



UNIVERSITY OF  
**FLORIDA**

Institute of Food and Agricultural Sciences  
Fisheries and Agricultural Sciences

# Florida LAKEWATCH

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## Teamwork Makes It Work

He has only been on the job about three months, but John Brennehan hit the ground running. John, an Extension Agent working in the area of natural resources for Polk and Hillsborough Counties, is the newest addition to the LAKEWATCH team. Already he has become trained as a certified LAKEWATCH trainer, couriered samples from his area to Gainesville, attended Keystone LAKEWATCH meetings, is conducting a Polk County LAKEWATCH meeting, has developed a mail list, and has produced and distributed the first of his bimonthly newsletters -- among myriad other activities. He can be reached in Hillsborough County at 813/744-5519 or in Polk County at 813/533-0765. Please welcome him, and be sure to sign up for his newsletter on water quality issues.

The City of Ocoee, monitoring its lakes through LAKEWATCH since 1992, has volunteered to maintain a collection center for the use of nearby volunteers to drop off their samples and pick up supplies.

Too Far (Taxpayers Outraged Organization for Accountable Representation) is spearheading the effort to have LAKEWATCH volunteers monitoring all three pools of the Tsala-Apopka chain of lakes in Citrus County. In cooperation, the Southwest Florida Water Management District is provid-

ing a collection center and will courier samples to Gainesville.

The Lake County Water Authority is providing sampling equipment so that, in spite of budget constraints, more lakes can be added to LAKEWATCH. They have targeted nine lakes of special concern. For more info, call 904-343-3777.

Due to budget cutbacks, the Park Rangers at Gold Head Branch State Park in Clay County can no longer continue their monitoring of the park's five lakes. Can anyone help out? They've been in LAKEWATCH since 1991. We don't want to lose them now.

Sarah Nagy, a sixteen-year-old who, besides helping with LAKEWATCH, is also compiling a detailed biological inventory of Mocassin Lake Nature Park, has made a silk screen for LAKEWATCH. So if you want your tee shirt, shorts, habit -- whatever -- emblazoned with "Florida LAKEWATCH," bring it to your next meeting.

Floral Lakes group in Polk County had caps madewith each person's name, designating them as the "Lake Crew."

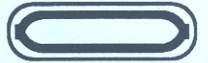
[If you have been sampling a year or more, remind us to send you a LAKEWATCH cap.]

Thanks go to Sarah, Scott, and their mother Heather Nagy for demonstrating LAKEWATCH sampling techniques on Tampa

Bay to attendees of the annual ASIWPCA (Association of State and Interstate Water Pollution Control Administrators) Conference. Directors of regulatory agencies nationwide had expressed interest in using citizen monitoring, and LAKEWATCH was responding to their request for a workshop on it.

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## Opportunities



The Florida Lake Management Society is comprised of professional lake managers from city, county, and state governments and regulatory agencies. They have expressed a keen interest in involving lake residents and lake users in the organization in order to facilitate communication and cooperation in the mutual goal of managing Florida's waters. They want you to educate them to your concerns and perspective and vice versa. They have approached Florida LAKEWATCH to find out what topics might be of special interest to you so those topics can be included in their annual meeting in Ocala on May 22 - 24, 1996. What do you want to talk to them about? What information would you like them to provide to you? Call LAKEWATCH to let your ideas be heard. This will be an excellent opportunity to bridge the "us versus them" gap. They want to listen.

Rep. Everett Kelly has established a State Coordinating Council with representatives



## Opportunities, *continued*

from business, government, civic and environmental groups, education and industry to organize and fund a one-day volunteer cleanup of the St. Johns River watershed along the St. Johns, Ocklawaha, Wekiva, and Econlochatchee rivers. With help from city and county governments, chambers of commerce, school districts, Keep Florida Beautiful staff, civic groups and the St. Johns River Water Management District, there will be cleanup activities and educational programs in more than 70 communities. To become involved call 1-800-RALLY-22.

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## On the Legal Front

If you think problems are being caused in your lake by water being diverted to it which was not historically in your watershed, you may find Case No. CI 87-2677 interesting. This case was decided by jury trial in the Circuit Court of the Ninth Judicial Circuit in and for Orange County Florida on August 17, 1990.

In brief, the plaintiffs on Lake Bessie charged that the defendants (a golf club development, et al.) with the following: (1) they installed under drains which drained into Lake Bessie and had an adverse impact on both the ecological balance of the lake and also on its normal water levels; (2) the nitrate content of the ground water under defendants' land was elevated to abnormal levels due to the watering and fertilization practices of defendants during the grow-in period; and (3) there was an unnatural and unreasonable diversion of surface water and ground water into Lake Bessie from other unrelated and unconnected Drainage Basins by the Storm Water Management System constructed by the defendants.

The Court ruled in Lake Bessie's favor and granted "permanent injunctive relief against the ISLEWORTH Defendants concerning the unreasonable diversion of surface waters as aforesaid and the continuing pollution into Lake Bessie." The Court delineated specific changes to be made in the defendants' drainage, including the requirement to retain a 100-year storm event on site.

## Activities

Citizen groups on Lake Brant in Hillsborough County and Lake Jessamine in Orange County have completed and implemented their respective lake management plans.

Bear Lake Preservation Association in Seminole County is organizing a project to stencil storm drains so that people will know the drains carry water and whatever is dumped into them directly to the lake.

Lake Disston in Flagler County, in the LAKEWATCH Program since 1992, is using their data in putting together an extensive document that will be its application for designation as an Outstanding Florida Water (OFW). In general, the Department of Environmental Protection cannot issue permits for direct pollutant discharges to OFWs which would lower ambient (existing) water quality or for indirect discharges which would significantly degrade the OFW. Permits for new dredging and filling must be clearly in the public interest. For further information on this designation, call 904-487-0505 in Tallahassee.

Robert Kirkwood, the LAKEWATCH volunteer on Fruitwood Lake in Seminole County since 1991, documented an alarming, steady increase in nutrients and algae levels. The water clarity decreased drastically. After exploring his watershed and using his data, he persuaded a nearby city to redirect its stormwater. His lake has since cleared up remarkably.

Maclay Gardens State Park has had Park Rangers doing LAKEWATCH sampling of three lakes it borders since 1990. Recently the Park was accused of "polluting" the lakes. No clarification was given as to what was meant by "pollution." Park officials, however, were able to provide five years of data on water quality showing little or no change during that time (if anything, there was an increase in clarity and a decrease in nutrients and algae levels). The Park staff is extremely conscientious in the use of irrigation, fertilizers, and herbicides needed for the maintenance of the Park's extensive gardens. Besides being an breathtaking showplace for blossoms, it is also an impressive display of lake-friendly gardening techniques.



Special thanks to Gerre Jaillet on Ola in Orange County for making twenty new Secchi disks for LAKEWATCH. Check the knot on your disk. Several are now at the bottoms of lakes to puzzle future archeologists.



**Help! Please turn in all 1995 samples ASAP -- don't stockpile them. We have end-of-year deadlines.**



Eagle Eye, Incorporated is the creation of Gordon Davis, a science teacher at Walker Memorial Junior Academy in Avon Park. Mr. Davis' students take jobs in the corporation including grant writing and funding, memberships in water quality organizations, published newsletter and press releases, multimedia presentations for the community and governmental agencies, environmental history and lake management plans, data organization and management using databases and spreadsheets, fish and bird counts, site survey of watershed, analysis of benthic macroinvertebrates for various quality indices, water collection and analysis, and participation in Florida LAKEWATCH. In their jobs, the students have to use math and computer skills, research and writing skills, etc. It is a comprehensive approach which uses water quality as a basis for engaging in true scientific research, extending the classroom into the community, providing useful services, bringing students face-to-face with social issues, and creating opportunities for students to take action to help resolve those issues.

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**LAKEWATCH volunteers take it upon themselves to research specific questions about their lakes. In most cases, the volunteers have become the foremost authorities in the world on the topic of their lakes. For example . . .**

On Lake Lillian in Marion County the problem may be ducks -- more than 140 of them on this small urban park lake. Each adult duck produces about 1/3 of a pound of manure each day. Does this affect water quality? The City of Belleview is monitoring through LAKEWATCH to try to document effects.

In Polk County, George Horvath, a LAKEWATCH volunteer on Lake Elbert, is monitoring water quality in two other lakes and a long drainage ditch which connects them which also runs along the edge of a golf course. The question is whether the runoff from the golf course into the ditch is adversely affecting the water quality in Lake Fannie, the downstream lake. Mr. Horvath will appear before the City Commission in several months with the results of his research.

On Lake Ola in Orange County, a submersed plant called Nitella has begun dying off in a way that has not been seen before and from causes unknown. Dr. Dan Canfield and Dr. Charudattan from the University of Florida have visited the site and taken samples for further study. LAKEWATCH has sent letters to volunteers on lakes having similar characteristics, as identified by the LAKEWATCH volunteer on Ola, to try to determine whether the phenomenon has been observed on other lakes.

Dr. Ed Brackney, a retired surgeon and LAKEWATCH volunteer, is monitoring several areas in the Butler Chain of lakes because he has been alarmed at what appears to be a decline in the population of submersed vegetation.

Joe Mazzoli, the volunteer on Smith Lake in Marion County, has recorded everything that could possibly be measured on every fish he has ever caught (hundreds) on Smith lake for many years. Using his detailed records, he not only noticed, but was able to document, a decline in fish. To try to determine a cause, he explored Smith Lake's watershed to see if there were any new sources of inflow which might carry contaminants. He obtained an aerial photograph from the property appraiser's office (available in every county for a few dollars) and looked for new development, clearing, new roads or paving, dredging or filling activities, etc. After not finding any significant change in the watershed, he put that possibility low on the list. The next most likely culprit was the fact that the lake water level had decreased significantly. Mr. Mazzoli observed that the water had receded beyond much of the shoreline vegetation. It is likely the fish were thus deprived of needed habitat. Time may tell, and Mr. Mazzoli continues to keep his records in hopes of getting more clues.

In the summer of 1993, the water clarity on Lake Harris in Lake County increased from its usual three feet to an amazing ten feet. A major fish kill also occurred. Frank and Lois Willson, volunteers since 1990, decided to do extra duty detective work to find out how come. The prevailing explanation was that the increase in clarity was caused by a change in diatom populations (microscopic algae with "glass-like" shells). For the past two summers, they have taken special samples several times a week and preserved them. The fickle lake, however, has not cleared up during this time. Undaunted, the Willsons plan to repeat their efforts again next year in the hopes of adding to the understanding of how Florida lakes work.

Tom and Peggy Prevost's family donated a lot on Melrose Bay in Alachua County to be used as a public beach. They loved the Bay so much they felt others should be able to enjoy it, too, and would appreciate it as they did. The act of generosity may have backfired, however. Now hundreds of bathers jam the beach, and most of the time there are no sanitary facilities. The Prevosts have been LAKEWATCHers since 1988 -- among the first ever trained. They took extra



samples on the Fourth of July weekend which will be analyzed for nitrogen compounds (which might be an indicator of high ammonia levels from urine). If the data indicates a potential health problem, it will be brought to the attention of the County Commission.

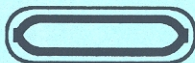
Wynona Crom and Charles Bartlet have been monitoring Lake Winnot in Putnam County since 1989. In 1993 a permit was issued for the deposition of treated sewage sludge on a pasture across a small dirt road and uphill from the lake. Concerned about the effects of runoff, they started taking extra samples nearest that area about a year ago. So far the measured nutrient and algae levels

in the lake have not increased. This has been reassuring. However, there has been an increase in the growth of *Utricularia floridana*, a submersed aquatic plant, which may be a response to the additional nutrient inflow.

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## Resources



*The Volunteer Monitor*, a free newsletter facilitating the exchange of ideas, monitoring methods, and practical advice among volunteer environmental monitoring groups across the nation. To subscribe: Eleanor Ely, Editor, 1318 Masonic Avenue, San Francisco, CA 94117 [phone: 415-255-8049].

From LAKEWATCH, *How to Create a Lake Management Plan*, an excellent free guide by The Department of Environmental Protection's Regional Biologist Jess VanDyke.

Is nature no longer our natural environment? By the time children start school they know hundreds of brand names, can spot the difference between Nikes and Rebocks, and can tell Pepsi from Coke by taste; but how many trees, flowers, and animals do they know? Nourish the nature-deprived child in you with *What Have you Done for Wildlife Lately?*, a free citizen's guide to helping Florida's wildlife. Write Florida Game and Fresh Water Fish Commission; Nongame Wildlife Program; 620 South Meridian Street; Tallahassee, FL 32399-1600.

The law states that organizations with 501(c)(3) tax-exempt status must not campaign and must make sure that "no substantial part" of their activities consists

of lobbying. If you need guidance in figuring out exactly what activities constitute lobbying and what "no substantial part" means, this 16-page brochure will help you. Many political and advocacy activities are not classified as either lobbying or campaigning. *C(3) or C94)? Choosing a Tax-Exempt Status* by Christine Cook is available for \$5 from River Network, P.O. Box 8787, Portland OR 97207-8787 [phone: 503-241-3506].

*The 1994 Florida LAKEWATCH Data Book* will be available soon. The 559-page book contains a summary of water chemistry data collected by LAKEWATCH volunteers for each of more than 400 lakes in the Program. It will also contain geological information, additional water chemistry and plant survey data collected by LAKEWATCH biologists on over 100 lakes. One copy will be available free for each lake sampled. Pick up your copy where you deliver your water samples. Copies unclaimed by January 1st will be distributed on a first-come/first-served basis by LAKEWATCH.

*SP 160 The Handbook of Common Freshwater Fish in Florida Lakes*, a 178-page handbook of fish facts in a convenient and usable form, by Mark Hoyer, University of Florida limnologist. Each of 39 most common fish of Florida lakes is treated with a line drawing, a color photo, and information including fish description and distribution, biology, biologist comments and a review of the Florida data. In addition, statistical tables for each fish show statistics for lake morphology, water chemistry and aquatic plant variables, population estimates for the fish, and various statistics about size and weight. Of interest to the serious student of fish whereabouts, is a comparison of fish species abundance in relation to environmental variables such as surface area, mean depth, pH, total alkalinity, specific conductance, water color, total P, total N, chlorophyll *a*, secchi depth, and percent area covered with plants. To order call: 1-800-226-1764. \$19 plus tax.

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*Enjoy your lake and stay in touch! S.F.*

This document was promulgated at a cost of \$.08 per copy for the purpose of public education on lake water quality, management and monitoring.