

Pequest River

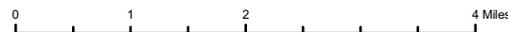
FIBI063



FIBI Ratings

- Excellent (Green circle)
- Fair (Yellow circle)
- Good (Light Green circle)
- Poor (Red circle)

- 1st & 2nd Order Streams (Dashed blue line)
- 3rd Order and Higher Streams (Solid blue line)



SUMMARY OF RESULTS – FIBI063



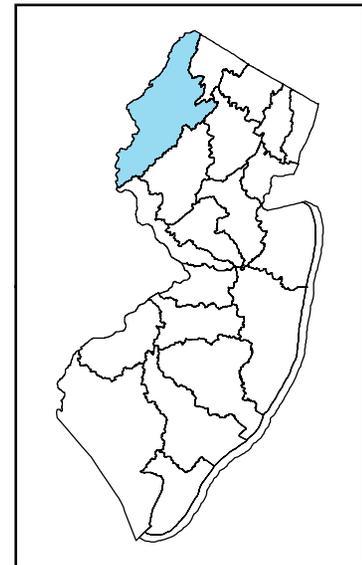
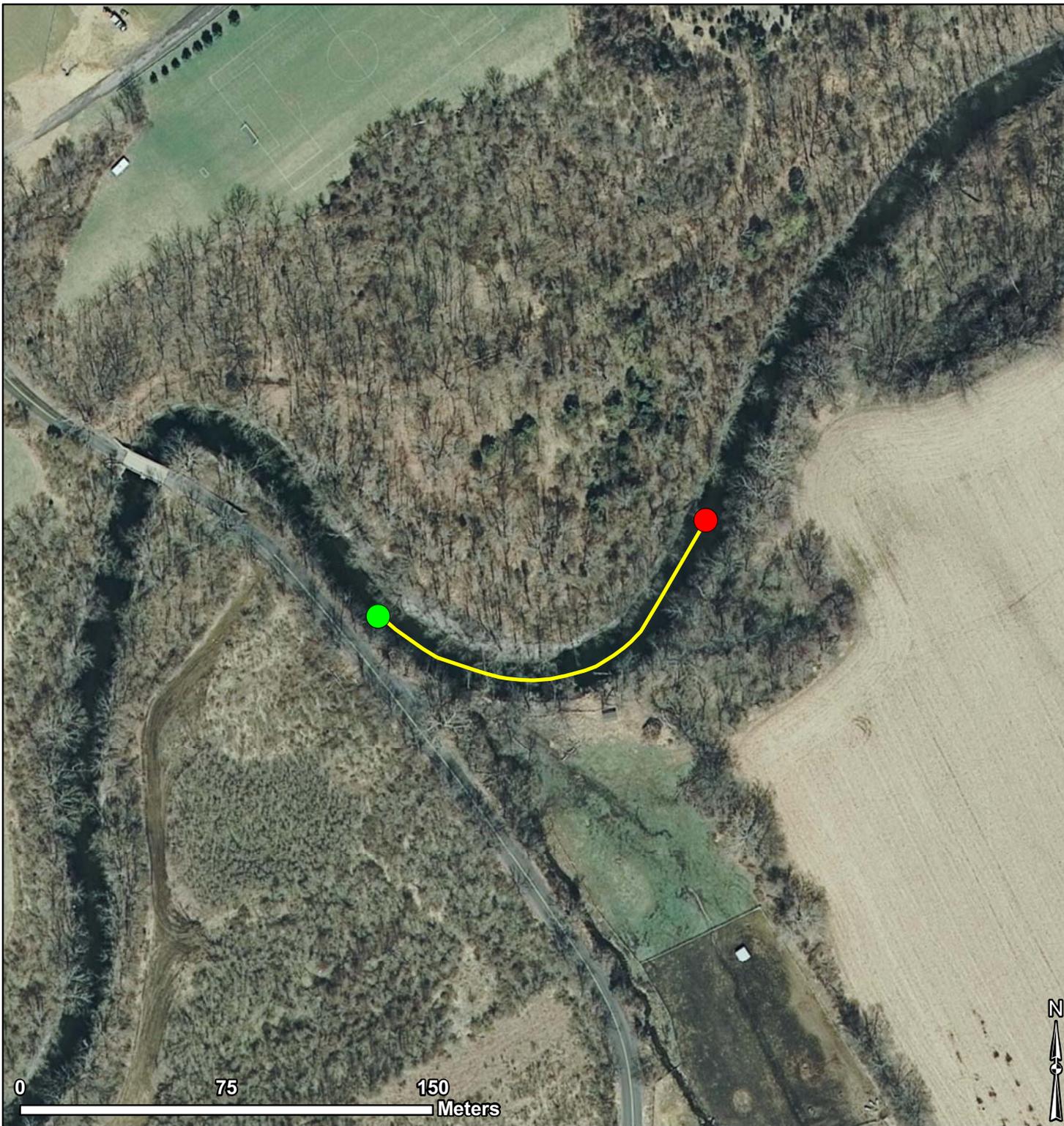
| | |
|---|--|
| 1. Stream Name: | Pequest River |
| 2. Sampling Date: | 08/05/2008 |
| 3. Sampling Location: | Cemetery Road |
| 4. Municipality: | Independence Twp. |
| 5. County: | Warren |
| 6. Watershed Management Area: | 1 |
| 7. Contributing Drainage Area (Sq. Mi.): | 89.7 |
| 8. Electrofishing Gear: | Barge |
| 9. FIBI Score and Rating: | Round 1* Fair (32); Round 2 Fair (36) |
| 10. Habitat Score and Rating: | Round 1 Optimal (173); Round 2 Sub-Optimal (130) |
| 11. Fishable Species Present: | Yes |
| 12. Relevant AMNET ¹ Station Data: | |
| Proximity of FIBI station to AMNET station: | 0.08 mi. US AN0041 |
| AMNET Rating: | R2 – Good, R3 – Poor, R4 - Good |
| 13. Stream Chemistries: | |
| Dissolved Oxygen (mg/l) | 8.58 |
| Temperature °C. | 20.37 |
| pH | 7.43 |
| Conductivity (µmhos/cm) | 497 |
| 14. Length of Stream Sampled: | 150m |
| 15. Water Clarity: | Slightly Turbid |
| 16. Average Open Forest Canopy: | 9.4% |
| 17. Discharge: | 26.8 cfs |
| 18. Substrate: | 65% Gravel/Sand, 5% Cobble, 20% Mud, 10% Silt |
| 19. Habitat: | 5% Riffle, 65% Run, 30% Pool |
| 20. Snags: | Yes |
| 21. Periphyton: | None |
| 22. Submerged Aquatic Vegetation: | Yes |
| 23. Outfalls: | None |
| 24. Number of Fish Species Identified: | 22 |
| 25. Total Number of Fish Collected: | 615 |
| 26. Number of Fish With Anomalies: | 10 |
| 27. Other Observations: | |

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.

FIBI063a-R2

PEQUEST RIVER
CEMETARY ROAD
INDEPENDANCE TWP.
WARREN



FIBI063-Pequest River @ Pequest Rd.
Date Sampled - 8/05/2008

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) | 5 |
| # of Intolerant Species (IS) | 3 |
| Proportion of Tolerant Individuals | 1 |
| Proportion of Individuals as Generalists | 3 |
| Proportion of Individuals as Insectivorous Cyprinids | 3 |
| 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) | 5 |
| Total | 36 |

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

HABITAT ASSESSMENT FOR *HIGH GRADIENT STREAMS* Pequest River (FIBI063) - 8/5/2008

| | 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 not transient). | | | | | | | | | | | | | | | | | | | | |
| | SCORE 15 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| 2. Embeddedness | Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space | | | | | | | | | | | | | | | | | | | | |
| | SCORE 6 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| 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 13 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| 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 |
| 5. Channel Flow Status | Water reaches base of both lower banks, and minimal amount of channel substrate is exposed. | | | | | | | | | | | | | | | | | | | | |
| | SCORE 20 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| 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 |
| 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 2 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| 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. | | | | | | | | | | | | | | | | | | | | |
| | SCORE 4 (LB) | Left | 10 | 9 | | | 8 | 7 | 6 | | | 5 | 4 | 3 | | | 2 | 1 | 0 | | |
| | SCORE 9 (RB) | Right | 10 | 9 | | | 8 | 7 | 6 | | | 5 | 4 | 3 | | | 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 6 (LB) | Left | 10 | 9 | | | 8 | 7 | 6 | | | 5 | 4 | 3 | | | 2 | 1 | 0 | | |
| | SCORE 9 (RB) | Right | 10 | 9 | | | 8 | 7 | 6 | | | 5 | 4 | 3 | | | 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 6 (LB) | Left | 10 | 9 | | | 8 | 7 | 6 | | | 5 | 4 | 3 | | | 2 | 1 | 0 | | |
| | SCORE 10 (RB) | Right | 10 | 9 | | | 8 | 7 | 6 | | | 5 | 4 | 3 | | | 2 | 1 | 0 | | |

HABITAT SCORE

130

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

FIBI063-R2

Pequest River

08/05/2008

| Common Name | Scientific Name | Abundance | Size Range (inches) |
|-----------------------|-----------------------------------|-----------|---------------------|
| White Sucker | <i>Catostomus commersoni</i> | 152 | - |
| Tessellated Darter | <i>Etheostoma olmstedii</i> | 102 | - |
| American Eel | <i>Anguilla rostrata</i> | 93 | - |
| Spottail Shiner | <i>Notropis hudsonius</i> | 41 | - |
| Green Sunfish | <i>Lepomis cyanellus</i> | 37 | 2.2 - 5.6 |
| Common Shiner | <i>Luxilus cornutus</i> | 32 | - |
| Swallowtail Shiner | <i>Notropis procne</i> | 29 | - |
| Sea Lamprey | <i>Petromyzon marinus</i> | 27 | - |
| Rock Bass | <i>Ambloplites rupestris</i> | 18 | 2.9 - 6.9 |
| Creek Chub | <i>Semotilus atromaculatus</i> | 14 | - |
| Bluegill | <i>Lepomis macrochirus</i> | 14 | 2.2 - 4.1 |
| Blacknose Dace | <i>Rhinichthys atratulus</i> | 14 | - |
| Redbreast Sunfish | <i>Lepomis auritus</i> | 12 | 2.3 - 5.4 |
| Pumpkinseed | <i>Lepomis gibbosus</i> | 10 | 3.2 - 5.2 |
| Redfin Pickerel | <i>Esox americanus americanus</i> | 9 | 3.1 - 5.1 |
| Largemouth Bass | <i>Micropterus salmoides</i> | 3 | 3.1 - 7.0 |
| Longnose Dace | <i>Rhinichthys cataractae</i> | 2 | - |
| Banded Killifish | <i>Fundulus diaphanus</i> | 2 | - |
| Golden Shiner | <i>Notemigonus crysoleucas</i> | 1 | - |
| Eastern Mudminnow | <i>Umbra pygmaea</i> | 1 | - |
| Yellow Bullhead | <i>Ameiurus natalis</i> | 1 | 6.7 - 6.7 |
| Brown Trout - Stocked | <i>Salmo trutta</i> | 1 | 10.4 - 10.4 |

Pequest River - FIBI063



American Eel



White Sucker



Tessellated Darter



Sea Lamprey



Common Shiner



Bluegill

Pequest River - FIBI063



Redbreast Sunfish



Largemouth Bass



Redfin Pickerel



Banded Killifish



Spottail Shiner



Swallowtail Shiner

Pequest River - FIBI063



Green Sunfish



Longnose Dace



Rockbass



Pumpkinseed



Blacknose Dace



Brown Trout

Pequest River - FIBI063



Creek Chub



Golden Shiner



Yellow Bullhead



Eastern Mudminnow