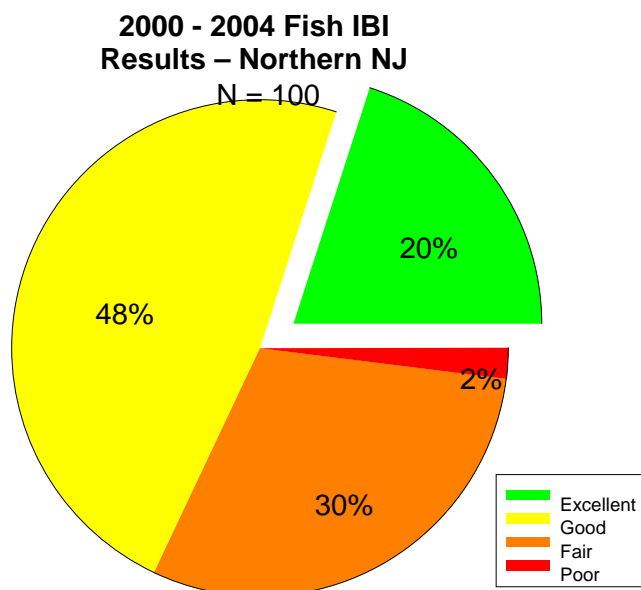


Fish Index of Biotic Integrity (IBI)

The Bureau of Freshwater and Biological Monitoring began implementing a Fish Index of Biotic Integrity (IBI) sampling program in 2000. The objective is to assess stream quality using the IBI. The IBI evaluates environmental conditions based on assessments of fish populations.

Once fish from sample collections have been identified, counted, examined for disease and anomalies, and recorded, several biometrics are applied to evaluate biotic integrity. Fish community analysis is accomplished using a regional modification of the original IBI (Karr *et. al.* 1986)¹. The modified IBI uses the following ten biometrics: 1) total number of fish species, 2) number and identity of benthic insectivorous species, 3) number and identity of trout (non-stocked) and/or sunfish species, 4) number and identity of intolerant species, 5) proportion of individuals as white suckers, 6) proportion of individuals as generalists, 7) proportion of individuals as insectivorous cyprinids, 8) proportion of individuals as non-stocked trout or proportion of individuals as piscivores (excluding American eel), 9) number of individuals in the sample and , 10) proportion of individuals with disease or anomalies. Water Monitoring & Standards is collecting samples in the northern part of the State, north of the fall line for this ongoing monitoring program. The Division of Fish and Wildlife is collecting fish assemblage samples in the southern portion of the state to calibrate the IBI protocol for these waters of the state.

Fish IBI results from annual sampling seasons may be obtained by visiting the Bureau's webpage (www.state.nj.us/dep/wmm/bfbm/publications.html) or by calling the Bureau at (609) 292-0427.




¹ Karr, J.R., K.D. Fausch, P.L. Angermeier, P.R. Yant, and I.S. Schlosser. 1986. "Assessing biological integrity in running waters: a method and its rationale" Illinois Natural History Survey, Champaign, IL, Special Publication 5.


New Jersey's Fish IBI Sampling Stations 2000 - 2005

WATERSHED MANAGEMENT AREAS

1. Upper Delaware
2. Wallkill
3. Pompton, Wanaque, Ramapo
4. Lower Passaic and Saddle
5. Hackensack and Pascack
6. Upper Passaic, Whippany and Rockaway
7. Arthur Kill
8. North and South Branch Raritan
9. Lower Raritan, South River and Lawrence
10. Millstone
11. Central Delaware
12. Monmouth
13. Barnegat Bay
14. Mullica
15. Great Egg Harbor
16. Cape May
17. Maurice, Salem and Cohansey
18. Lower Delaware
19. Rancocas
20. Assiscunk, Crosswicks and Doctors

 Fish IBI Sampling Station

 Watershed Management Area

 Major River/Stream



New Jersey Department of Environmental Protection
Land Use Management
Water Monitoring and Standards
Bureau of Freshwater and Biological Monitoring