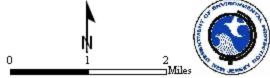


Excellent
Good
Fair
Poor

FIBI Sampling Location
----1st & 2nd Order Streams
----3rd Order and Higher Streams



SUMMARY OF RESULTS - FIBI060



1. Stream Name: Musquapsink Brook 6/26/2007 2. Sampling Date: 3. Sampling Location: Harrington Avenue 4. Municipality Westwood Boro 5. County: Bergen 6. Watershed Management Area: 5 7. Contributing Drainage Area (Sq. Mi.): 8. Electrofishing Gear: 2 Backpacks 9. FIBI Score and Rating: Round 1* Fair (34); Round 2 Poor (22) 10. Habitat Score and Rating: Round 1 Sub-Optimal (134); Round 2 Sub-Optimal (110) 11. Fishable Species Present: Yes 12. Relevant AMNET¹ Station Data: Proximity of FIBI station to AMNET station: AN0206 AMNET Rating: 1993 – Moderate; 1998 – Moderate; 2003 – Moderate 13. Stream Chemistries: Dissolved Oxygen (mg/l) 7.12 Temperature ⁶C. 20.13 рН 6.61 Conductivity (µmhos/cm) 657 14. Length of Stream Sampled: 150m Slightly Turbid 15. Water Clarity: 16. Average Open Forest Canopy: 12.5% 17. Discharge: 9.20 cfs 18. Substrate: 45% Gravel/Sand, 30% Cobble, 10% Mud, 10% Silt, 5% Concrete 19. Habitat: 5% Riffle, 75% Run, 20% Pool 20. Snags: Yes 21. Periphyton: None 22. Submerged Aquatic Vegetation: No 23. Outfalls: 1 24. Number of Fish Species Identified: 7 25. Total Number of Fish Collected: 147 26. Number of Fish With Anomalies: 4 27. Other Observations: Strong petroleum/chemical smell.

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.



FIBI060-Musquapsink Creek @ Harringto Date Sampled - 6/26/2007	n Ave	Excellent	Good	Fair	Poor
# of Fish Species				Score 1	
# of Benthic Insectivorous Species (BI) (excluding White Suckers and Bullheads)				1	
# of Trout and Centrarchid Species (excluding Green Sunfish and Bluegill)				5	
# of Intolerant Species (IS)				1	
Proportion of Tolerant Individuals				3	
Proportion of Individuals as Generalists				1	
Proportion of Individuals as Insectivorous C	yprinids			1	
Proportion of Individuals as Trout OR	*whicheve	r gives better	score		
Proportion of Individuals as Piscivores (excl	uding Amer	rican Eel)*		3	
# of Individuals in Sample (excluding Tolerant Species)				3	
Proportion of Individuals w/disease/anomalia (excluding blackspot)	es			3	
Total				22	

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

HABITAT ASSESSMENT FOR *HIGH* GRADIENT STREAMS Musquapsink Creek (FIBI060) – 6/26/07

	Î.	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 not new fall and not 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; lack of habitat is obvious; substrate unstable or lacking.
SCORE 9	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	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 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)	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 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.	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.	
SCORE 14	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.	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 pools.
SCORE 19	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.	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 streat reach channelized and disrupted. In stream habitat greatly altered or removed entirely.	
SCORE 13	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.	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 s riffles; poor habitat; distance between riffles divided by the width of the stream is a rational stream is a rational stream in the stream in the stream is a rational stream in the s	
SCORE 5	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.	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 sc	
SCORE 6 (LB) SCORE 7 (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 stream surfaces covered by vegetation of streambank vegetation is very high; vegetation has been remove 5 centimeters or less in avestubble height.	
SCORE 5 (LB)	Left 10 9	8 7 6	5 4 3	2 1 0
SCORE 6 (RB) 10. Riparian Vegetative Zone Width (score each bank riparian zone) SCORE 3 (LB)	Right 10 9 Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone. Left 10 9	8 7 6 Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	5 4 3 Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	2 1 0 Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
SCORE 4 (RB)	Right 10 9	8 7 6	5 4 3	2 1 0

HABITAT SCORE

110

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

FIBI060-R2

Musquapsink Brook

06/26/2007

Common Name	Scientific Name	Abundance
Tessellated Darter	Etheostoma olmstedi	67
Green Sunfish	Lepomis cyanellus	42
Redbreast Sunfish	Lepomis auritus	26
Pumpkinseed	Lepomis gibbosus	6
Largemouth Bass	Micropterus salmoides	4
Yellow Bullhead	Ameiurus natalis	1
White Sucker	Catostomus commersoni	1

Species Identified at Musquapsink Creek (FIBI060)



Tesselated Darter



Pumpkinseed



Redbreast Sunfish



Green Sunfish



Largemouth Bass



Yellow Bullhead

Species Identified at Musquapsink Creek (FIBI060)



White Sucker