A site map can be viewed by clicking on the report site name.

EcoSummary

Lake Hiawassee in Orlando

October 8, 2002

VERY GOOD

LAKE BIOASSESSMENTS

Lake Condition Index (LCI): A developmental biological assessment tool used by FDEP biologist to indicate ecosystem health and identify impairment in Florida lakes

For samples collected before June 8, 2004
All field and laboratory methods followed FDEP Standard Operating Procedures and met FDEP quality assurance/quality control standards.
For samples collected on or after June 8, 2004
All field and laboratory methods followed FDEP Standard Operating Procedures (SOPs) and met DEP quality assurance/quality control standards.

Purpose



The objectives of this investigation were to evaluate the level of ecological degradation of Lake Hiawassee in order to determine whether or not the lake should be retained on the verified list for Total Maximum Daily Load (TMDL) development, and to provide data useable in FDEP's continuing lakes biological assessment criteria (biocriteria) refinement.

Watershed Characteristics

Lake Hiawassee (also variously known as Hiawassie, Hiaussee, or Hiawassa) is a 167-acre lake located in the Orlovista area of western Orlando between the East-West Expressway and Florida's Turnpike. The vicinity is characterized by a large number of lakes, with the Butler Chain located to the southwest of Lake Hiawassee, and Turkey Lake (and Universal Studios) to the south. Land use around the lake includes low-, medium-, and high density residential developments (mostly medium density), a golf course on the south end, citrus groves, and a boys' ranch on the southwest shore. Although relatively intensely developed, a fair amount of the shorezone vegetation and wetlands has been preserved around Lake Hiawassee.

Results

Lake Hiawassee did well on the lake bioassessment, receiving a "very good" ranking on the LCI. There were 29 different macroinvertebrate taxa collected. Species diversity was high at Lake Hiawassee, with a Shannon-Weiner diversity index value of 3.91 calculated. On the Hulbert Index, a ranking of lake health based on the presence or absence of certain pollution-intolerant macroinvertebrate species, it received a score of 8, which is in the range established for moderately altered lakes. The most abundant species collected was the amphipod *Hyalella azteca*, followed by larvae of the caddisfly *Cernotina*. Also collected was the caddisfly *Oecetis porteri*, an endemic species in central Florida lakes considered threatened by the Florida Committee on Rare and Endangered Plants and Animals (FCREPA).

Water chemistry results were also good. All nutrients sampled were present at low levels. The dissolved oxygen level was good throughout the water column, ranging from 7.1 mg/L near the surface to 6.3 mg/L near the bottom. The Secchi depth (a measure of water clarity) was good, at 1.7 meters.

The lake habitat assessment results were not as good due to the high level of development near the lake. Lake Hiawassee received a score of 59 out of a possible 140 points on the habitat assessment.

Significance

These results demonstrate that despite the intensity of development in the lakeshed, Lake Hiawassee is in relatively good ecological health. The diverse and robust macroinvertebrate (and macrophyte) community and good water chemistry results suggest that Lake Hiawassee is currently in fairly good shape.

Suggestions

Lakeside landowners can lessen the impact to their lake by reducing or even eliminating the use of pesticides, herbicides, and inorganic fertilizers. Restoration of the shoreline vegetation, and preservation of that which remains, would be beneficial as well. Continuing monitoring of Lake Hiawassee is recommended to determine whether any negative changes in the health of the lake are occurring.

For more information, please contact
Dana R. Denson
Central District Office
3319 Maguire Blvd., Suite 232, Orlando, FL 32803
(407) 894-7555 x 2355 (Suncom 325-2355)
E-mail: dana.denson@dep.state.fl.us

Published by the Florida Department of Environmental Protection
Tallahassee, Florida
For more information on the DEP Bioassessment programs, please visit our web site at http://www.dep.state.fl.us/water/bioassess

Lake Hiawassee in Orlando

