



Brandywine Creek Downstream of former Hudson WWTP
7/24/2025
River Mile: 7.85
Collection Method: Longline Electrofishing
Drainage Area: 5.82 square miles
0.15 km
IBI Type: Headwaters

Code	Species	No.	Pollution Tolerance	DELT Anomalies	
				#	Description
34-001	<i>Umbra limi</i> Central mudminnow	5	Tolerant	0	--
40-016	<i>Catostomus commersonii</i> Common white sucker	7	Tolerant	0	--
43-003	<i>Notemigonus crysoleucas</i> Golden shiner	41	Tolerant	0	--
43-013	<i>Semotilus atromaculatus</i> Creek chub	105	Tolerant	0	--
43-026	<i>Notropis cornutus</i> Common shiner	98	--	0	--
43-043	<i>Pimephales notatus</i> Bluntnose minnow	577	Tolerant	0	--
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	88	--	0	--
47-004	<i>Ictalurus natalis</i> Yellow bullhead	14	Tolerant	0	--
77-001	<i>Pomoxis annularis</i> White crappie	1	--	0	--
77-006	<i>Micropterus salmoides</i> Largemouth bass	42	--	0	--
77-008	<i>Lepomis cyanellus</i> Green sunfish	57	Tolerant	0	--
77-009	<i>Lepomis macrochirus</i> Bluegill sunfish	30	Moderately Tolerant	0	--
77-013	<i>Lepomis gibbosus</i> Pumpkinseed sunfish	100	Moderately Tolerant	0	--
77-016	<i>HYBRID</i> Green sunfish X Pumpkinseed sunfish	3	--	0	--
Totals		1168		0	

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

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



Brandywine Creek Downstream of former Hudson WWTP
9/18/2025
River Mile: 7.85
Collection Method: Longline Electrofishing
Drainage Area: 5.82 square miles
0.075 km
IBI Type: Headwaters

Code	Species	No.	Pollution Tolerance	DELT Anomalies	
				#	Description
34-001	<i>Umbra limi</i> Central mudminnow	2	Tolerant	0	--
40-016	<i>Catostomus commersonii</i> Common white sucker	3	Tolerant	0	--
43-003	<i>Notemigonus crysoleucas</i> Golden shiner	2	Tolerant	0	--
43-013	<i>Semotilus atromaculatus</i> Creek chub	27	Tolerant	0	--
43-026	<i>Notropis cornutus</i> Common shiner	25	--	0	--
43-043	<i>Pimephales notatus</i> Bluntnose minnow	224	Tolerant	0	--
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	24	--	0	--
47-004	<i>Ictalurus natalis</i> Yellow bullhead	4	Tolerant	0	--
77-006	<i>Micropterus salmoides</i> Largemouth bass	20	--	1	Lesions
77-008	<i>Lepomis cyanellus</i> Green sunfish	36	Tolerant	0	--
77-009	<i>Lepomis macrochirus</i> Bluegill sunfish	33	Moderately Tolerant	0	--
77-013	<i>Lepomis gibbosus</i> Pumpkinseed sunfish	12	Moderately Tolerant	0	--
80-024	<i>Etheostoma flabellare</i> Barred Fantail darter	1	--	0	--
Totals		413		1	

*DELT anomalies were observed on = 0.2 % of the fish collected

Index of Biotic Integrity (IBI) = 26 (Poor)



Brandywine Creek Upstream of East Twinsburg Road
8/7/2025
River Mile: 5.80
Collection Method: Longline Electrofishing
Drainage Area: 11.1 square miles
0.15 km
IBI Type: Headwaters

Code	Species	No.	Pollution Tolerance	DELT Anomalies	
				#	Description
34-001	<i>Umbra limi</i> Central mudminnow	5	Tolerant	0	--
40-016	<i>Catostomus commersonii</i> Common white sucker	73	Tolerant	0	--
43-003	<i>Notemigonus crysoleucas</i> Golden shiner	17	Tolerant	0	--
43-013	<i>Semotilus atromaculatus</i> Creek chub	22	Tolerant	0	--
43-026	<i>Notropis cornutus</i> Common shiner	17	--	0	--
43-043	<i>Pimephales notatus</i> Bluntnose minnow	146	Tolerant	0	--
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	5	--	0	--
47-004	<i>Ictalurus natalis</i> Yellow bullhead	7	Tolerant	0	--
77-002	<i>Pomoxis nigromaculatus</i> Black crappie	1	--	0	--
77-006	<i>Micropterus salmoides</i> Largemouth bass	18	--	0	--
77-008	<i>Lepomis cyanellus</i> Green sunfish	47	Tolerant	10	Fin Erosion Tumors
77-009	<i>Lepomis macrochirus</i> Bluegill sunfish	17	Moderately Tolerant	0	--
77-013	<i>Lepomis gibbosus</i> Pumpkinseed sunfish	3	Moderately Tolerant	0	--
Totals		378		10	

*DELT anomalies were observed on = 2.6 % of the fish collected

Index of Biotic Integrity (IBI) = 18 (Poor)



Brandywine Creek Upstream of East Twinsburg Road
9/30/2025
River Mile: 5.80
Collection Method: Longline Electrofishing
Drainage Area: 11.1 square miles
0.15 km
IBI Type: Headwaters

Code	Species	No.	Pollution Tolerance	DELT Anomalies	
				#	Description
34-001	<i>Umbra limi</i> Central mudminnow	4	Tolerant	0	--
40-016	<i>Catostomus commersonii</i> Common white sucker	52	Tolerant	0	--
43-003	<i>Notemigonus crysoleucas</i> Golden shiner	8	Tolerant	0	--
43-013	<i>Semotilus atromaculatus</i> Creek chub	34	Tolerant	4	Lesions Tumors
43-026	<i>Notropis cornutus</i> Common shiner	30	--	0	--
43-043	<i>Pimephales notatus</i> Bluntnose minnow	73	Tolerant	3	Lesions Tumors
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	11	--	0	--
47-004	<i>Ictalurus natalis</i> Yellow bullhead	5	Tolerant	0	--
77-006	<i>Micropterus salmoides</i> Largemouth bass	2	--	0	--
77-008	<i>Lepomis cyanellus</i> Green sunfish	7	Tolerant	0	--
77-009	<i>Lepomis macrochirus</i> Bluegill sunfish	35	Moderately Tolerant	1	Tumors
80-024	<i>Etheostoma flabellare</i> Barred Fantail darter	8	--	0	--
Totals		269		8	

*DELT anomalies were observed on = 2.9 % of the fish collected

Index of Biotic Integrity (IBI) = 20 (Poor)



Brandywine Creek Upstream of East Highland Road
8/19/2025
River Mile: 3.55
Collection Method: Longline Electrofishing
Drainage Area: 22.9 square miles
0.20 km
IBI Type: Wading

Code	Species	No.	Weight (kg)	Pollution Tolerance	DELT Anomalies	
					#	Description
40-016	<i>Catostomus commersonii</i> Common white sucker	33	1.08	Tolerant	0	--
43-011	<i>Rhinichthys atratulus</i> Blacknose dace	34	0.1980	Tolerant	0	--
43-013	<i>Semotilus atromaculatus</i> Creek chub	43	0.55	Tolerant	0	--
43-026	<i>Notropis cornutus</i> Common shiner	30	0.50	--	0	--
43-043	<i>Pimephales notatus</i> Bluntnose minnow	7	0.05	Tolerant	0	--
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	191	2.65	--	0	--
47-004	<i>Ictalurus natalis</i> Yellow bullhead	54	0.2550	Tolerant	0	--
77-006	<i>Micropterus salmoides</i> Largemouth bass	5	0.07	--	0	--
77-008	<i>Lepomis cyanellus</i> Green sunfish	15	0.25	Tolerant	0	--
77-016	<i>HYBRID</i> Green sunfish X Pumpkinseed sunfish	1	0.05	--	0	--
80-024	<i>Etheostoma flabellare</i> Barred Fantail darter	1	0.0040	--	0	--
Totals		414	5.6570		0	

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

Index of Biotic Integrity (IBI) = 30 (Fair)

Modified Index of Well-Being (MIwb) = 7.1 (Fair)

Shannon Diversity Index, no. 1.73

Shannon Diversity Index, wt. 1.65

N = 340.50

B = 4.84



Brandywine Creek Upstream of East Highland Road
9/29/2025
River Mile: 3.55
Collection Method: Longline Electrofishing
Drainage Area: 22.9 square miles
0.20 km
IBI Type: Wading

Code	Species	No.	Weight (kg)	Pollution Tolerance	DELT Anomalies	
					#	Description
40-016	<i>Catostomus commersonii</i> Common white sucker	7	0.4580	Tolerant	0	--
43-011	<i>Rhinichthys atratulus</i> Blacknose dace	6	0.05	Tolerant	0	--
43-013	<i>Semotilus atromaculatus</i> Creek chub	18	0.22	Tolerant	0	--
43-026	<i>Notropis cornutus</i> Common shiner	9	0.19	--	0	--
43-043	<i>Pimephales notatus</i> Bluntnose minnow	4	0.0350	Tolerant	0	--
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	84	1.33	--	0	--
47-004	<i>Ictalurus natalis</i> Yellow bullhead	9	0.05	Tolerant	0	--
77-008	<i>Lepomis cyanellus</i> Green sunfish	4	0.09	Tolerant	0	--
Totals		141	2.4230		0	

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

Index of Biotic Integrity (IBI) = 22 (Poor)

Modified Index of Well-Being (MIwb) = 5.7 (Poor)

Shannon Diversity Index, no. 1.41

Shannon Diversity Index, wt. 1.41

N = 139.50

B = 2.28



Brandywine Creek Brandywine Ski Resort
8/7/2025
River Mile: 0.45
Collection Method: Longline Electrofishing
Drainage Area: 27 square miles
0.20 km
IBI Type: Wading

Code	Species	No.	Weight (kg)	Pollution Tolerance	DELT Anomalies	
					#	Description
40-016	<i>Catostomus commersonii</i> Common white sucker	48	1.1080	Tolerant	0	--
43-003	<i>Notemigonus crysoleucas</i> Golden shiner	1	0.0050	Tolerant	0	--
43-011	<i>Rhinichthys atratulus</i> Blacknose dace	3	0.0090	Tolerant	0	--
43-013	<i>Semotilus atromaculatus</i> Creek chub	16	0.2340	Tolerant	0	--
43-026	<i>Notropis cornutus</i> Common shiner	81	0.8750	--	0	--
43-034	<i>Notropis stramineus</i> Sand shiner	2	0.0110	Moderately Intolerant	0	--
43-043	<i>Pimephales notatus</i> Bluntnose minnow	226	1.8040	Tolerant	0	--
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	478	2.6820	--	0	--
47-004	<i>Ictalurus natalis</i> Yellow bullhead	31	0.6250	Tolerant	0	--
47-006	<i>Ictalurus melas</i> Black bullhead	1	0.0120	Moderately Tolerant	0	--
77-006	<i>Micropterus salmoides</i> Largemouth bass	15	0.0550	--	0	--
77-008	<i>Lepomis cyanellus</i> Green sunfish	70	0.50	Tolerant	0	--
77-009	<i>Lepomis macrochirus</i> Bluegill sunfish	8	0.0650	Moderately Tolerant	0	--
80-014	<i>Etheostoma nigrum</i> Johnny darter	12	0.01	--	0	--
80-015	<i>Etheostoma blenniodes</i> Greenside darter	21	0.07	Moderately Intolerant	0	--
80-022	<i>Etheostoma caeruleum</i> Rainbow darter	74	0.12	Moderately Intolerant	0	--
80-024	<i>Etheostoma flabellare</i> Barred Fantail darter	58	0.0520	--	0	--



Brandywine Creek Brandywine Ski Resort
8/7/2025
River Mile: 0.45
Collection Method: Longline Electrofishing
Drainage Area: 27 square miles
0.20 km
IBI Type: Wading

87-001	<i>Neogobius melanostomus</i> Round goby	1	0.01	--	0	--
Totals		1146	8.2470		0	

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

Index of Biotic Integrity (IBI) = 38 (Good)

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

Shannon Diversity Index, no. 1.92

Shannon Diversity Index, wt. 1.92

N = 1125

B = 5.93



Brandywine Creek Brandywine Ski Resort
9/29/2025
River Mile: 0.45
Collection Method: Longline Electrofishing
Drainage Area: 27 square miles
0.20 km
IBI Type: Wading

Code	Species	No.	Weight (kg)	Pollution Tolerance	DELT Anomalies	
					#	Description
40-010	<i>Moxostoma erythrurum</i> Golden redhorse	1	0.01	Moderately Intolerant	0	--
40-015	<i>Hypentelium nigricans</i> Northern hog sucker	9	0.09	Moderately Intolerant	0	--
40-016	<i>Catostomus commersonii</i> Common white sucker	6	0.2710	Tolerant	0	--
43-013	<i>Semotilus atromaculatus</i> Creek chub	1	0.02	Tolerant	0	--
43-026	<i>Notropis cornutus</i> Common shiner	1	0.0060	--	0	--
43-032	<i>Cyprinella spiloptera</i> Spotfin shiner	13	0.0510	--	0	--
43-034	<i>Notropis stramineus</i> Sand shiner	11	0.04	Moderately Intolerant	0	--
43-042	<i>Pimephales promelas</i> Northern fathead minnow	1	0.0040	Tolerant	0	--
43-043	<i>Pimephales notatus</i> Bluntnose minnow	14	0.0940	Tolerant	0	--
43-044	<i>Campostoma anomalum</i> Central stoneroller minnow	106	0.4140	--	0	--
47-004	<i>Ictalurus natalis</i> Yellow bullhead	39	0.7320	Tolerant	0	--
77-006	<i>Micropterus salmoides</i> Largemouth bass	6	0.0280	--	0	--
77-008	<i>Lepomis cyanellus</i> Green sunfish	50	0.44	Tolerant	0	--
77-009	<i>Lepomis macrochirus</i> Bluegill sunfish	9	0.0480	Moderately Tolerant	0	--
80-014	<i>Etheostoma nigrum</i> Johnny darter	11	0.0150	--	0	--
80-015	<i>Etheostoma blenniodes</i> Greenside darter	31	0.1420	Moderately Intolerant	0	--
80-022	<i>Etheostoma caeruleum</i> Rainbow darter	83	0.1480	Moderately Intolerant	0	--



Brandywine Creek Brandywine Ski Resort
9/29/2025
River Mile: 0.45
Collection Method: Longline Electrofishing
Drainage Area: 27 square miles
0.20 km
IBI Type: Wading

80-024	<i>Etheostoma flabellare</i> Barred Fantail darter	70	0.10	--	0	--
87-001	<i>Neogobius melanostomus</i> Round goby	3	0.0140	--	0	--
Totals		465	2.6670		0	

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

Index of Biotic Integrity (IBI) = 48 (Very Good)

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

Shannon Diversity Index, no. 2.29

Shannon Diversity Index, wt. 2.24

N = 526.50

B = 1.64