

Brandywine Creek Downstream of Former Hudson WWTP

7/30/2018

River Mile: 7.85

Collection Method: Longline Electrofishing

Drainage Area: 5.8 miles²

Collection Distance: 0.15 km

Code	Species	Number	Pollution Tolerance	DELT Anomalies #	Description
40-016	<i>Catostomus commersonii</i> Common white sucker	41	Highly Tolerant	0	---
43-003	<i>Notemigonus crysoleucas</i> Golden shiner	1	Highly Tolerant	0	---
43-013	<i>Semotilus atromaculatus</i> Creek chub	141	Highly Tolerant	0	---
43-025	<i>Notropis chrysocephalus</i> Striped shiner	5	--	0	---
43-043	<i>Pimephales notatus</i> Bluntnose minnow	64	Highly Tolerant	0	---
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	258	--	0	---
47-004	<i>Ictalurus natalis</i> Yellow bullhead	17	Highly Tolerant	0	---
77-006	<i>Micropterus salmoides</i> Largemouth bass	78	--	0	---
77-008	<i>Lepomis cyanellus</i> Green sunfish	5	Highly Tolerant	0	---
77-009	<i>Lepomis macrochirus</i> Northern bluegill sunfish	14	Moderately Tolerant	0	---
34-001	<i>Umbra limi</i> Central Mudminnow	3	Tolerant	0	---
Totals		<u>627</u>		<u>0</u>	

*DELT anomalies were observed on 0.00 % of the fish collected.
Index of Biotic Integrity (IBI) = 30 (Fair)

Brandywine Creek Downstream of Former Hudson WWTP

9/13/2019

River Mile: 7.85

Collection Method: Longline Electrofishing

Drainage Area: 5.8 miles²

Collection Distance: 0.15 km

Code	Species	Number	Pollution Tolerance	DELT #	Anomalies Description
37-001	<i>Esox americanus</i> Redfin pickerel	2	Moderately Tolerant	0	---
40-016	<i>Catostomus commersonii</i> Common white sucker	42	Highly Tolerant	0	---
43-013	<i>Semotilus atromaculatus</i> Creek chub	73	Highly Tolerant	0	---
43-025	<i>Notropis chrysocephalus</i> Striped shiner	1	--	0	---
43-043	<i>Pimephales notatus</i> Bluntnose minnow	85	Highly Tolerant	0	---
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	139	--	0	---
47-004	<i>Ictalurus natalis</i> Yellow bullhead	17	Highly Tolerant	0	---
47-006	<i>Ictalurus melas</i> Black bullhead	1	Moderately Tolerant	0	---
77-002	<i>Pomoxis nigromaculatus</i> Black crappie	1	--	0	---
77-006	<i>Micropterus salmoides</i> Largemouth bass	60	--	0	---
77-008	<i>Lepomis cyanellus</i> Green sunfish	4	Highly Tolerant	0	---
77-009	<i>Lepomis macrochirus</i> Northern bluegill sunfish	6	Moderately Tolerant	0	---
77-013	<i>Lepomis gibbosus</i> Pumpkinseed sunfish	1	Moderately Tolerant	0	---
	Totals	<u><u>432</u></u>		<u><u>0</u></u>	

*DELT anomalies were observed on 0.00 % of the fish collected.
Index of Biotic Integrity (IBI) = 28 (Fair)

Brandywine Creek Upstream of East Highland Road

August 10, 2018

River Mile: 3.55

Collection Method: Longline Electrofishing

Drainage Area: 22.9 miles²

Collection Distance: 0.2 km

Code	Species	Number	Weight (kg)	Pollution Tolerance	DELT #	Anomalies Description
40-016	<i>Catostomus commersonii</i> Common white sucker	3	1	Highly Tolerant	0	---
43-011	<i>Rhinichthys atratulus</i> Blacknose dace	17	0.1	Highly Tolerant	0	0
43-013	<i>Semotilus atromaculatus</i> Creek chub	60	0.515	Highly Tolerant	0	---
43-025	<i>Notropis chrysocephalus</i> Striped shiner	14	0.12	--	0	---
43-042	<i>Pimephales promelas</i> Northern fathead minnow	8	0.04	Highly Tolerant	0	---
43-043	<i>Pimephales notatus</i> Bluntnose minnow	7	0.02	Highly Tolerant	0	---
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	174	1.3	--	0	---
47-004	<i>Ictalurus natalis</i> Yellow bullhead	5	0.01	Highly Tolerant	0	---
77-006	<i>Micropterus salmoides</i> Largemouth bass	1	0.008	--	0	---
77-009	<i>Lepomis macrochirus</i> Northern bluegill sunfish	1	0.002	Moderately Tolerant	0	---
77-013	<i>Lepomis gibbosus</i> Pumpkinseed sunfish	1	0.2	Moderately Tolerant	0	---
Totals		<u>291</u>	<u>3.315</u>		<u>0</u>	

*DELT anomalies were observed on 0.00 % of the fish collected.
 Index of Biotic Integrity (IBI) = 28 (Fair)
 Modified Index of Well-Being (MIwb) = 6.1 (Fair)
 Shannon Diversity Index, no. 1.309
 Shannon Diversity Index, wt. 1.534
 N 286.5
 B 2.445

Brandywine Creek
September 13, 2018
River Mile: 3.55
Collection Method: Longline Electrofishing
Drainage Area: 22.9 miles²
Collection Distance: 0.2 km

Code	Species	Number	Weight (kg)	Pollution Tolerance	DELT Anomalies #	DELT Anomalies Description
40-016	<i>Catostomus commersonii</i> Common white sucker	10	1.6	Highly Tolerant	0	---
43-011	<i>Rhinichthys atratulus</i> Blacknose dace	21	0.098	Highly Tolerant	0	---
43-013	<i>Semotilus atromaculatus</i> Creek chub	82	1.172	Highly Tolerant	0	---
43-025	<i>Notropis chrysocephalus</i> Striped shiner	40	0.2	--	0	---
43-042	<i>Pimephales promelas</i> Northern fathead minnow	4	0.01	Highly Tolerant	0	---
43-043	<i>Pimephales notatus</i> Bluntnose minnow	6	0.015	Highly Tolerant	0	---
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	379	3.21	--	0	---
77-008	<i>Lepomis cyanellus</i> Green sunfish	5	0.05	Highly Tolerant	0	---
Totals		<u>547</u>	<u>6.355</u>		<u>0</u>	

*DELT anomalies were observed on 0.00 % of the fish collected.
 Index of Biotic Integrity (IBI) = 26 (Poor)
 Modified Index of Well-Being (MIwb) = 6.3 (Fair)
 Shannon Diversity Index, no. 1.057
 Shannon Diversity Index, wt. 1.24
 N 628.5
 B 5.115

Brandywine Creek at Brandywine Ski Resort
July 30, 2018
River Mile: 0.45
Collection Method: Longline Electrofishing
Drainage Area: 27 miles²
Collection Distance: 0.2 km

Code	Species	Number	Weight (kg)	Pollution Tolerance	#	DELT Anomalies Description
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	12	0.393	Moderately Intolerant	0	---
40-016	<i>Catostomus commersonii</i> Common white sucker	103	2.187	Highly Tolerant	0	---
43-011	<i>Rhinichthys atratulus</i> Blacknose dace	20	0.08	Highly Tolerant	0	---
43-013	<i>Semotilus atromaculatus</i> Creek chub	50	0.865	Highly Tolerant	0	---
43-025	<i>Notropis chrysocephalus</i> Striped shiner	93	0.749	--	0	---
43-039	<i>Ericymba buccata</i> Silverjaw minnow	1	0.015	--	0	---
43-042	<i>Pimephales promelas</i> Northern fathead minnow	2	0.012	Highly Tolerant	0	---
43-043	<i>Pimephales notatus</i> Bluntnose minnow	23	0.118	Highly Tolerant	0	---
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	715	2.02	--	0	---
47-004	<i>Ictalurus natalis</i> Yellow bullhead	11	0.3	Highly Tolerant	0	---
77-006	<i>Micropterus salmoides</i> Largemouth bass	12	0.055	--	0	---
77-008	<i>Lepomis cyanellus</i> Green sunfish	26	0.34	Highly Tolerant	0	---
77-009	<i>Lepomis macrochirus</i> Northern bluegill sunfish	17	0.172	Moderately Tolerant	0	---
77-014	<i>HYBRID</i> Bluegill X Pumpkinseed	1	0.035	--	0	---
80-014	<i>Etheostoma nigrum</i> Johnny darter	15	0.021	--	0	---

**Brandywine Creek at Brandywine Ski Resort
July 30, 2018**

		River Mile:	0.45			
80-015	<i>Etheostoma blenniodes</i> Greenside darter	17	0.04	Moderately Intolerant	0	---
80-022	<i>Etheostoma caeruleum</i> Rainbow darter	22	0.055	Moderately Intolerant	0	---
80-024	<i>Etheostoma flabellare</i> Barred Fantail darter	2	0.004	--	0	---
	Totals	<u>1142</u>	<u>7.461</u>		<u>0</u>	

*DELT anomalies were observed on 0.00 % of the fish collected.
 Index of Biotic Integrity (IBI) = 42 (Good)
 Modified Index of Well-Being (MIwb) = 7.9 (Good)
 Shannon Diversity Index, no. 1.52
 Shannon Diversity Index, wt. 1.989
 N 1359
 B 5.286