

SUMMARY OF RESULTS – FIBI029



Alexauken Creek 1. Stream Name: 07/12/2001 2. Sampling Date: off Alexauken Ck Rd. (40 23 16N; 74 56 33W) 3. Sampling Location: W. Amwell Twp. 4. Municipality Hunterdon 5. County: 6. Watershed Management Area: 11 7. Contributing Drainage Area (Sq. Mi.): 14.3 FW2-TM 8. Stream Water Quality Class: 9. FIBI Rating: Good (38) (See Appendix 3) Suboptimal (158) (See Appendix 3) 10. Habitat Assessment Rating: Yes 11. Fishable Species Present:

12. Relevant AMNET¹ Station Data:

Proximity of FIBI station to AMNET station: 0.67 mi. upstream of AN0098

AMNET Rating: 1992-Non-Impaired; 1997-Non-Impaired

13. Stream Chemistries:

Dissolved Oxygen (mg/l) 9.1 Temperature ⁰C. 19.9

Temperature C. 19.9 pH 7.9 Conductivity (µmhos/cm) 250

14. Number of Fish With Anomalies: 0

15. Length of Stream Segment Sampled 150 meters (492 feet)

16. Water Clarity: Clear

17. Average Forest Open Canopy: 35%, Mostly Open

18. Discharge (ft. 3/sec.): 10.9

19. Substrate: (qualitative) 20% Gravel/Sand, 75% Cobble, 5% Boulder

20. Habitat Type: (qualitative) 30% Riffle, 45% Run, 25% Pool 21. Other observations: Trash (tires, batteries, debris)

22. Number of Fish Species Identified: (see next page)
23. Total Number of Fish Collected:
582

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.



FIBI029 - Alexauken Ck off Alexauken Creek Rd Excellent Good Date Sampled - 7/12/2001	Fair Poor
# of Fish Species	Score 5
# of Benthic Insectivorous Species (BI)	5
# of Trout and Centrarchid Species (trout, bass, sunfish, crappie)	5
# of Intolerant Species (IS)	3
Proportion of Individuals as White Suckers	1
Proportion of Individuals as Generalists (carp, creek chub, banded killifish,	5
goldfish, fathead minnow, green sunfish) Proportion of Individuals as Insectivorous Cyprinids (I and BI)	3
Proportion of Individuals as Trout *whichever gives better score	
OR Proportion of Individuals as Pisciviores (Excluding American Eel)*	1
Number of Individuals in Sample	5
Proportion of Individuals w/disease/anomalies (excluding blackspot)	5
Total	38

Stream Rating

45-50 Excellent37-44 Good29-36 Fair10-28 Poor

HABITAT ASSESSMENT FOR *HIGH* GRADIENT STREAMS Alexauken Creek (FIBI029) – 7/12/01

	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; lacl of habitat is obvious; substrate unstable or lacking.	
SCORE 12	20 19 18 17 16	15 14 13 <mark>12</mark> 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 18	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 15	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.	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	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 17	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 stream reach channelized and disrupted. In stream habitat greatly altered or removed entirely.	
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.	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 shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.	
SCORE 15	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 scars.	
SCORE7 (LB) SCORE9 (RB)	Left Bank 10 9 Right Bank 10	8 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 streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.	
SCORE8(LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0	
SCORE10(RB) 10. Riparian Vegetative Zone Width (score each bank riparian zone)	Right Bank 9 Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	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.	
SCORE8(LB)	Left Bank 10 9	7 6	5 4 3	2 1 0	
SCORE10_ (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0	

HABITAT SCORE

158

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

FIBI029 07/12/01 ALEXAUKEN CREEK

LISTED IN ORDER OF ABUNDANCE FOUND

COMMON NAME	SCIENTIFIC NAME	# FOUND	SIZE RANGE (INCHES)
White Sucker*	Catostomus commersoni	184	
Blacknose Dace	Rhinichthys atratulus	182	
American Eel*	Anguilla rostrata	137	
Redbreast Sunfish*	Lepomis auritus	15	1.8 - 5.5
Longnose Dace	Rhinichthys cataractae	13	
Rock Bass*	Ambloplites rupestris	11	2.4 - 6.3
Fallfish	Semotilus corporalis	11	
Tesselated Darter	Etheostoma olmstedi	8	
Margined Madtom	Noturus insignis	4	
Banded Killifish	Fundulus diaphanus	4	
Bluegill*	Lepomis macrochirus	4	1.8 - 3.3
Yellow Perch*	Perca flavescens	4	2.0 - 2.8
Smallmouth Bass*	Micropterus dolomieu	2	3.0 - 4.9
Swallowtail Shiner	Notropis procne	1	
Green Sunfish*	Lepomis cyanellus	1	2.7
Yellow Bullhead*	Ameiurus natalis	1	9.4

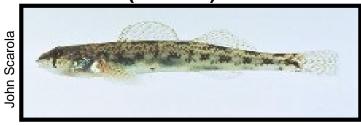
^{*} Regulated as a fishable species under current New Jersey Fish and Wildlife codes

FIGURE 1.1 (Not To Scale)

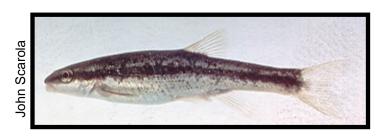
Species Identified at Alexauken Creek (FIBI029)



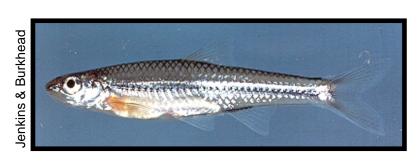
White Sucker



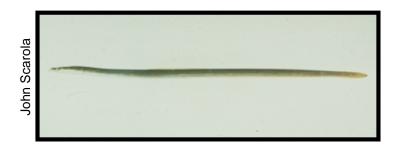
Tesselated Darter



Blacknose Dace



Swallowtail Shiner



American Eel



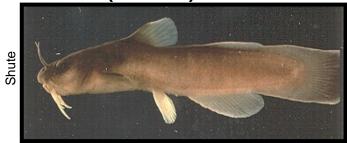
Bluegill

FIGURE 1.1 (Not To Scale)

Species Identified at Alexauken Creek (FIBI029)



Longnose Dace



Margined Madtom



Yellow Bullhead



Redbreast Sunfish



Rock Bass



Fallfish

FIGURE 1.1 (Not To Scale)

Species Identified at Alexauken Creek (FIBI029)



Smallmouth Bass



Yellow Perch



Green Sunfish



Banded Killifish