SUMMARY OF RESULTS – FIBI016



1. Stream Name:	Pike Run
2. Sampling Date:	6/8/00
3. Sampling Location:	Mill Pond Rd (40 26 41.50N; 74 38 46.4W)
4. County:	Somerset
5. Watershed Management Area:	10
6. Contributing Drainage Area (Sg. Mi.):	21.9
7. Stream Water Quality Class:	FW2-NT
8. FIBI Rating:	Good (38) (See Appendix 3)
9. Habitat Assessment Rating:	Sub Optimal (147) (See Appendix 3)
10. Fishable Species Present:	Yes
11. Relevant AMNET ¹ Station Data:	
Proximity of FIBI station to AMNET station:	2.2mi upstream AN0405
AMNET Rating:	1994 - Moderate; 1999 - Severe
12. Stream Chemistries:	
Dissolved Oxygen (mg/l)	9.3
Temperature ${}^{0}C$.	15.4
pH	7.6
Conductivity (µmhos/cm)	285
Secchi Disk (inches)	18
13. Number of Fish With Anomalies:	0
14. Water Clarity:	turbid
15. Forest Canopy:	Mostly Closed
16. Flow:	moderate
17. Substrate: (qualitative)	NA
18. Habitat Type: (qualitative)	60% Riffle, 30% Run, 10% Pool
19. Other observations:	Filamentous Algae, Bedrock, Trash
20. Number of Fish Species Identified: (see next page)	19
21. Total Number of Fish Collected:	387

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

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

COMMON NAME	SCIENTIFIC NAME	# FOUND	SIZE RANGE (INCHES)	
Banded Killifish	Fundulus diaphanus	184	NOT MEASURED	
Blacknose Dace	Rhinichthys atratulus	60	"	
Common Shiner	Luxilus cornutus	29	"	
Tessellated Darter	Etheostoma olmstedi	22	"	
Satinfin Shiner	Cyprinella analostana	14	"	
American Eel*	Anguilla rostrata	13	"	
Creek Chubsucker	Erimyzon oblongus	9	"	
Spottail Shiner	Notropis hudsonius	9	"	
White Sucker*	Catostomus commersoni	9	"	
Redfin Pickerel*	Esox americanus americanus	7	"	
Comely Shiner	Notropis amoenus	7	"	
Bluegill*	Lepomis macrochirus	6	"	
Swallowtail Shiner	Notropis procne	5	"	
Bridle Shiner	Notropis bifrenatus	4	"	
Brown Bullhead*	Ameiurus nebulosus	3	"	
Golden Shiner	Notemigonus crysoleucas	2	"	
Rock Bass*	Ambloplites rupestris	2	"	
Redbreast Sunfish*	Lepomis auritus	1	"	
Green Sunfish*	Lepomis cyanellus	1	"	

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

HABITAT ASSESSMENT FOR *HIGH* GRADIENT STREAMS **PIKE RUN (FIBI016) – 6/8/00**

TL L 1 4	Condition Category											
Habitat Parameter	Ор	timal	Subopti	imal	Ma	rginal		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 not transien)		30-50% 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).		10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.		Less than 10 ^o of habitat is o unstable or la	% stable habitat; lack bvious; substrate acking.				
SCORE 14	20 19	18 17 16	15 14 13	12 11	10 9	8 7 6	54	3 2 1 0				
2. Embeddedness SCORE 8	Gravel, cobble, particles are 0-2 by fine sedimer 20 19	and boulder 25% surrounded nt. 18 17 16	Gravel, cobble, and particles are 25-509 by fine sediment. 15 14 13	Ivel, cobble, and boulder Gravel, cobble, and boulder ticles are 25-50% surrounded particles are 50-75% surrounded fine sediment. by fine sediment. 15 14 13 12 10 9 7 6			Gravel, cobble, and boulder particles are more than 75% surrounded by fine sediment. 5 4 3 2 1 0					
3. Riffle Quality	Well-developed riffle is as wide length extends t width of stream cobble. (Boulde headwater strea	I riffle and run; as stream and two times the a; abundance of ers prevalent in ms).	Riffle is as wide as length is less than t width; abundance of boulders and grave	stream but wo times of cobble; l common.	Run area may be lacking; riffle not as wide as stream and its length is less than 2 times the stream width; gravel or bedrock prevalent; some cobble present.		Riffles or run nonexistent; cobble lackin	ıs virtually bedrock prevalent; Ig				
SCORE 13	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 enla islands or point 5% (<20% for l streams) of the by sediment dep	argement of bars and less than low-gradient bottom affected position.	Some new increase formation, mostly f sand or fine sedime 50% for low-gradie bottom affected; sli in pools.	in bar from gravel, .nt; 5-30% (20- ent) of the ght deposition	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		Heavy deposits of fine material, increased bar development; more than 50% (80% for low-gradient) of the bottom changing frequently; pools almost absent due to substantial sediment deposition.					
SCORE 9	20 19	18 17 16	15 14 13	12 11	10 9	8 7 6	54	3 2 1 0				
5. Channel Flow Status SCORE 18	Water reaches b banks, and mini- channel substra 20 19	base of both lower imal amount of te is exposed.	Water fills >75% o channel; or <25% o substrate is expose 15 14 13	f the available of channel d. 12 11	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.					
6. Channel Alteration	Channelization absent or minin normal pattern.	or dredging aal; stream with	Some channelizatii usually in areas of l abutments; evidenc channelization, i.e. (greater than past 2 present, but recent is not present.	on present, oridge ee of past , dredging, 0 yr.) may be channelization	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 stream reach channelized and disrupted. In stream habitat greatly altered or removed entirely.					
SCORE 18	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 r frequent; ratio o between riffles of the stream < 7); variety of ha streams where r continuous, pla boulders or oth obstruction is ir velocity/depth p	iffles relatively of distance divided by width 7:1 (generally 5 to abitat is key. In iffles are cement of er large, natural mportant. All 4 patterns present.	Occurrence of riffle distance between ri by the width of the between 7 to 15. O velocity/depth patte (i.e. slow [<0.3 m/s m]; slow-shallow; : shallow).	es infrequent; ffles divided stream is nly 3 of 4 erms present -J-deep [>0.5 fast-deep; fast-	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25. May be only 2 velocity/depth patterns present; usually lacking deep areas.		flat water or shallow nabitat; distance es divided by the stream is a ratio of ted by one th pattern.					
SCORE 11	20 19 18 17 16		20 19 18 17 16 15 14 13 12		15 14 13 12 📘		10 9 8 7 6		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; ev or bank failure a little potential fo problems. <5%	vidence of erosion absent or minimal; or future of bank affected.	Moderately stable; small areas of erosi healed over. 5-30% reach has areas of e	infrequent, on mostly of bank in prosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods. Unstable; many er "raw" areas freque straight sections an obvious bank slou, 100% of bank has		ny eroded areas; requent along ons and bends; c sloughing; 60- k has erosional scars.					
SCORE9(LB) SCORE9 (RB)	Left Bank I Right Bank	10 9 10 9	8 7 8 7	6	5	4 3 4 3	2	1 0 1 0				
9. Bank Vegetative Protection (score each bank)	More than 90% surfaces and im zone covered by vegetation, incl story shrubs, or macrophytes; v disruption throo mowing minim almost all plant naturally.	of the streambank mediate riparian y native uding trees, under nonwoody egetative ugh grazing or al or not evident; s allowed to grow	70-90% of the streat surfaces covered by vegetation, but one is not well-represer evident but not affe growth potential to extent; more than o potential plant stub remaining.	ambank y native class of plants ated; disruption wring full plant any great ne-half of the ble height	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 th surfaces covered by disruption of strean vegetation has been centimeters or less stubble height.		% of the streambank ered by vegetation; 'streambank very high; is been removed to 5 or less in average it.					
SCORE9(LB) SCORE9 (RB)	Left Bank 1 Right Bank 1	10 9 10 9	<u>8</u> 7 87	6	5	<u>4</u> 3 4 3	2	1 0 1 0				
10. Riparian Vegetative Zone Width (score each bank riparian zone) SCORE 10 (LB)	Width of riparia meters; human parking lots, rou lawns, or crops) impacted zone. Left Bank	an zone >18 activities (i.e., adbeds, clear-cuts,) have not 9	Width of riparian z meters; human acti impacted zone only 8 7	one 12-18 vities have minimally.	Width of ripari meters; human impacted zone	ian zone 6-12 activities have a great deal.	Width of ripa little or no rip to human act	arian zone <6 meters: parian vegetation due ivities.				
SCORE 10 (RB)	Right Bank	0 9	8 7	6	5	4 3	2	1 0				

HABITAT SCORE

147	
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HABITAT SCORES	VALUE
OPTIMAL	160 C 200
SUB-OPTIMAL	110 C 159
MARGINAL	60 C 109
POOR	< 60

FIBI016-Pike Run @ Mill Pond Rd Date Sampled - 6/8/2000	Excellent	Good	Fair	Poor
			Score	_
# of Fish Species			5	
# of Benthic Insectivorous Species (BI)			5]
# of Trout and Centrarchid Species (trout, bas	ss, sunfish, crappie)		5]
# of Intolerant Species (IS)			1]
Proportion of Individuals as White Suckers			5]
Proportion of Individuals as Generalists (carp,	creek chub, banded killifish	,	1]
goldfish, fathead minnow, green sunfish)			r	1
Proportion of Individuals as Insectivorous Cy	orinids (I and BI)		3]
Proportion of Individuals as Trout OR	*whichever gives bett	er score		
Proportion of Individuals as Pisciviores (Exclu	iding American Eel)*		3]
Number of Individuals in Sample			5]
Proportion of Individuals w/disease/anomalies	s (excluding blackspot))	5]
Total			38]
Stream Rating				
45-50 Excellent				
<u>Stream Rating</u> 45-50 Excellent				

Good

Fair

Poor

37-44 29-36

10-28