Lake Harris EcoSummary
April 2007

Lake Condition Index (LCI): A biological assessment tool developed by the Florida Department of Environmental Protection to indicate ecosystem health and identify impairment in Florida lakes

Watershed Characteristics

Located in central Lake County, the 15,087-acre Lake Harris is surrounded largely by a mix of residential, natural (wetlands and forest/rangelands) and agricultural lands. The largest single external phosphorus load to Lake Harris-Little Lake Harris was discharges from the Lake Harris Conservation Area, accounting for about 25% of the estimated load. Other phosphorus sources for Lake Harris-Little Lake Harris included atmospheric deposition (20%), tributary discharges (15%), urban-residential runoff (11%), muck farms (7%), septic tank effluents (4.5%), upland agriculture (1.5%) and point sources (0.9%). Because Lake Harris is larger than 1000 acres in size, two separate LCIs were performed, one on the east side and one on the west side. The 12 benthic grabs for Lake Harris East and for Lake Harris West were both taken in April of 2007.

Results

Lake Harris West received a poor rating on the LCI. Lake Harris East received a good rating on the LCI. Sixteen different macroinvertebrate taxa were collected on Lake Harris West and seventeen different taxa were collected on Lake Harris East. The single most abundant macroinvertebrate species collected on Lake Harris West was the Chironomid (midge) Cladotanytarsus sp. B which comprised 30.4% of the total macroinvertebrate population and is often abundant in eutrophic lakes. Glyptotendipes paripes and the Cladotanytarsus sp. B were the most abundant species on Lake Harris East and comprised 35.2% and 25.7% of the macroinvertebrate population sample, respectively. The sediment in the benthic samples taken on the west side of the lake was predominately course particulate organic material with a mixture of muck and sand. The east side of Lake Harris was predominantly sand with some course particulate organic material and muck. Lake Harris West and East LCI received a Hulbert Index score of 5 and 10 respectively. The Hulbert Index is based on the number of pollution-intolerant lake macroinvertebrate species present. Therefore, higher
Hulbert Index scores indicate a greater number of pollution sensitive species present or better water quality. Lake Harris East had 7 and Lake Harris West had 4 species of macroinvertebrates which are sensitive to pollution.

*Photo courtesy of Dana Denson DEP*

_Cladotanytarsus species B_ midge larvae

**Significance**
The St. Johns River Water Management District is proposing a plan to increase the fluctuations in the water level in all the Harris Chain of Lakes. This could help Lake Harris-Little Lake Harris recover from pollution impacts by drying out large portions of mucky shoreline and helping to establish the aquatic plants essential for fisheries habitat and the overall biota of the lake. Improvement of the aquatic plant community is an important step toward the improvement of the benthic macroinvertebrate community (and resulting LCI scores). The Lake County Water Authority will continue to monitor the macroinvertebrates in Little Lake Harris in order to assess ecosystem health.
Suggestions
Lakeside property owners can help keep the lake healthy by minimizing, or eliminating, the use of pesticides, herbicides and inorganic fertilizers, by preserving native shorezone vegetation, by minimizing impervious surfaces on their properties, by being careful with the use and storage of petroleum products, and by properly maintaining septic or sewer systems.

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