

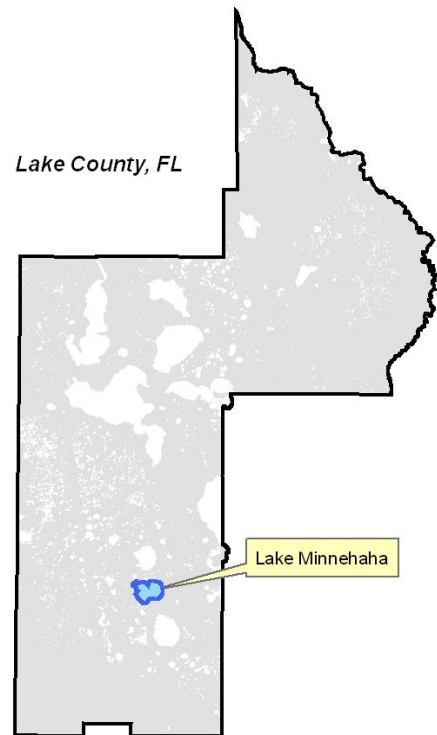
Lake Minnehaha EcoSummary

July & August 2016

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 2,298-acre Lake Minnehaha is surrounded largely by a mix of residential, natural (wetlands and forest/rangelands) and commercial lands. Lake Minnehaha is part of the Clermont Chain of Lakes and is designated as one of the Outstanding Florida Waters (OFW). An OFW is a water designated worthy of special protection because of its natural attributes. This special designation is intended to protect existing good water quality. Because Lake Minnehaha 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 Minnehaha West were taken in July of 2016 and 12 benthic grabs for Lake Minnehaha East in August of 2016.

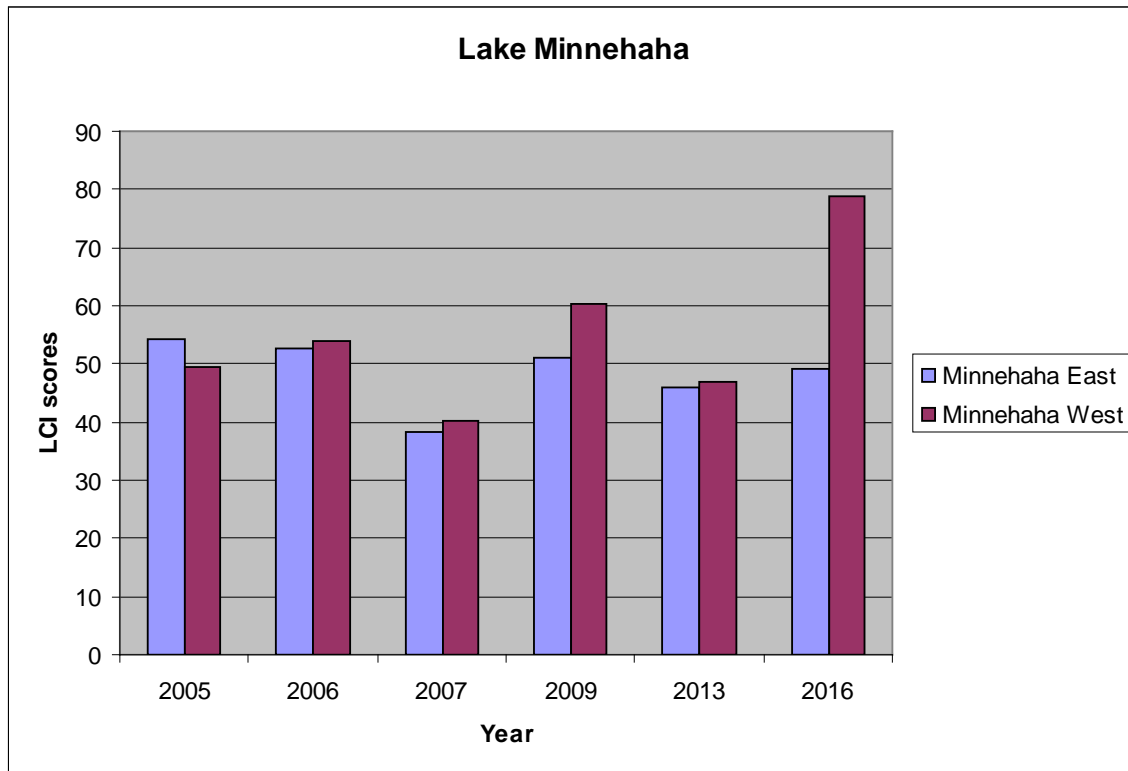


Results

Lake Minnehaha East and West both maintained a very good rating on the LCI. Seventeen different macroinvertebrate taxa were collected on the east portion and twenty nine taxa on the west. On Lake Minnehaha East, the most abundant macroinvertebrates collected were the Diptera *Chaoborus sp.* and the *Limnodrilus sp.* aquatic worms. These two taxa accounted for 14% and 26% of the total population of macroinvertebrates present in the east portion of the lake. *Limnodrilus sp.* aquatic worms, the Diptera *Chaoborus sp.* and the Trichoptera *Polycentropodidae Cernotina* were the predominate taxa present in the west portion of Lake Minnehaha and comprised 21%, 20% and 7% respectively, of the total population of macroinvertebrates in the west portion of the lake. The benthic samples taken in the lake were predominately sand with some coarse particulate organic material and a small amount of muck (found in only three of the 24 sample areas).

LCI SCORES

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2009</u>	<u>2013</u>	<u>2016</u>
Minnehaha East	54.17	52.78	38.35	51.04	45.86	49.00
Minnehaha West	49.47	53.85	40.14	60.28	46.79	78.95



Lake Minnehaha East LCI received a Hulbert Index score of 11. Lake Minnehaha West received a Hulbert Index score of 29. 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 Minnehaha East and West had a large number of organisms which are sensitive to pollution.



***Certina* caddisfly larvae (photo: Dana Denson, RCID)**

Significance

Lake Minnehaha 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 shoreline 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

References

Fulton, R.S., III. 1995. *External nutrient budget and trophic state modeling for lakes in the Upper Ocklawaha River Basin*. Technical Publication SJ95-6. Palatka, Fla.: St. Johns River Water Management District.

Fulton, R.S., III, C. Schluter, T.A. Keller, S. Nagid, W. Godwin, D. Smith, D. Clapp, A. Karama, and J. Richmond. 2004. *Pollutant Load Reduction Goals for seven major lakes in the Upper Ocklawaha River Basin*. Technical Publication SJ2004-5, Palatka, Fla.: St Johns River Water Management District.