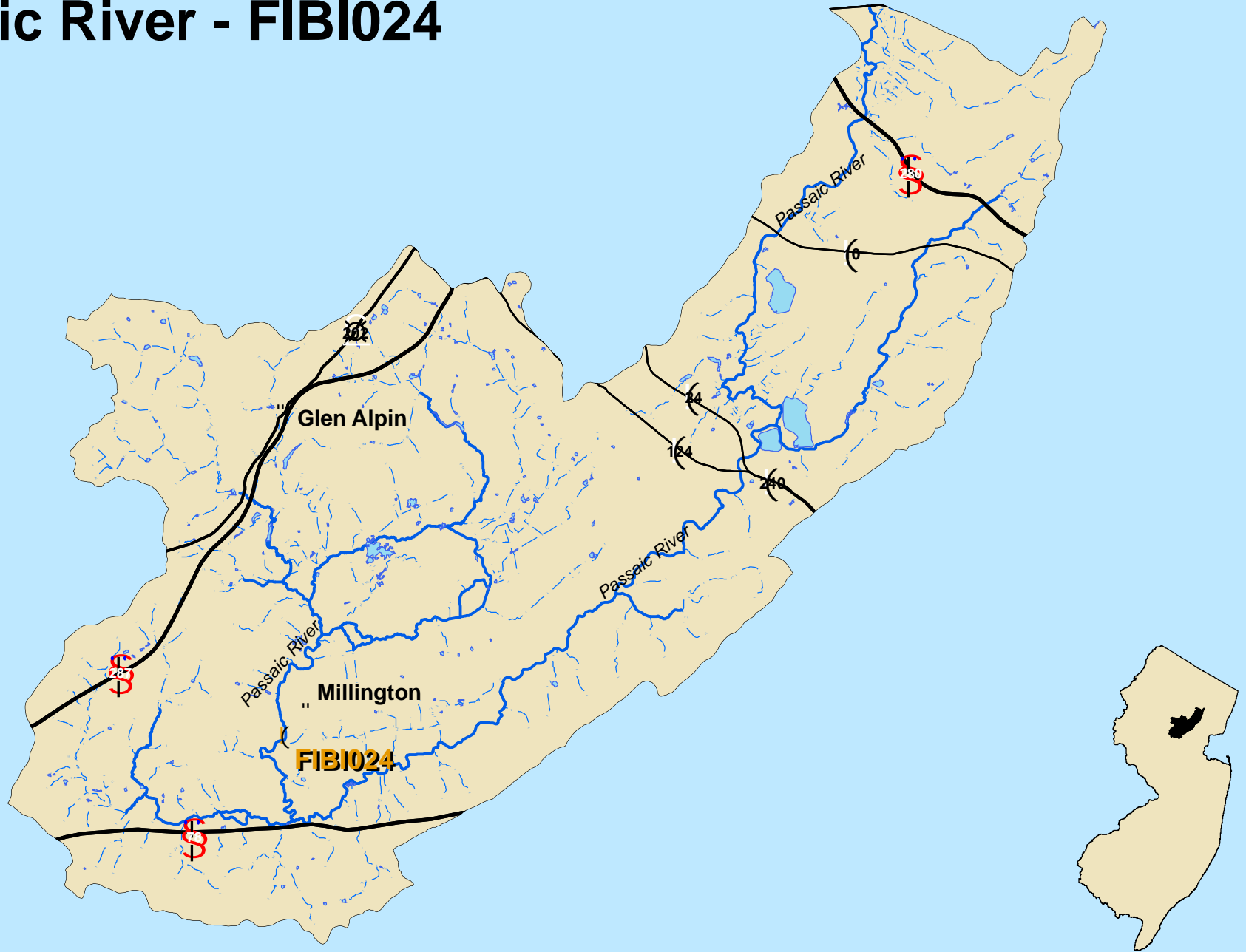
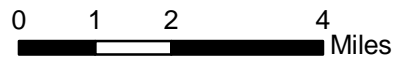


Passaic River - FIBI024



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

- IBI Ratings**
- Excellent
 - Good
 - Fair
 - Poor



SUMMARY OF RESULTS – FIBI024

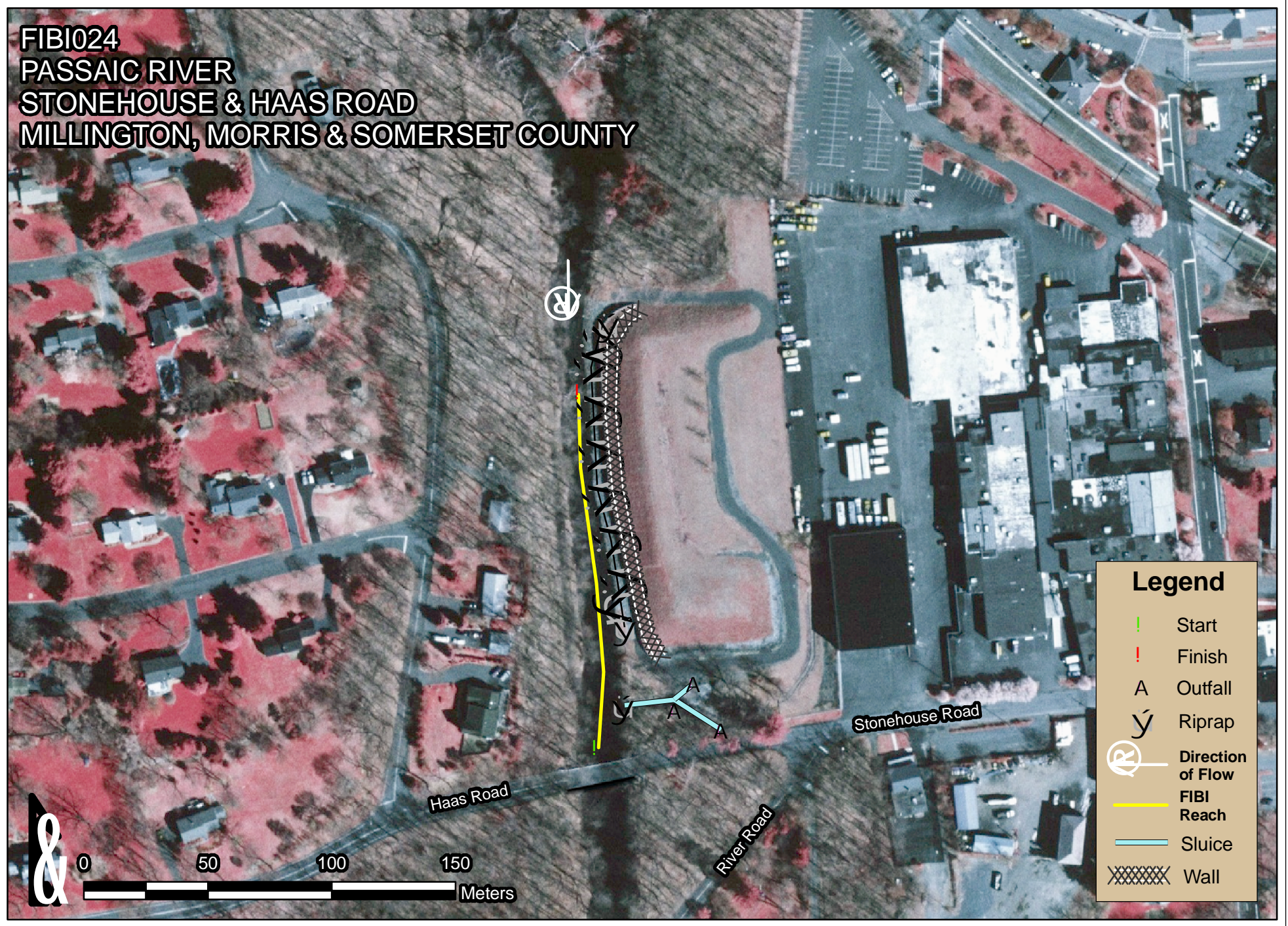


1. Stream Name:	Passaic River
2. Sampling Date:	8/3/2006
3. Sampling Location:	Stonehouse & Haas Roads
4. Municipality:	Millington
5. County:	Morris & Somerset
6. Watershed Management Area:	6
7. Contributing Drainage Area (Sq. Mi.):	54.3
8. Electrofishing Gear:	2 Backpacks
9. FIBI Score and Rating:	Round 1* Fair (36); Round 2 Fair (32)
10. Habitat Score and Rating:	Round 1 Marginal (108); Round 2 Marginal (106)
11. Fishable Species Present:	Yes
12. Relevant AMNET ¹ Station Data:	
Proximity of FIBI station to AMNET station:	1.1mi upstream AN0224
AMNET Rating:	1992 – Non-impaired; 1999 – Non-impaired; 2003 – Moderate
13. Stream Chemistries:	
Dissolved Oxygen (mg/l)	4.83
Temperature °C.	28.46
pH	6.85
Conductivity (µmhos/cm)	409
14. Length of Stream Sampled:	150m
15. Water Clarity:	Slightly Turbid
16. Average Open Forest Canopy:	37%
17. Discharge:	13.0 cfs
18. Substrate:	40% Gravel/Sand, 40% Cobble, 20% Silt
19. Habitat:	2% Riffle, 98% Run
20. Snags:	Yes
21. Periphyton:	Slight
22. Submerged Aquatic Vegetation:	No
23. Outfalls:	3
24. Number of Fish Species Identified:	15
25. Total Number of Fish Collected:	319
26. Number of Fish With Anomalies:	10
27. Other Observations:	Numerous erosion control structures on left descending bank.

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.

**FIBI024
PASSAIC RIVER
STONEHOUSE & HAAS ROAD
MILLINGTON, MORRIS & SOMERSET COUNTY**



Legend	
—	Start
—	Finish
A	Outfall
y	Riprap
Ⓢ	Direction of Flow
—	FIBI Reach
—	Sluice
XXXXXX	Wall

FIBI024-Passaic River @ Stonehouse Road
Date Sampled - 8/3/2006

Excellent Good **Fair** Poor

Score

# of Fish Species	5
# of Benthic Insectivorous Species (BI) (excluding White Suckers and Bullheads)	3
# of Trout and Centrarchid Species (excluding Green Sunfish and Bluegill)	3
# of Intolerant Species (IS)	3
Proportion of Tolerant Individuals	5
Proportion of Individuals as Generalists	1
Proportion of Individuals as Insectivorous Cyprinids	1
Proportion of Individuals as Trout *whichever gives better score OR Proportion of Individuals as Piscivores (excluding American Eel)*	3
# of Individuals in Sample (excluding Tolerant Species)	5
Proportion of Individuals w/disease/anomalies (excluding blackspot)	3
Total	32

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

HABITAT ASSESSMENT FOR *HIGH GRADIENT STREAMS* Passaic River (FIBI024) – 8/3/06

	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 8	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 8	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 6	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 16	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 12	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 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. SCORE 6 (LB) SCORE 6 (RB)	Left	10	9	8	7	6	Right	10	9	8	7	6	5	4	3	5	4	3	2	1	0
9. Bank Vegetative Protection (score each bank) SCORE 5 (LB) SCORE 8 (RB)	Left	10	9	8	7	6	Right	10	9	8	7	6	5	4	3	5	4	3	2	1	0
10. Riparian Vegetative Zone Width (score each bank riparian zone) SCORE 3 (LB) SCORE 7 (RB)	Left	10	9	8	7	6	Right	10	9	8	7	6	5	4	3	5	4	3	2	1	0

HABITAT SCORE

106

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

FIBI024-R2

Passaic River

08/03/2006

Common Name	Scientific Name	Abundance	Size Range (inches)
Redbreast Sunfish	<i>Lepomis auritus</i>	118	1.5 - 6.0
Tessellated Darter	<i>Etheostoma olmstedii</i>	100	-
Green Sunfish	<i>Lepomis cyanellus</i>	34	1.4 - 4.2
Eastern Mudminnow	<i>Umbra pygmaea</i>	18	-
Redfin Pickerel	<i>Esox americanus americanus</i>	11	4.0 - 5.6
Longnose Dace	<i>Rhinichthys cataractae</i>	9	-
Margined Madtom	<i>Noturus insignis</i>	7	-
Spottail Shiner	<i>Notropis hudsonius</i>	6	-
White Sucker	<i>Catostomus commersoni</i>	4	-
Largemouth Bass	<i>Micropterus salmoides</i>	3	1.5 - 5.1
Yellow Bullhead	<i>Ameiurus natalis</i>	3	3.9 - 7.6
Satinfin Shiner	<i>Cyprinella analostana</i>	2	-
Fallfish	<i>Semotilus corporalis</i>	1	-
Bluegill	<i>Lepomis macrochirus</i>	1	7.4 - 7.4
Pumpkinseed	<i>Lepomis gibbosus</i>	1	2.8 - 2.8
Hybrid Green Sunfish x Bluegill	<i>Lepomis cyanellus x macrochirus</i>	1	3.1 - 3.1

Species Identified at Passaic River (FIBI024)
(Not to Scale)



Redfin Pickerel



Eastern Mudminnow



Tessellated Darter



Longnose Dace



Margined Madtom



Redbreast Sunfish

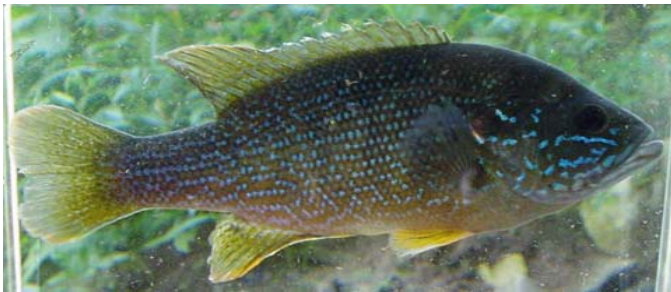
Species Identified at Passaic River (FIBI024)
(Not to Scale)



Largemouth Bass



Bluegill



Green Sunfish



Pumpkinseed



Yellow Bullhead



White Sucker

Species Identified at Passaic River (FIBI024)
(Not to Scale)



Spottail Shiner



Fallfish



Satinfin Shiner

No Picture Available

Bluegill X Green Sunfish Hybrid