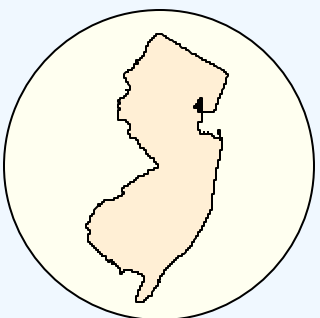
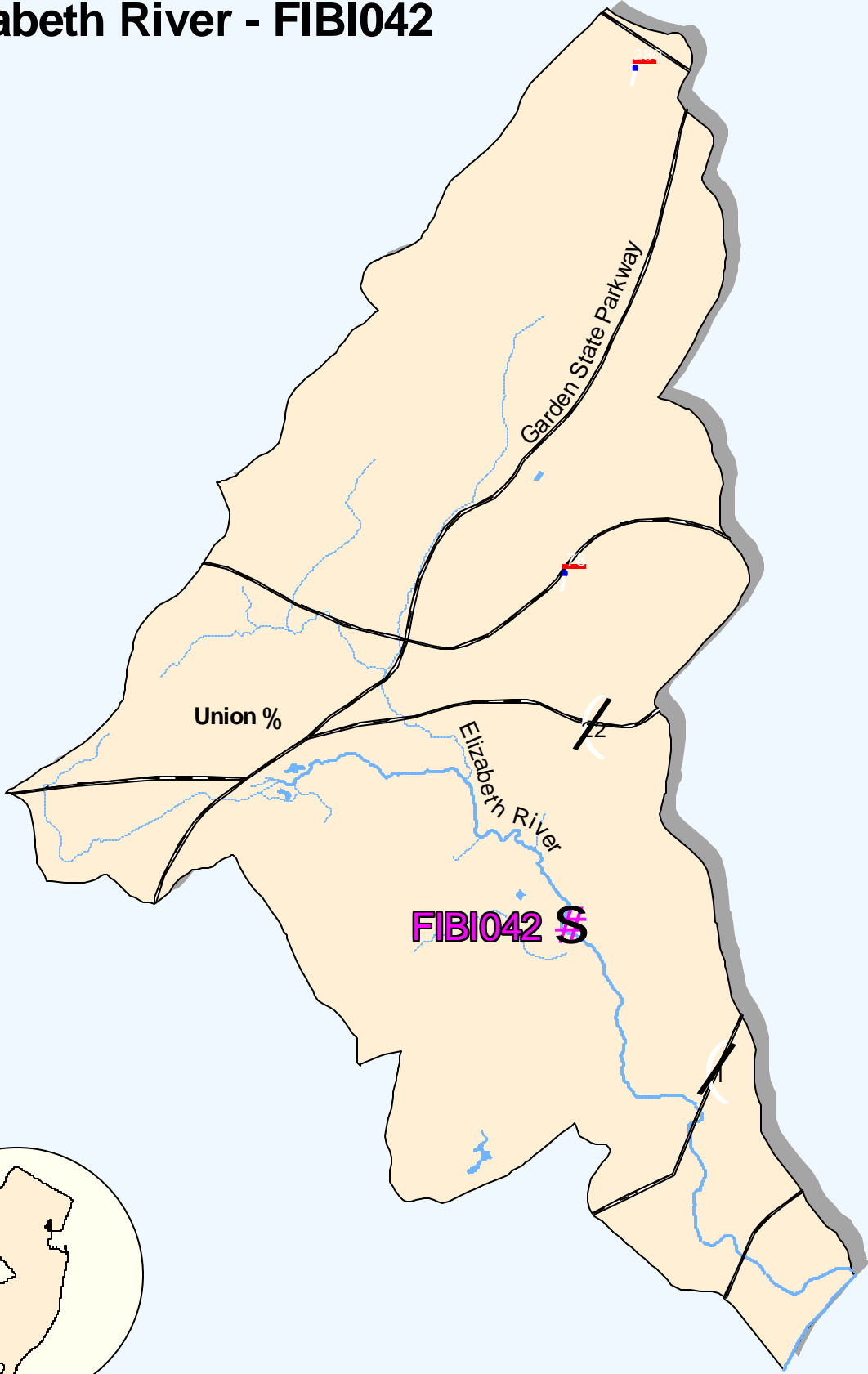
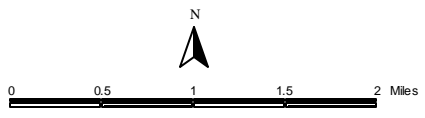


Elizabeth River - FIBI042



- S** FIBI Sampling Location
- Small Streams (1st and 2nd Order)
- Large Streams (3rd Order and Above)



SUMMARY OF RESULTS

FIBI042 - Elizabeth River



1. Stream Name:	Elizabeth River
2. Sampling Date:	06-20-2002
3. Sampling Location:	North Ave (40 40 39.37; -74 13 31.52)
4. Municipality:	Hillside Twp.
5. County:	Union
6. Watershed Management Area:	7
7. Contributing Drainage Area:	13.8 Square Miles
8. Electrofishing Gear:	2 Backpack
9. FIBI Score and Rating:	26 - Poor
10. Habitat Score and Rating:	87 - Marginal
11. Fishable Species Present:	Yes
12. Relevant AMNET ¹ Station Data	
Proximity of FIBI station to AMNET station:	AN0204
AMNET Rating:	Round 1 – SEVERE; Round 2 – NA
13. Stream Chemistries	
Dissolved Oxygen:	6.7 mg/L
Temperature:	19.7 °C
pH:	7
Conductivity:	678 µmhos/cm
14. Number of Fish with Anomalies:	0
15. Length of Stream Segment Sampled:	150 Meters
16. Water Clarity:	Clear
17. Average Open Forest Canopy:	100%
18. Discharge:	23.22 ft. ³ /sec
19. Substrate:	50% Gravel and Sand, 10% Cobble, 0% Boulder, 20% Clay, 20% Silt
20. Habitat:	10% Riffle, 20% Run, 70% Pool
21. Snags:	No
22. Periphyton:	Moderate
23. Submerged Aquatic Vegetation:	Yes
24. Other Observations:	Filamentous Algae Abundant
25. Number of Fish Species Identified:	5
26. Total Number of Fish Collected:	256

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.

FIBIO42
ELIZABETH RIVER
North Avenue
Hil lside Township, Union County



0 0.1 Miles

LEGEND	
#	Start
#	Finish
—	Segment Sampled
Ⓜ	Direction of Flow

FIBI042 - Elizabeth River @ North Avenue
Date Sampled - 6/20/2002

Excellent Good Fair **Poor**

	Score
# of Fish Species	3
# of Benthic Insectivorous Species (BI)	1
# of Trout and Centrarchid Species (trout, bass, sunfish, crappie)	1
# of Intolerant Species (IS)	1
Proportion of Individuals as White Suckers	5
Proportion of Individuals as Generalists (carp, creek chub, banded killifish, goldfish, fathead minnow, green sunfish)	3
Proportion of Individuals as Insectivorous Cyprinids (I and BI)	1
Proportion of Individuals as Trout *whichever gives better score OR	
Proportion of Individuals as Piscivores (Excluding American Eel)*	1
Number of Individuals in Sample	5
Proportion of Individuals w/disease/anomalies (excluding blackspot)	5
Total	26

Stream Rating

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

	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. 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). SCORE 8	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
2. Embeddedness Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space SCORE 11	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
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) SCORE 8	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
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. SCORE 8	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
5. Channel Flow Status Water reaches base of both lower banks, and minimal amount of channel substrate is exposed. SCORE 15	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
6. Channel Alteration Channelization or dredging absent or minimal; stream with normal pattern. SCORE 11	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
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. SCORE 8	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
8. Bank Stability (score each bank) Note: determine left or right side by facing downstream. SCORE <u>6</u> (LB) SCORE <u>1</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, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally. SCORE <u>5</u> (LB) SCORE <u>2</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
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. SCORE <u>2</u> (LB) SCORE <u>2</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

87

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

FIBI042 06-20-2002

Elizabeth River

LISTED IN ORDER OF ABUNDANCE FOUND

COMMON NAME	SCIENTIFIC NAME	# FOUND	SIZE RANGE (INCHES)
Mummichog	<i>Fundulus heteroclitus</i>	180	
Banded Killifish	<i>Fundulus diaphanus</i>	71	
Fathead Minnow	<i>Pimephales promelas</i>	3	
Pumpkinseed*	<i>Lepomis gibbosus</i>	1	3.0
Western Mosquito Fish	<i>Gambusia affinis</i>	1	

* Regulated as a fishable species under current New Jersey Fish and Wildlife codes

Species Identified at Elizabeth River (FIBI042)
(Not to Scale)

John Scarola



Mummichog

Robert McDowall



Western Mosquito Fish

William Roston



Fathead Minnow

John Scarola



Banded Killifish

John Scarola



Pumpkinseed