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 south Lake County, the 1,883-acre Lake Minneola is surrounded largely by a mix of residential, natural (wetlands and forest/rangelands) and commercial lands. Lake Minneola is part of the Clermont Chain of Lakes and is designated as one of the Outstanding Florida Waters (OFW). An OFW is a water body designated worthy of special protection because of its natural attributes. This special designation is intended to protect existing good water quality. Because Lake Minneola is larger than 1000 acres in size, two separate LCIs were performed, one on the north end and one on the south end. The 12 benthic grabs for Lake Minneola South were taken in July of 2013 and 12 benthic grabs for Lake Minneola North in June of 2013.

Results

Lake Minneola North and South both received a very good rating on the LCI. Twenty four different macroinvertebrate taxa were collected on the north portion and twenty eight taxa on the south. On Lake Minneola North, the most abundant macroinvertebrates collected were the Chironominae Pseudochironomus sp., the Ephemeroptera Hexagenia and the Oligochaeta Limnodrilus hoffmeisteri. These three groups accounted for 36% of the total population of macroinvertebrates present in the north portion of the lake. The Diptera Chaoborus albatlus type, the Oligochaeta Limnodrilus hoffmeisteri and Ephemeroptera Hexagenia were the predominate taxa present in the south portion of Lake Minneola and comprised 9.8%, 16.6% and 12.7% respectively, of the total population of macroinvertebrates. The benthic samples taken in the lake were predominately sand with some course particulate organic material and a small amount of muck (found mainly in north portion of the lake). A small amount of the submerged vegetation Chara spp., was found in one sample in the north and one sample in the south portions of the lake.
Lake Minneola North LCI received a Hulbert Index score of 16. Lake Minneola South received a Hulbert Index score of 14. 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. Both Minneola North and South had a large number of organisms which are sensitive to pollution.

Photo courtesy of Dana Denson DEP

*Hexagenia mayfly larvae*
Significance
Lake Minneola is in very good condition, as is reflected in the biota (LCI) and in water chemistry. The Lake County Water Authority will continue to monitor the Clermont Chain of Lakes, one of the Outstanding Florida Waters, to ensure continued good water quality.

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.

For more information, please contact:
Lake County Water Authority  107 North Lake Avenue  Tavares, FL 32778
(352) 343-3777