



## Lake Beauclair EcoSummary

### November 2004

**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 with a portion of the lake located in Orange County, 1119-acre Lake Beauclair is surrounded largely by a mix of residential, natural and recreational lands. Lake Beauclair has nutrient loadings more than four times that of any other lake in the Upper Ocklawaha River basin largely due to incoming flow from the Apopka-Beauclair Canal. Lake Beauclair has a turnover rate of approximately 56 days (or 6.5 turns/year). Because Lake Beauclair is larger than 1000 acres in size, two separate LCIs were performed, one on the east side and one on the west. The 24 benthic grabs for Lake Beauclair were taken on November 3, 2004.



### Results

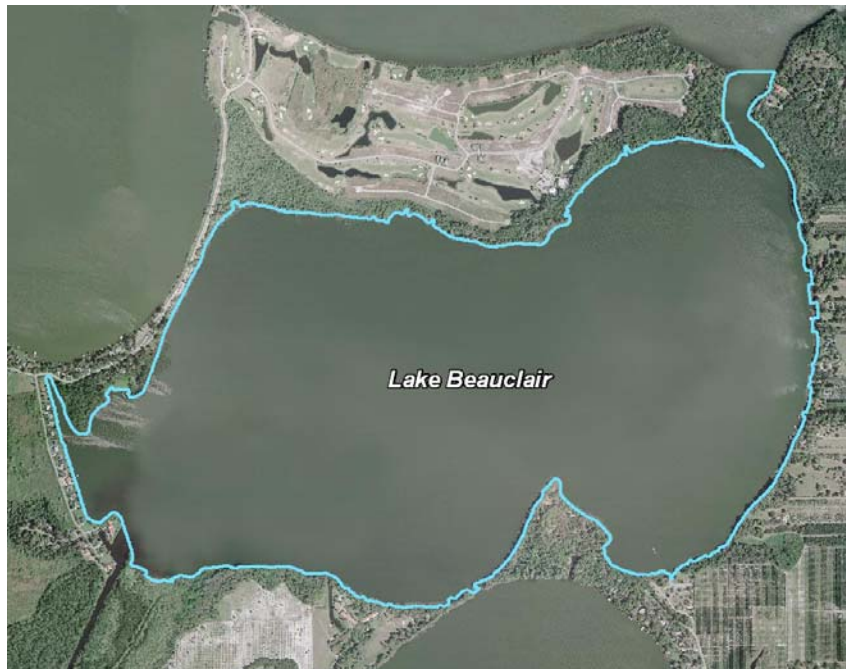
Both sides of Lake Beauclair received a very poor rating on the LCI. Ten different macroinvertebrate taxa were collected on the west side, and seven on the east. On both sides of Lake Beauclair, the most abundant macroinvertebrates collected were the oligochaete, tubificid worm *Limnodrilus hoffmeisteri*. Oligochaetes made up 67% and 92% of macroinvertebrates collected on Beauclair West and East, respectively. Tubificids frequently form dense populations in organically enriched habitats with a mucky substrate tending toward anoxic conditions. The sediment in all of the 12 benthic grabs in Beauclair East were predominately muck and coarse particulate organic matter. Beauclair West, which is further from the Apopka-Beauclair canal tributary entrance, was predominately sand in 8 of the 12 benthic/sediment grabs. The dipteran (fly) larvae present consisted of pollution tolerant species such as *Goeldichironomus amazonicus* and *Coelotanytus concinnus*. Both sides of the lake were given Hulbert Index scores of 0. The HI is based on the number of pollution-intolerant lake macroinvertebrate species present.



A *Limnodrilus hoffmeisteri* from Lake Beauclair

### Significance

The Lake County Water Authority has an off-line alum system or NuRF (Nutrient Reduction Facility) project planned that would reduce the total phosphorus concentration in Lake Beauclair by as much as 81%. If the project is constructed, Lake Beauclair should improve from a nutrient-rich hypereutrophic lake to a considerably 'healthier' mesotrophic lake. This could increase recreation on the lake by eliminating persistent algal blooms, eventually leading to reestablishment of beneficial vegetation and a more productive sportfish population.



For more information, please contact:

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