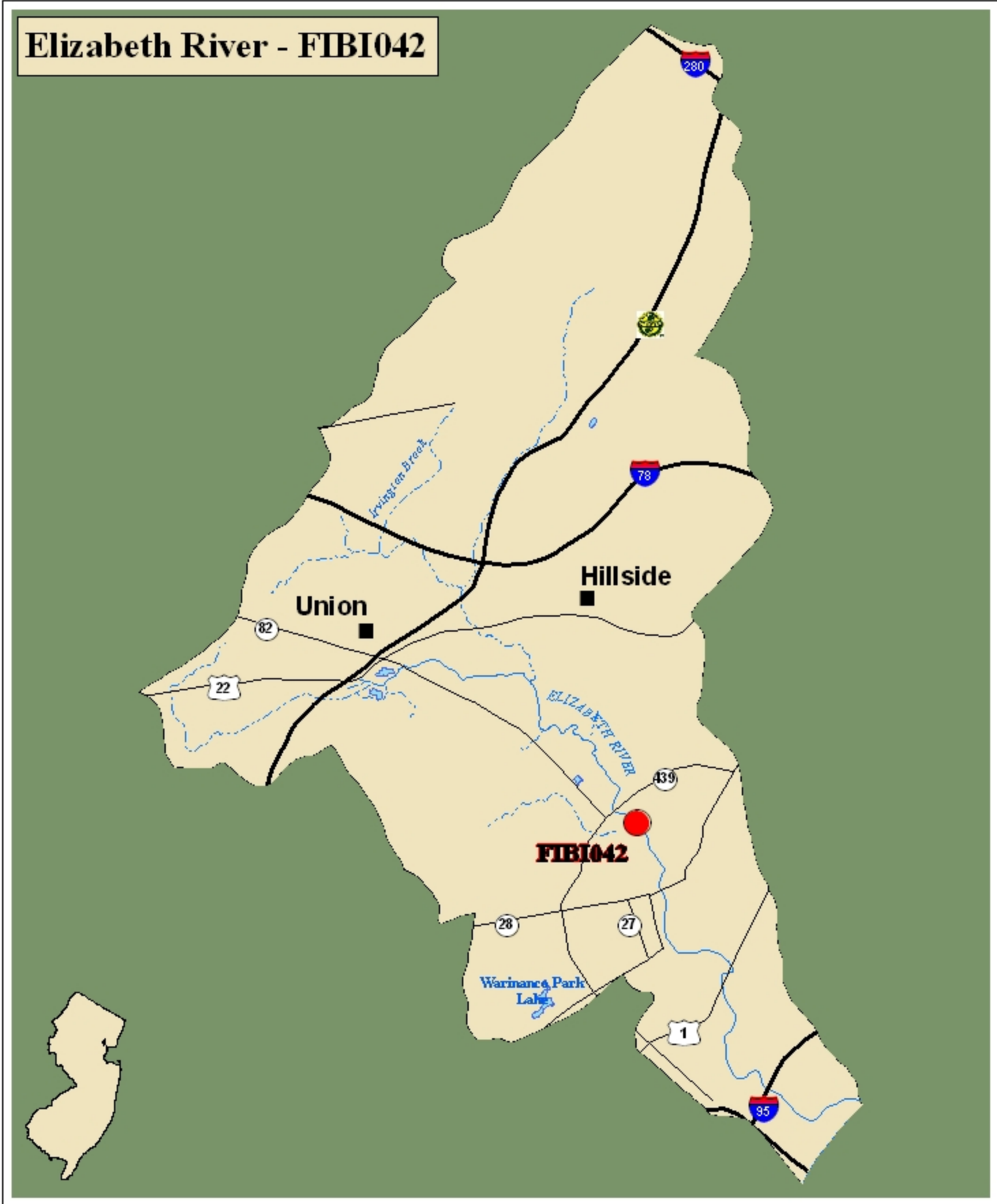
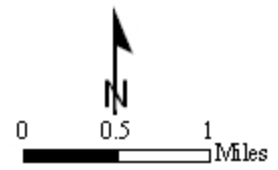


Elizabeth River - FIBI042



Excellent	FIBI Sampling Location
Good	1st & 2nd Order Streams
Fair	3rd Order and Higher Streams
Poor	



SUMMARY OF RESULTS – FIBI042



1. Stream Name:	Elizabeth River
2. Sampling Date:	6/19/2007
3. Sampling Location:	North Avenue
4. Municipality:	Hillside Township
5. County:	Union
6. Watershed Management Area:	7
7. Contributing Drainage Area (Sq. Mi.):	13.8
8. Electrofishing Gear:	2 Backpacks
9. FIBI Score and Rating:	Round 1* Poor (26); Round 2 Poor (12)
10. Habitat Score and Rating:	Round 1 Marginal (87); Round 2 Marginal (78)
11. Fishable Species Present:	Yes
12. Relevant AMNET ¹ Station Data:	
Proximity of FIBI station to AMNET station:	AN0204
AMNET Rating:	1998 – Non-Impaired; 2004 – Moderate
13. Stream Chemistries:	
Dissolved Oxygen (mg/l)	6.23
Temperature °C.	21.68
pH	7.06
Conductivity (µmhos/cm)	883
14. Length of Stream Sampled:	150m
15. Water Clarity:	Clear
16. Average Open Forest Canopy:	89.2%
17. Discharge:	6.02 cfs
18. Substrate:	25% Gravel/Sand, 35% Cobble, 20% Mud, 20% Silt
19. Habitat:	25% Riffle, 65% Run, 10% Pool
20. Snags:	Yes
21. Periphyton:	Slight
22. Submerged Aquatic Vegetation:	No
23. Outfalls:	2
24. Number of Fish Species Identified:	3
25. Total Number of Fish Collected:	28
26. Number of Fish With Anomalies:	1
27. Other Observations:	Fish abundance and richness extremely low. Right descending bank severely eroded.

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

* Round 1 data was scored prior to the FIBI metric recalibration.

FIBI042
ELIZABETH RIVER
LAKEVIEW DRIVE
HILLSIDE TWP., UNION COUNTY



- Start
- Finish
- ⊕ Outfall
- Sampling Reach
- ← Direction of Flow
- ▨ Severe Bank Erosion

FIBI042-Elizabeth River @ North Ave
Date Sampled - 6/19/2007

Excellent Good Fair **Poor**

	Score
# of Fish Species	1
# of Benthic Insectivorous Species (BI) (excluding White Suckers and Bullheads)	1
# of Trout and Centrarchid Species (excluding Green Sunfish and Bluegill)	1
# of Intolerant Species (IS)	1
Proportion of Tolerant Individuals	1
Proportion of Individuals as Generalists	1
Proportion of Individuals as Insectivorous Cyprinids	1
Proportion of Individuals as Trout *whichever gives better score OR Proportion of Individuals as Piscivores (excluding American Eel)*	1
# of Individuals in Sample (excluding Tolerant Species)	1
Proportion of Individuals w/disease/anomalies (excluding blackspot)	3
Total	12

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

HABITAT ASSESSMENT FOR *HIGH GRADIENT STREAMS* Elizabeth River (FIBI042) – 6/19/07

	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 6	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 7	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 12	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 6	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 11	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 10	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 10	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.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.																					
	SCORE 6 (LB)	Left	10	9			8	7		6		5	4	3			2	1		0		
	SCORE 0 (RB)	Right	10	9			8	7		6		5	4	3			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.																					
	SCORE 6 (LB)	Left	10	9			8	7		6		5	4	3			2	1		0		
	SCORE 1 (RB)	Right	10	9			8	7		6		5	4	3			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 2 (LB)	Left	10	9			8	7		6		5	4	3			2	1		0		
	SCORE 1 (RB)	Right	10	9			8	7		6		5	4	3			2	1		0		

HABITAT SCORE

78

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

FIBI042-R2

Elizabeth River

06/19/2007

Common Name	Scientific Name	Abundance
Mummichog	<i>Fundulus heteroclitus</i>	23
Banded Killifish	<i>Fundulus diaphanus</i>	4
Green Sunfish	<i>Lepomis cyanellus</i>	1

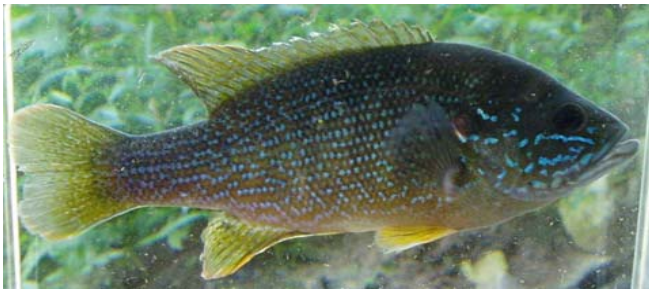
Species Identified at Elizabeth River (FIBI042)



Mummichog



Banded Killifish



Green Sunfish