Lake County
WATER AUTHORITY

Little Lake Harris EcoSummary

March 2007

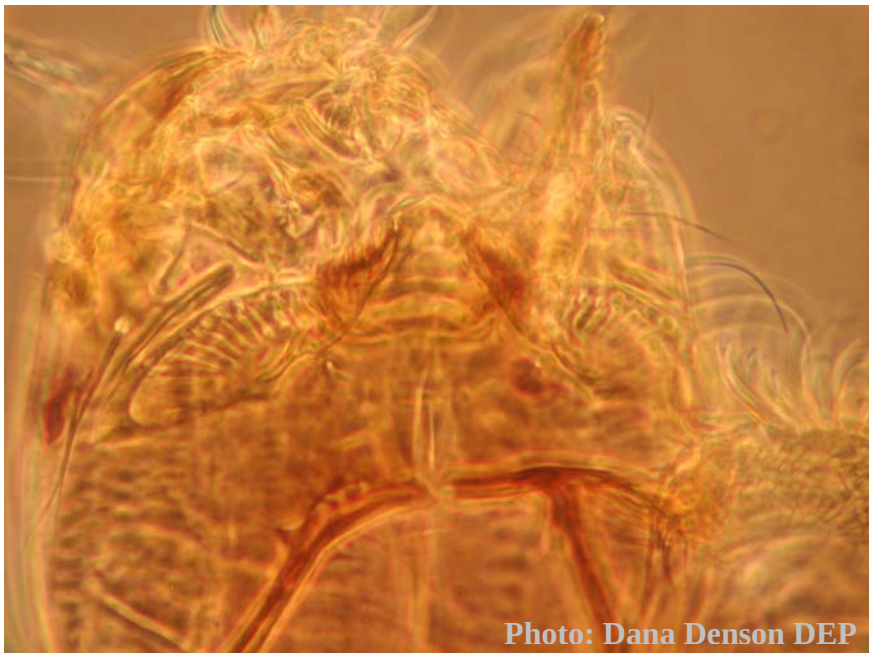
Lake Condition Index (LCI): A biological assessment tool developed by the Florida Department of Environmental Protection to indicate ecosystem health and identify impairment in Florida lakes

Watershed Characteristics

Located in central Lake County, the 3,359-acre Little 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%). The 12 benthic grabs for Little Lake Harris were taken in March of 2007.

Results

Little Lake Harris received a poor LCI rating. Eleven different macroinvertebrate taxa were collected. The single most abundant macroinvertebrate species collected was the Chironomid (midge) *Cladotanytarsus sp.B* which comprised 47% of the total macroinvertebrate population and is often abundant in eutrophic lakes. Diptera (which include Chironomidae) comprised 67% of the macroinvertebrate population in the lake. The sediment of the benthic samples taken in the lake was predominately course particulate organic material with a mixture of muck and sand. Little Lake Harris LCI received a Hulbert Index (HI) score of 4. 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. Little Lake Harris had 3 species of macroinvertebrates which are sensitive to pollution, the Amphipod *Hyalella azteca,* the Diptera *Procladius (Holotanypus) sp,* and *Paralauterborniella nigrohalteralis.*



Paralauterborniella nigrohalteralis midge larvae head

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 re-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 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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References

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