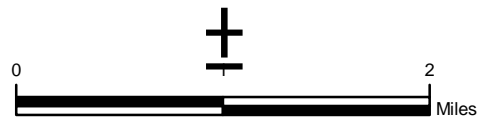
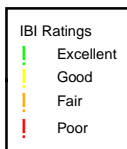
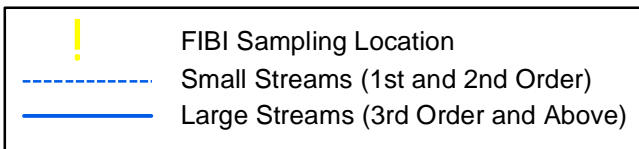
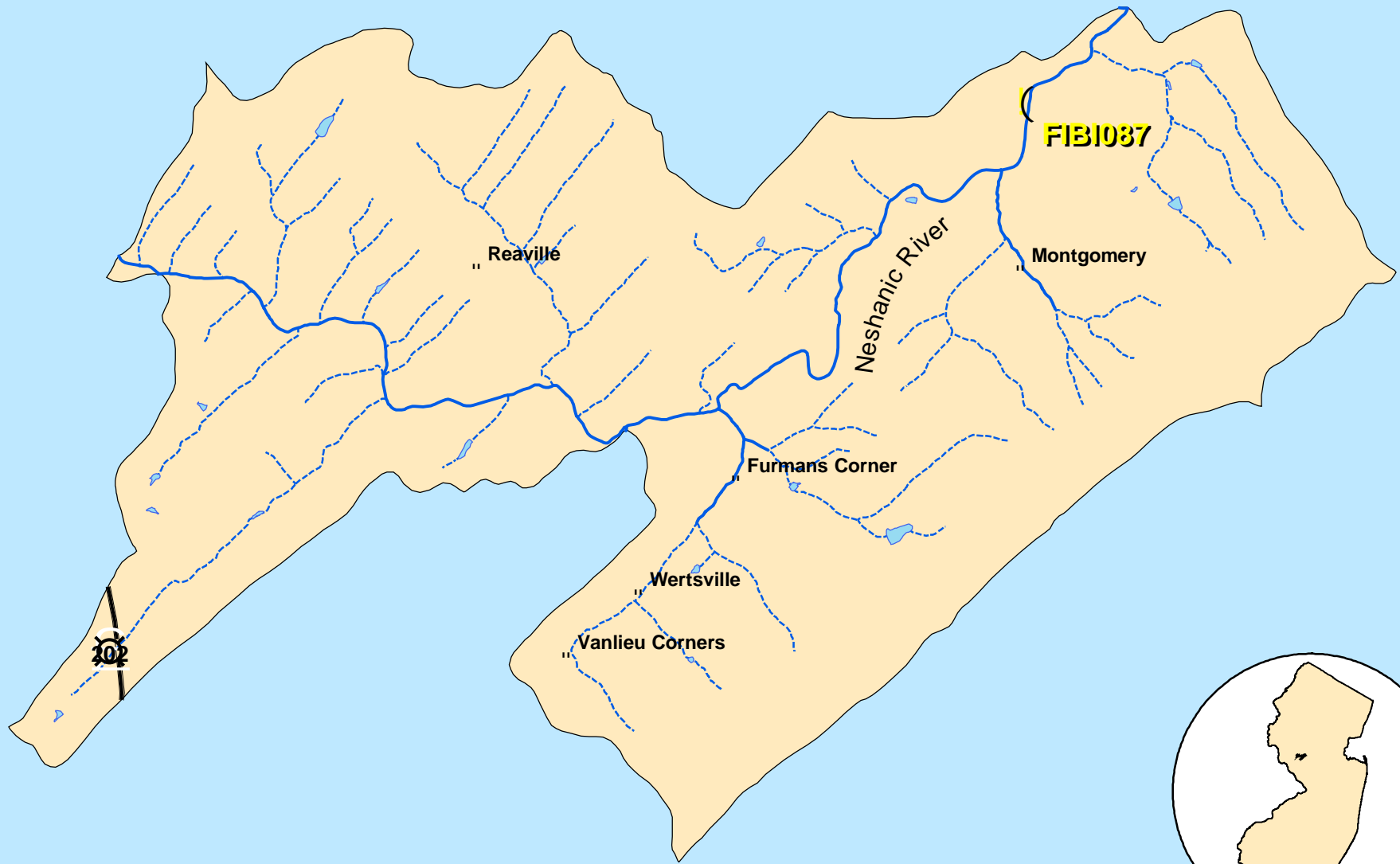


# Neshanic River - FIBI087



# 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 <sup>1</sup> 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 °C
pH	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. <sup>3</sup> /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

<sup>1</sup> 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



0 0.1 Miles



3

**Legend**

- ! Start
- ! Finish
- ↻ Direction of Flow
- Segment Sampled

**FIBI087- @ Neshanic River**  
**Date Sampled - 7/16/2004**

Excellent **Good** Fair Poor

	<b>Score</b>
# of Fish Species	5
# of Benthic Insectivorous Species (BI)	5
# of Trout and Centrarchid Species (trout, bass, sunfish, crappie)	5
# of Intolerant Species (IS)	3
Proportion of Individuals as White Suckers	3
Proportion of Individuals as Generalists (carp, creek chub, banded killifish, goldfish, fathead minnow, green sunfish)	5
Proportion of Individuals as Insectivorous <b>Cyprinids</b> (I and BI)	1
Proportion of Individuals as Trout OR Proportion of Individuals as Piscivores (Excluding American Eel)*	3
Number of Individuals in Sample	5
Proportion of Individuals w/disease/anomalies (excluding blackspot)	5
Total	<b>40</b>

<b><u>Stream Rating</u></b>	
<b>45-50</b>	<b>Excellent</b>
<b>37-44</b>	<b>Good</b>
<b>29-36</b>	<b>Fair</b>
<b>10-28</b>	<b>Poor</b>

# HABITAT ASSESSMENT FOR *HIGH GRADIENT STREAMS* Neshanic River (FIB1087) – 7/16/04

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
<b>1. Epifaunal Substrate /Available Cover</b>  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).  <b>SCORE 15</b>	20 19 18 17 16					15 14 13 12 11					10 9 8 7 6					5 4 3 2 1 0				
<b>2. Embeddedness</b>  Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space  <b>SCORE 13</b>	20 19 18 17 16					15 14 13 12 11					10 9 8 7 6					5 4 3 2 1 0				
<b>3. Velocity/Depth Regimes</b>  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)  <b>SCORE 13</b>	20 19 18 17 16					15 14 13 12 11					10 9 8 7 6					5 4 3 2 1 0				
<b>4. Sediment Deposition</b>  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.  <b>SCORE 18</b>	20 19 18 17 16					15 14 13 12 11					10 9 8 7 6					5 4 3 2 1 0				
<b>5. Channel Flow Status</b>  Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.  <b>SCORE 16</b>	20 19 18 17 16					15 14 13 12 11					10 9 8 7 6					5 4 3 2 1 0				
<b>6. Channel Alteration</b>  Channelization or dredging absent or minimal; stream with normal pattern.  <b>SCORE 15</b>	20 19 18 17 16					15 14 13 12 11					10 9 8 7 6					5 4 3 2 1 0				
<b>7. Frequency of Riffles (or bends)</b>  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.  <b>SCORE 7</b>	20 19 18 17 16					15 14 13 12 11					10 9 8 7 6					5 4 3 2 1 0				
<b>8. Bank Stability (score each bank)</b> Note: determine left or right side by facing downstream.  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				
<b>9. Bank Vegetative Protection (score each bank)</b>  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.  SCORE <u>10</u> (LB) SCORE <u>5</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				
<b>10. Riparian Vegetative Zone Width (score each bank riparian zone)</b>  Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.  SCORE <u>9</u> (LB) SCORE <u>5</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				

**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**

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

**Species Identified at Neshanic River (FIBI087)**  
(Not to Scale)

John Scarola



**Tessellated Darter**

John Scarola



**White Sucker**

Konrad Schmidt



**Green Sunfish**

John Scarola



**Redbreast Sunfish**

Konrad Schmidt



**Spottail Shiner**

John Scarola



**Smallmouth Bass**

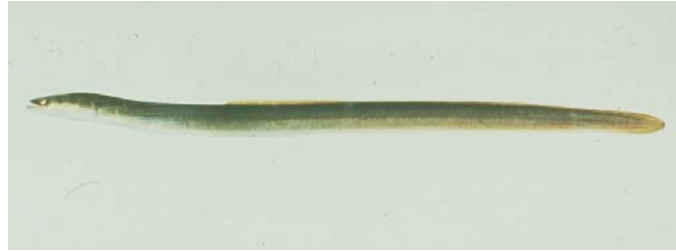
**Species Identified at Neshanic River (FIBI087)**  
(Not to Scale)

John Scarola



**Rockbass**

John Scarola



**American Eel**

John Scarola



**Longnose Dace**

John Scarola



**Banded Killifish**

John Scarola



**Bluegill**

Shute



**Margined Madtom**



**Species Identified at Neshanic River (FIBI087)**  
(Not to Scale)

John Scarola



**Yellow Bullhead**

Jenkins, Burkhead



**Redfin Pickerel**

**No Picture Available**

John Scarola



**Brown Bullhead**

**Hybrid Green Sunfish X Bluegill**

John Scarola



**Common Carp**

John Scarola



**Golden Shiner**

**Species Identified at Neshanic River (FIBI087)**  
(Not to Scale)

Jenkins, Burkhead



**Swallowtail Shiner**