

Meadow Brook - FIBI011a

Drainage Area of FIBI011a: 5.6 Square Miles
Surface Water Quality Classification of FIBI011a
FW2-TP(C1)



- S** FIBI Sampling Location
- Small Streams (1st and 2nd Order)
- Large Streams (3rd Order and Above)



SUMMARY OF RESULTS – FIBI011a



1. Stream Name:	Meadow Brook
2. Sampling Date:	08/28/2001
3. Sampling Location:	downstream of Belmont Ave. crossing (41 02 59N; 74 17 11W)
4. Municipality:	Wanaque Boro.
5. County:	Passaic
6. Watershed Management Area:	3
7. Contributing Drainage Area (Sq. Mi.):	5.6
8. Stream Water Quality Class:	FW2-TP(C1)
9. FIBI Rating:	Good (42) (See Appendix 3)
10. Habitat Assessment Rating:	Suboptimal (130) (See Appendix 3)
11. Fishable Species Present:	Yes
12. Relevant AMNET ¹ Station Data:	
Proximity of FIBI station to AMNET station:	0.81 mi. upstream of AN0256a
AMNET Rating:	1998-Moderately Impaired
13. Stream Chemistries:	
Dissolved Oxygen (mg/l)	7.8
Temperature °C.	18.5
pH	8.3
Conductivity (µmhos/cm)	275
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:	16%
18. Discharge (ft. ³ /sec.):	2.0
19. Substrate: (qualitative)	40% Gravel/Sand, 50% Cobble, 5% Boulder, 5% Silt
20. Habitat Type: (qualitative)	30% Riffle, 50% Run, 20% Pool
21. Other observations:	N/A
22. Number of Fish Species Identified: (see next page)	11
23. Total Number of Fish Collected:	338

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.

FIBI011a
MEADOW BROOK
downstream of Belmont Ave.
Wanaque, Passaic Co.



FIBI011a-Meadow Brook @ dwnstr of Belmont Ave Excellent **Good** Fair Poor
Date Sampled - 8/28/2001

	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	3
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)	5
Proportion of Individuals as Trout *whichever gives better score OR	
Proportion of Individuals as Piscivores (Excluding American Eel)*	3
Number of Individuals in Sample	5
Proportion of Individuals w/disease/anomalies (excluding blackspot)	5
Total	42

Stream Rating

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

	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 18	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 16	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 16	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 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. 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. SCORE 16	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 13	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> 1 </u> (LB) SCORE <u> 1 </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) SCORE <u> 7 </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
10. Riparian Vegetative Zone Width (score each bank riparian zone) SCORE <u> 2 </u> (LB) SCORE <u> 2 </u> (RB)	Left Bank 10 9 Right Bank 10 9	8 7 6 8 7 6	5 4 3 5 4 3	1 0 1 0

HABITAT SCORE

130

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

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MEADOW BROOK

LISTED IN ORDER OF ABUNDANCE FOUND

COMMON NAME	SCIENTIFIC NAME	# FOUND	SIZE RANGE (INCHES)
Creek Chub	<i>Semotilus atromaculatus</i>	165	
Blacknose Dace	<i>Rhinichthys atratulus</i>	41	
Tessellated Darter	<i>Etheostoma olmstedii</i>	36	
White Sucker*	<i>Catostomus commersoni</i>	36	
Brown Trout*	<i>Salmo trutta</i>	25	2.6 - 9.4
Yellow Perch*	<i>Perca flavescens</i>	19	2.0 - 2.6
Fallfish	<i>Semotilus corporalis</i>	8	
Largemouth Bass*	<i>Micropterus salmoides</i>	4	2.6 - 3.1
Eastern Mudminnow	<i>Umbra pygmaea</i>	2	
Bluegill*	<i>Lepomis macrochirus</i>	1	7.9
Brook Trout*	<i>Salvelinus fontinalis</i>	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 Meadow Brook (FIBI011a)

John Scarola



Tessellated Darter

AFS



Largemouth Bass

John Scarola



Bluegill

Don Beimbom



Brook Trout

John Scarola



White Sucker

John Scarola



Blacknose Dace

FIGURE 1.1 (Not To Scale)
Species Identified at Meadow Brook (FIBI011a)

John Scarola



Fallfish

John Scarola



Yellow Perch

John Scarola



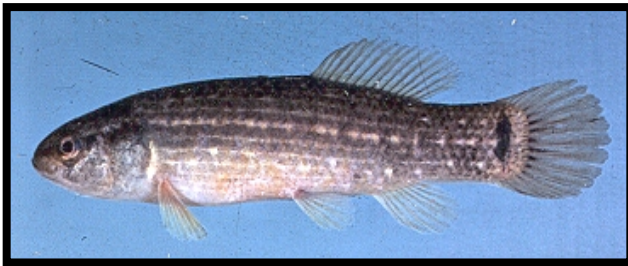
Brown Trout

Konrad Schmidt



Creek Chub

Jenkins & Burkhead



Eastern Mudminnow