

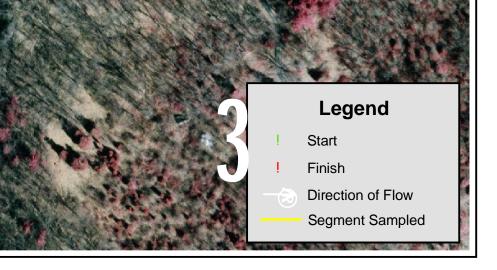
SUMMARY OF RESULTS FIBI087 – Neshanic River



1. Stream Name:	Neshanic River
2. Sampling Date:	07-16-2004
3. Sampling Location:	Black Point Road
4. Municipality	Hillsborough
5. County:	Somerset
6. Watershed Management Area:	8
7. Contributing Drainage Area:	53.4 Square Miles
8. Electrofishing Gear:	2 Backpack
9. FIBI Score and Rating:	40 - Good
10. Habitat Score and Rating:	135- Sub-Optimal
11. Fishable Species Present:	Yes
12. Relevant AMNET ¹ Station Data:	
Proximity of FIBI station to AMNET station:	AN0337
AMNET Rating:	Round 1 - Moderate Round 2 - Moderate Round 3 - Moderate
13. Stream Chemistries:	
Dissolved Oxygen	7.93 mg/L
Temperature.	19.8 ^o C
рН	7.96
Conductivity	271 µmhos/cm
14. Number of Fish With Anomalies:	1 Green sunfish with a tumor
15. Length of Stream Segment Sampled	150 Meters
16. Water Clarity:	Slightly Turbid
17. Average Forest Open Canopy:	53.0%
18. Discharge:	181.8 ft. ³ /sec
19. Substrate:	40% Gravel and Sand, 35% Cobble, 9% Boulder, 5% Mud, 1% Silt, 10% Bedrock
20. Habitat:	5% Riffle, 85% Run, 10% Pool
21. Snags	Yes
22. Periphyton	Moderate
23. Submerged Aquatic Vegetation	Yes
24. Other observations:	
25. Number of Fish Species Identified:	19
26. Total Number of Fish Collected:	384

 1 AMNET is the acronym for the DEP's ambient benthic macroinvertebrate monitoring network – a series of 820 monitoring stations located throughout the state's waterways that collects data on the health of bottom dwelling stream fauna which in turn is used to assess general water quality.

FIBI087 NESHANIC RIVER Amwell Road Hillsborough Township, Somerset County



Amwell Road

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FIBI087- @ Neshanic River Date Sampled - 7/16/2004	Excellent Good	Fair	Poor
# of Fish Species		Score 5]
# of Benthic Insectivorous Species (BI)		5	
# of Trout and Centrarchid Species (trout, ba	ss, sunfish, crappie)	5	
# of Intolerant Species (IS)		3]
Proportion of Individuals as White Suckers		3]
Proportion of Individuals as Generalists (carp, goldfish, fathead minnow, green sunfish)	creek chub, banded killifish,	5]
Proportion of Individuals as Insectivorous Cy	prinids (I and BI)	1	
Proportion of Individuals as Trout OR	*whichever gives better score		
Proportion of Individuals as Piscivores (Exclu	iding American Eel)*	3	
Number of Individuals in Sample		5]
Proportion of Individuals w/disease/anomalie	s (excluding blackspot)	5]
Total		40	

Stream Rating		
45-50	Excellent	
37-44	Good	
29-36	Fair	
10-28	Poor	

HABITAT ASSESSMENT FOR *HIGH* GRADIENT STREAMS

Neshanic River (FIBI087) – 7/16/04

	Ontimal		Category Marginal	Door
	Optimal	Suboptimal	Marginal	Poor
l. Epifaunal Substrate /Available Cover	Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are <u>not</u> new fall and <u>not</u> transient).	40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 20% stable habitat; la of habitat is obvious; substrate unstable or lacking.
SCORE 15	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
2. Embeddedness	Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space	Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediment.	Gravel, cobble, and boulder particles are 50-75% surrounded by fine sediment.	Gravel, cobble, and boulder particles are more than 75% surrounded by fine sediment.
SCORE 13	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
3. Velocity/Depth Regimes	All 4 velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). (slow is <0.3 m/s, deep is >0.5 m)	Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes).	Only 2 of the 4 habitat regimes present (if fast-shallow or slow- shallow are missing, score low).	Dominated by 1 velocity / depth regime (usually slow-deep).
SCORE 13	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than 5% (<20% for low-gradient streams) of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% (20-50% for low-gradient) of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% (50- 80% for low-gradient) of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; mot than 50% (80% for low-gradien of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE 18	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pool
SCORE 16	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted In stream habitat greatly altered or removed entirely.
SCORE 15	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
7. Frequency of Riffles (or bends)	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.	Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.	Generally all flat water or shalld riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.
SCORE 7	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
 Bank Stability (score each bank) Note: determine left or right side by facing downstream. 	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60- 100% of bank has erosional sea
SCORE <u>5</u> (LB) SCORE <u>4</u> (RB)	Left 10 9 Right 10 9	8 7 6 8 7 6	5 4 3 5 4 3	2 1 0 2 1 0
9. Bank Vegetative Protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, under story shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented, disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambar surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE10 (LB) SCORE5 (RB)	Left 10 9 Right 10 9	876 876	5 4 3 5 4 3	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 mete little or no riparian vegetation of to human activities.
SCORE9 (LB)	Left 10 9	8 7 6	5 4 3	2 1 0

habitat score 135

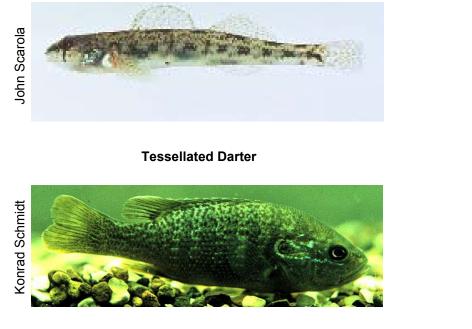
HABITAT SCORES	VALUE
OPTIMAL	160 - 200
SUB-OPTIMAL	110 - 159
MARGINAL	60 - 109
POOR	< 60

FIBI087 07-16-2004

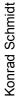
Neshanic River

LISTED IN ORDER OF ABUNDANCE

COMMON NAME	SCIENTIFIC NAME	# FOUND	SIZE RANGE (INCHES)
Tessellated Darter	Etheostoma olmstedi	135	
White Sucker	Catostomus commersoni	54	
Green Sunfish	Lepomis cyanellus	45	2.4 - 5.1
Redbreast Sunfish	Lepomis auritus	37	2.4 - 5.1
Spottail Shiner	Notropis hudsonius	26	
Smallmouth Bass	Micropterus dolomieu	22	1.2 - 5.9
Rockbass	Ambloplites rupestris	18	1.0 - 7.1
American Eel	Anguilla rostrata	11	
Longnose Dace	Rhinichthys cataractae	11	
Banded Killifish	Fundulus diaphanus	8	
Bluegill	Lepomis macrochirus	3	5.7
Margined Madtom	Noturus insignis	3	
Yellow Bullhead	Ameiurus natalis	3	1.6 - 8.1
Redfin Pickerel	Esox americanus americanus	2	4.7
Hybrid Green x Bluegill	Lepomis cyanellus x macrochirus	2	2.4 – 4.1
Brown Bullhead	Ameiurus nebulosus	1	8.7
Common Carp	Cyprinus carpio	1	
Golden Shiner	Notemigonus crysoleucas	1	
Swallowtail Shiner	Notropis procne	1	



Green Sunfish

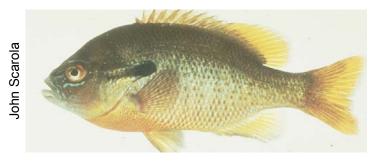




Spottail Shiner



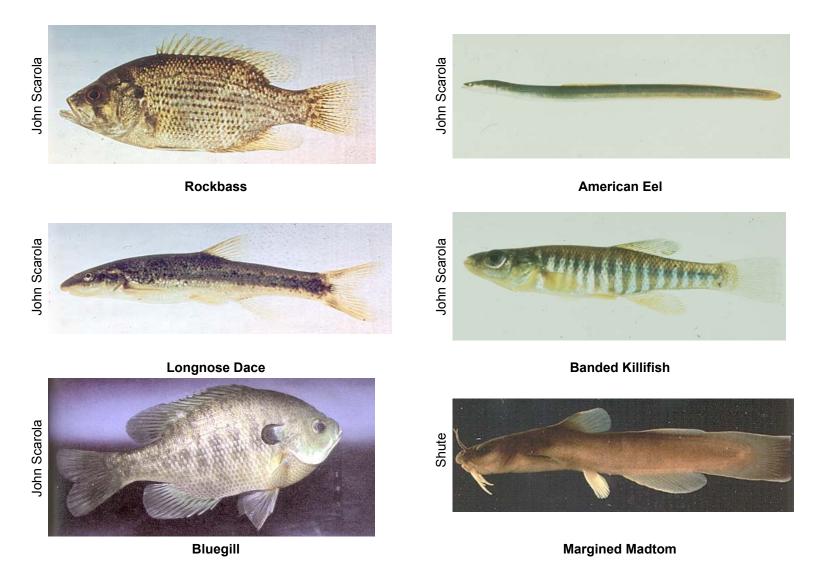
White Sucker



Redbreast Sunfish



Smallmouth Bass





Yellow Bullhead



Redfin Pickerel

No Picture Available

Hybrid Green Sunfish X Bluegill

John Scarola



Brown Bullhead



Golden Shiner

Common Carp



Swallowtail Shiner