shiner	2	0.004	--	0	---
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	1	0.004	--	0	---
43-034	<i>Notropis stramineus</i> Sand shiner	3	0.002	Moderately Intolerant	0	---
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	2	0.003	--	0	---
47-002	<i>Ictalurus punctatus</i> Channel catfish	2	3.629	--	0	---
47-004	<i>Ictalurus natalis</i> Yellow bullhead	1	0.025	Highly Tolerant	0	---
47-007	<i>Pylodictis olivaris</i> Flathead Catfish	2	0.192	--	0	---
74-003	<i>Morone americana</i> White perch	1	0.004	--	0	---

Cuyahoga River Downstream of Big Creek

July 19, 2018

River Mile: 7.00

77-003	<i>Ambloplites rupestris</i> Northern rockbass	1	0.18	--	0	---
77-004	<i>Micropterus dolomieu</i> Smallmouth bass	9	4.536	Moderately Intolerant	0	---
77-006	<i>Micropterus salmoides</i> Largemouth bass	1	0.4	--	0	---
77-008	<i>Lepomis cyanellus</i> Green sunfish	2	0.02	Highly Tolerant	0	---
77-009	<i>Lepomis macrochirus</i> Northern bluegill sunfish	1	0.008	Moderately Tolerant	0	---
80-002	<i>Sander vitreus</i> Walleye	1	1.021	--	0	---
80-003	<i>Perca flavescens</i> Yellow perch	1	0.005	--	0	---
80-011	<i>Percina caprodes</i> Northern logperch darter	3	0.024	Moderately Intolerant	0	---
87-001	<i>Neogobius melanostomus</i> Round goby	15	0.085	--	0	---
	Totals	<u>183</u>	<u>36.320</u>		<u>13</u>	

*DELT anomalies were observed on	7.10	% of the fish collected.
Index of Biotic Integrity (IBI) =	28	(Fair)
Modified Index of Well-Being (MIwb) =	8.5	(Marginally Good)
Shannon Diversity Index, no.	1.791	
Shannon Diversity Index, wt.	1.951	
N	310	
B	43.55	