

SUMMARY OF RESULTS – FIBI001



1. Stream Name:	Paulins Kill
2. Sampling Date:	9/6/00
3. Sampling Location:	Downstream of Ward x Paulins Kill Rd (40 58 48.364N; 74 55 58.468W)
4. County:	Warren
5. Watershed Management Area:	1
6. Contributing Drainage Area (Sq. Mi.):	124.4
7. Stream Water Quality Class:	FW2-TM
8. FIBI Rating:	Good (38) (See Appendix 3)
9. Habitat Assessment Rating:	Optimal (163) (See Appendix 3)
10. Fishable Species Present:	Yes
11. Relevant AMNET ¹ Station Data:	
Proximity of FIBI station to AMNET station:	1.2mi upstream AN0025
AMNET Rating:	1992 - Non-impaired; 1997 - Non-impaired
12. Stream Chemistries:	
Dissolved Oxygen (mg/l)	11
Temperature °C.	17.6
pH	7.45
Conductivity (µmhos/cm)	508
Secchi Disk (inches)	NA
13. Number of Fish With Anomalies:	3
14. Water Clarity:	clear
15. Forest Canopy:	Open
16. Flow:	fast
17. Substrate: (qualitative)	10% Gravel/Sand, 35% Cobble, 5% Boulder, 50% Bedrock
18. Habitat Type: (qualitative)	10% Riffle, 75% Run, 15% Pool
19. Other observations:	
20. Number of Fish Species Identified: (see next page)	13
21. Total Number of Fish Collected:	234

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

LISTED IN ORDER OF ABUNDANCE FOUND (see also Figure 1.1)

COMMON NAME	SCIENTIFIC NAME	# FOUND	SIZE RANGE (INCHES)
Banded Killifish	<i>Fundulus diaphanus</i>	120	
Redbreast Sunfish*	<i>Lepomis auritus</i>	30	3.1 - 7.9
Rainbow Trout*	<i>Oncorhynchus mykiss</i>	17	5.5 - 8.3
American Eel*	<i>Anguilla rostrata</i>	13	
Spottail Shiner	<i>Notropis hudsonius</i>	11	
White Sucker*	<i>Catostomus commersoni</i>	10	
Smallmouth Bass*	<i>Micropterus dolomieu</i>	10	3.0 - 7.1
Tessellated Darter	<i>Etheostoma olmsted</i>	7	
Rock Bass*	<i>Ambloplites rupestris</i>	6	3.9 - 6.1
Margined Madtom	<i>Noturus insignis</i>	6	
Yellow Bullhead*	<i>Ameiurus natalis</i>	1	
Longnose Dace	<i>Rhinichthys cataractae</i>	1	
Brown Trout*	<i>Salmo trutta</i>	1	11.2
Bluegill*	<i>Lepomis macrochirus</i>	1	5.5

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

HABITAT ASSESSMENT FOR *HIGH GRADIENT STREAMS* **PAULINS KILL (FIBI001) – 9/6/00**

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/Available Cover Greater than 50% 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 11	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. SCORE 18	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
3. Riffle Quality Well-developed riffle and run; riffle is as wide as stream and length extends two times the width of stream; abundance of cobble. (Boulders prevalent in headwater streams). SCORE 18	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 15	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 16	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 20	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. All 4 velocity/depth patterns present. SCORE 12	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> 8 </u> (LB) SCORE <u> 7 </u> (RB)	Left Bank 10 9 Right Bank 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. SCORE <u> 10 </u> (LB) SCORE <u> 10 </u> (RB)	Left Bank 10 9 Right Bank 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> 10 </u> (LB) SCORE <u> 8 </u> (RB)	Left Bank 10 9 Right Bank 10 9	8 7 6 8 7 6	5 4 3 5 4 3	2 1 0 2 1 0

HABITAT SCORE

163

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

FIBI001-Paulins Kill @ Paulins Kill Rd
Date Sampled - 9/6/2000

Excellent **Good** Fair Poor

	Score
# of Fish Species	5
# of Benthic Insectivorous Species (BI)	5
# of Trout and Centrarchid Species (trout, bass, sunfish, crappie)	5
# of Intolerant Species (IS)	5
Proportion of Individuals as White Suckers	5
Proportion of Individuals as Generalists (carp, creek chub, banded killifish, goldfish, fathead minnow, green sunfish)	1
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)*	3
Number of Individuals in Sample	3
Proportion of Individuals w/disease/anomalies (excluding blackspot)	5
Total	38

Stream Rating

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