



*Florida*

# LAKEWATCH

Volume V

Fall, 1994

## The Vision

Most volunteers are well acquainted with the LAKEWATCH work they do on their own lake, but miss the opportunity to see the big picture. As a partial remedy, this issue presents an overview of who we are, what we are achieving by working together, and what the future may hold. Hope you are as inspired by the vision as I am.

*Sandy Fisher  
Field Director*

## LAKEWATCH U.S.A.

Lake monitoring can be described as "taking the pulse" of a water body. It is an act of caring and dedication, and Florida LAKEWATCH volunteers are leading the country in both.

*The Volunteer Monitor\**, the national newsletter of volunteer water quality monitoring, reported on a survey completed jointly by the U.S. E.P.A. Office of Water and the University of Rhode Island in which volunteer monitor programs across the country were inventoried for a national directory. They found in the past twenty years, the number of volunteer environmental monitoring programs in the United States has grown to over 517 in 45 states. Over half of these have been founded since 1990. In comparison to Florida LAKEWATCH which has over 800 trained volunteers, the median size of other programs is 25 volunteers. Only three states, Florida, Minnesota, and Wisconsin, monitor over 400 lakes.

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## Awards (We're Braggin')

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The Florida LAKEWATCH Program received **The Technical Excellence Award** from the North American Lake Management Society (NALMS) for "Outstanding restoration and protection in lake management projects." NALMS also presented plaques of appreciation and recognition to Senator George Kirkpatrick, Representative Bert Harris, and Representative Robert Sindler for their active support of Florida LAKEWATCH.

The Board of County Commissioners of Hillsborough County awarded a **Certificate of**

**Commendation** to the LAKEWATCH Committee of the Keystone Civic Association. The award reads, "In recognition of your outstanding leadership, exceptional effort and commitment to programs that protect and enhance the environment. Your accomplishments demonstrate the critical role each of us must play in improving our world."

Mr. Nate Hart, and other dedicated members of the Keystone group, worked tirelessly and finally succeeded in getting 900 acres of wetlands

and recharge area dedicated as the Cypress Bend Preserve. In addition, the Keystone group coordinates approximately 30 lakes in a community effort to monitor their water quality and to develop management practices in their watershed.

Mike Lopatka, an Orange County science teacher who has organized the LAKEWATCH Program at Edgewater High School, was awarded the **"AT&T Environmental Teacher of the Year Award"** for Florida in recognition of his and his students' activities.





## Be There Or Be Square



A historic event will take place starting on October 31st. The International Symposium of the North American Lake Management Society (NALMS) will meet in Orlando. Floridians will have the opportunity to attend this year's meeting without having to travel far from home.

For the five-day conference, special emphasis is being placed on events and topics of interest to the citizenry of lake enthusiasts and non-professional "lake managers." The five-day conference will include a wide variety of topics, including:

- algae
- fisheries
- water quality
- salinity intrusion
- aquatic plant control
- aquatic herbicides
- effects of aeration
- groundwater seepage
- assessing lake/stream water quality
- interacting with regulatory agencies
- watershed effects on water quality
- U. S. EPA Clean Lakes Program
- multi-use management
- stormwater treatment
- lake restoration
- grass carp
- sediment
- ecoregions
- fish contaminants
- oxygen management
- environmental contaminants
- environmental education
- effects of hydrology on water quality
- phosphorus management
- managing lake levels
- citizen involvement
- building coalitions for managing aquatic systems

On Tuesday, November 1, there will be a Special Session Workshop on Aquatic Herbicides which will address the question of whether herbicides can be used to manage aquatic vegetation safely. Come hear the scientific evidence, both pro and con, from Florida's leading researchers and experts so you can make well-informed decisions on this sensitive, and frequently misunderstood, issue.

In addition to the scheduled presentations (discussion sessions, panels, talks and workshops), social events (buffets, BBQs, etc.) will offer opportunities to talk informally with professional lake managers

from Florida and around the world, sharing problems, insights, and solutions.

**Registration discounts and "scholarships" are available for citizens, homeowner association members, Florida Lake Management Society members, and students -- so ask!** Contributions have been made to NALMS to sponsor citizen participation by paying your registration fees. Sponsorship of students includes room costs, too. To be sponsored by LAKEWATCH (on a first-come-first-served basis), call 1-800-226-5085 ext 2-9617 and sign-up with Dr. Canfield or Sandy Fisher.

Don't miss it.

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### LAKEWATCH U.S.A., *continued* . . .

Of the 517 programs surveyed, including Florida LAKEWATCH, 62% reported their data was being used by state government; 61% by local government, 56% by advocacy groups, 30% by federal government and 28% by university scientists.

Volunteers nationwide are surveying a wide variety of variables, including the extent and types of vegetation in and around their lakes, the extent of watersheds, location of stormwater inflows, levels of bacterial contamination, rainwater nutrient and herbicide contents, water chemistry, and populations of birds, reptiles, amphibians, fish, and anglers.

How is all this information used? According to the Volunteer Monitor survey, approximately 85 % of the programs surveyed use their data for education. Problem identification is the next most often-used category with 64%. Local decision making follows with 56%; research claims 44%. Forty-three percent of the programs use their data for non-point source assessment. Additional uses (and percent of programs using their data for these purposes) are watershed planning (41%), habitat restoration (31%), water classification and determination of standards (24%), enforcement (23%), legislation (16%), and 305(b) report to Environmental Protection Agency and Congress (10%).

Volunteers who begin taking data with a specific use in mind often find their information being used in unanticipated ways. Data is like any tool -- it can have many uses, and it's awfully helpful to have a hammer in the tool box when you need one.

*\*Statistics reprinted with permission from The Volunteer Monitor. (Refer to article on page 4)*



## LAKEWATCH Update

It may surprise you to know that LAKEWATCH has no permanent, full-time staff even though nine positions were authorized (yet never funded) in 1991.

To remedy this situation, the University of Florida is launching a "Special Initiative," in which they are asking the Legislature to fund five positions.

The five positions would be spread over five regions of the State, so volunteers would have better access to LAKEWATCH services. The same request was made last year and failed.

There is no doubt that citizen input will be the key to success this year. Don McEwen, LAKEWATCHer on Lake Tallavana is an active advocate of the Program. Don lead the way by preparing

an information packet about LAKEWATCH which he hand-delivered to his Senator, Tom Patrick. Don reports the experience, "was easier than I thought."

Do you want a LAKEWATCH coordinator in your area who can be more responsive to your needs, someone who can give you more frequent and complete feedback and more in-depth information? Do you want to monitor more variables? Are you interested in developing a lake management plan for your lake?

If you value the services LAKEWATCH provides, communicate with your legislators (they work for you), and **have them write a letter of support** to Dr. James M. Davidson; Vice President for Agriculture & Natural Sciences; P.O. Box 110180; Gainesville, FL 32611-0180. **Soon.**

**If the people lead, the leaders will follow.**

### Birders wanted

Help is needed in Statewide efforts to determine migration patterns, arrival times and distribution patterns of migratory aquatic birds.

Florida LAKEWATCH volunteers are being asked to help obtain this information for the area around their lakes so that it can be correlated with the characteristics of lakes in general. The data may help answer questions such as what types of lakes best attract and maintain a bird population.

As now proposed, the study would involve birders sampling their lake's aquatic bird population once per month and/or noting changes in the population on an on-going basis

If you would like to help out, please call Mark Hoyer at 1-800-226-5085 extension 2-9617 to enroll. You do not have to be a certified LAKEWATCH volunteer to participate.

### Turtle mystery -- clues sought

It first came to light over a year ago when the LAKEWATCH volunteer on Lake Chipco in Putnam County reported 102 dead turtles on the shore. Since then dead or dying turtles or declines in turtle populations have been reported on about half a dozen lakes ranging from Hillsborough County to Clay County.

The latest reports have been from Horse Lake in Hillsborough County where dead turtles have been sighted and from Lake Winnot in Putnam County where no turtles have been seen all year in contrast to the usual multitude of sightings in the past.

If you have information that would be helpful in determining the scope of this problem or its cause, please contact Dr. Ken Dodd of the U.S. Fish and Wildlife Service, at 904-372-2571. It would be most helpful if a sick, but still-living, specimen were found.



## IMPORTANT - -

**All Volunteers Note:** Please turn in your October, November and December samples to your collection center on a monthly basis. Do not accumulate them in your refrigerator. LAKEWATCH funding requires all 1994 samples be turned in, analyzed, computerized, and reported by a date early in 1995. Last year many volunteers held samples till the end of the year, making it necessary for the lab staff to work 24-hour shifts and hire extra help to meet the deadline. It is particularly crucial to get the December samples in as early as possible. Thank you.

## Tap Into The Information Loop

Does everyone have the **new training booklet** (blue cover) and the accompanying plastic reference card? Pick one up at your collection center or call LAKEWATCH.

The Department of Environmental Protection's Conservation Corps is employing approximately 40 young adults to help with environmental projects anywhere in the state. If you need help harvesting unwanted aquatic plants, planting beneficial aquatic plants, maintaining a park or recreation area, or other task, they may be able to fit your project into their schedule. Contact Ms. Pat Bush at 407-568-0216.

*The Volunteer Monitor*, a newsletter facilitating the exchange of ideas, monitoring methods, and practical advice among volunteer environmental monitoring groups across the nation is published twice per year and is free. To subscribe, write Eleanor Ely, Editor, 1318 Masonic Avenue, San Francisco, CA 94117, or phone 415-255-8049 (after noon).

A one-page EPC Fact sheet #1: **Ten Steps to a Healthy Lake** can be obtained by calling 813-272-5960 or writing The Environmental Protection Commission of Hillsborough County, Water Mgt. Division, 1900 9th Ave, Tampa, FL 33605.

*Domestic Duck Problems in Urban Areas* by Joe Schaefer, Urban Wildlife Extension Specialist. Call 904-392-4851 and ask for publication SS-WIS-23 or write The Department of Wildlife and Range Sciences, 118 Newins-Ziegler Hall, Gainesville, FL 32611; or contact your local County Extension Office.

Borrow or buy the 24 minute video **What Makes a Quality Lake**, featuring Dr. Daniel Canfield, Professor of Limnology at the University of Florida, by calling 904-392-1799.

"How to Create a Lake Management Plan" an excellent free guide by Jess VanDyke, from LAKEWATCH.

"Saving What's Left," from the Florida Audubon Society by staffers Drs. Peter Pritchard and Herbert W. Kale under a grant from Waste Management, Inc., is "a citizens' guide to the process, politics, and necessity of environmental land acquisition in the State of Florida." Cost is \$4.00. Phone 407-260-8300.

*Waterfront*, a free newsletter from The Center For Wetlands and Water Resources at the University of Florida, can be ordered by calling 904-392-2424.



## Finding Solutions

What has worked, or not worked, for you or your group? Let's share our experiences. Here are the results of three different approaches to three different types of situations.

### *Partnership approach*

The City of Dunnellon is working with the residents of Blue Cove in Marion County by submitting a grant proposal to the Department of Transportation (DOT) under their Transportation Enhancement Project.

Several years ago Blue Cove residents were alarmed to watch the water quality of their lake deteriorate (heavy algae blooms and frequent fish kills) after a storm drain hookup started bringing in drainage from HWY 41 which included many businesses, heavy traffic areas, and several shopping centers. The residents joined LAKEWATCH and monitored for a year to establish a baseline of data on their water quality.

Furnished with this and other information, the City of Dunnellon prepared a grant proposal in which they requested \$204,000 in Federal and State money to install a filtering system which would remove grease, oil and debris from the stormwater.

If the grant is approved, DOT will design and build the filter. For their part the City is donating the land and furnishing perpetual maintenance. The lake residents will be expected to fulfill the grant requirement that the water quality monitoring be continued for a year after the installation of the filter in order to determine its effectiveness.

### *Legislature funds lake management team*

Bill Daniel, a LAKEWATCH volunteer on Lake Jesup in Seminole County, teamed up with Representatives Couch, Constantine, Garcia, Kelly, Reddick, McMahan, Starks, and Senators Jennings, Dyer, and Siegel to obtain \$375,000 from the Legislature to begin the development of a lake management plan. The Legislature created the sixteen member "Friends of Lake Jesup" to serve as a lake restoration and basin management advisory team that is given the power to (1) review studies, data,

recommendations, and proposals specifically related to lake restoration or enhancement techniques and to advise the governing board of the St. Johns River Water Management District regarding solutions to be considered for restoration or enhancement of Lake Jesup, and (2) make recommendations to the governing board of the St. Johns River Water Management District for a Lake Jesup restoration and basin management program.

If the governing board of the St. Johns River Water Management District does not adopt all the recommendations offered by the team, the governing board shall provide a written statement explaining the reasons for its determination.

To other LAKEWATCHers who may want to form a management team, Bill Daniel found that publicity was his most effective tool. He "wrote articles for every newsletter and newspaper that would publish them, and even had a three-part program on TV" publicizing the Lake Jesup problems.

### *Funding for maintenance*

When maintenance or management is needed on a lake, most property owners chip in to share the costs. A growing problem has arisen, however, because of a few property owners who refuse to contribute.

On March 3, 1994, a hearing was held in the DeSoto County Court on a Motion for Final Summary Judgment brought by the Lake Suzy Lake Maintenance Corporation (LSLMC) which appears to set a legal precedent in these cases.

The court ruled the LSLMC is the proper party to enforce lake maintenance restrictions found in the original plat and they are empowered to pay for lake maintenance and assess the costs of that maintenance on a prorata basis over the original lots contiguous to the lake.



## Good News -- Lake Region Mapping Has Begun!

Developing a lake management plan is the goal of most lake users, but the task of developing individual plans for Florida's 9,000 lakes is overwhelming. With the help of the Florida LAKEWATCH volunteers, however, it becomes possible.

Dr. Dan Canfield, Professor of Limnology at the University of Florida and Director of Florida LAKEWATCH, has undertaken a project in which LAKEWATCH data will be used to map regions of the state in which lakes have similar qualities. Then, instead of having to develop thousands of individual management plans, a regional plan can be used for each Lake Region. Atypical lakes can be identified, using LAKEWATCH data, and management plans can then be modified to accommodate them accordingly.

This five-year project is possible only because Florida LAKEWATCH has such an extensive network of volunteers. Volunteers can take pride in the fact that their data will help preserve, not only their own lakes, but the quality of lakes and lake management across the entire state.

## Diversity Welcomed

Predictably, there are many lake homeowner associations involved in supporting LAKEWATCH, but a wide variety of groups also participate.

For example, Camp Crystal, an environmental camp used by children in the public school system in several counties in north central Florida is now actively involved. Students in several schools have adopted LAKEWATCH lakes, including Edgewater High School in Orlando, Walker Memorial Jr. Academy in Highlands County, Palm Coast High School in Flagler County, Evangel Christian School in Polk County and Boone High School in Orange County.

In addition the City of Orlando Stormwater Utility Bureau, the Panasoffkee Water Association, the Cities of Winter Haven, Ocoee, Sanibel and Lake Mary contribute either staff time, facilities, or support in some form. Citrus County Aquatics staff monitors lakes in the Tsala-Apopka chain, taking over in their airboats from volunteers when access became restricted due to low water levels.

Florida's Parks are part of the LAKEWATCH team either by having the rangers or staff trained to participate or by facilitating outside volunteers' efforts. Maclay Gardens State Park in Tallahassee, Lake Louisa State Park in Clermont, Gold Head Branch State Park in Keystone Heights, DeLeon Springs Recreation Area in DeLeon Springs, Silver Glen in the Ocala National Forest, Lake Wauberg Recreation Area in Alachua County and Cliff Stephens Park of Pinellas County in Clearwater are all helping to build databases on their lakes.

Lake users goals may differ, but the need for reliable data cuts across the boundaries. For instance, King Groves, the oldest citrus grove in Florida, has been LAKEWATCHing since May of 1990, and several fernery owners and realtors are monitoring lakes, too.

LAKEWATCH encourages working together, so we can find the best solutions.

## A Bird's Eye View of Lakes

Many lake residents and lake users believe that clear water lakes with few aquatic plants are "better" than greenish water lakes with lots of aquatic plants. Birds, however, may have a different preference.

A study to determine the relationship between bird abundance and species richness, and lake trophic state, lake shape, and abundance of aquatic plants has been completed using data from 46 Florida lakes by Mark V. Hoyer and Dr. Daniel E. Canfield, Jr. of the Department of Fisheries and Aquatic Sciences at the University of Florida.

Their conclusion states in part, "...a water body's trophic status is a major factor influencing species abundance (numbers and biomass) and richness.... Productive aquatic ecosystems are able to support a greater number and biomass of organisms and more specialized species.... For many lakes, eutrophication control is a major management objective and

*continued next page*



## Bird's Eye View, continued . . .

current lake management strategies generally include attempts to reduce nutrient concentrations through lake drawdowns, alum treatments, and nutrient diversions.... Successful eutrophication control programs, however, have resulted in reductions in fish... and similar reductions in bird abundance and species richness could be expected based on the results of this study. Eutrophication abatement programs should therefore be planned with full consideration of the potential trade-off between cleaner water and reduced fish and bird populations."

Copies of *Bird abundance and species richness on Florida lakes: influence of trophic status, lake morphology, and aquatic macrophytes* can be obtained from LAKEWATCH.

## FYI

On behalf of the Florida LAKEWATCH Program, we want to thank Stan Jernigan for donating a much-needed freezer to the Lake Region Lakes Management District Collection Center in Polk County. The old one was a mess and the door was problematic. The new one is wonderful!

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Ken McKay on Gertrude in Lake County wrote a handout on the proper use of fertilizer for lakefront property owners. He then spent 20 hours hand delivering them to approximately 200 homes around his lake. Ken has caringly monitored Lake Gertrude since May, 1990, without missing a single month.

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Almost ten percent of the attendees at the recent Florida Lake Management Society/Lakes Education-Action Drive Conference in Orlando recently were Florida LAKEWATCHers.

The group included Dr. Art Dutton, retired Professor of Statistics who has monitored Lake Georgia since 1989, Bill Daniel on Lake Jesup who is spearheading the development of a watershed management plan, Buddy Elmore who monitors nine lakes for the City of Ocoee, Mary Anderson who monitored two lakes in Cliff Stephens Park in Pinellas County for several years, and Bob Owens

## FYI, continued . . .

from Brant in Hillsborough County. Orange County was well represented by Jim Walsh on Jessamine, Ron Blair on Lawsons, Lucy Cogswell who organized volunteers on the Butler chain, Bruce Fallon on Eola, and Cindi Stewart from Pearl.

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A product made from recycled plastic and waste wood which can be used for dock and deck uilding will be one of many products that will be exhibiting at the NALMS conference (see page 2). It needs no sealants or insecticides, contains no preservatives, can't be damaged by moisture, and resists UV damage. Call 1-800-BUY TREX. This information is not an endorsement of this product, but is merely informational.

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Memory tweaker: a volunteer has suggested it is helpful to write the station location landmarks on each sample jug. Several other volunteers have made laminated photos of the landmarks for reference.

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Gerry Jaillet of Lake Ola in Orange County measured that a freshwater clam (corbicula) moved approximately 1/4 inch in five minutes. He calculated that to be 0.0000473 mph and concludes, "It is safe to assume you can pull out in front of a clam."

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Reminder: do not let water be sucked up into your hand pump when you are filtering your algae samples. Water will damage the pump and the manufacturer seals them so they are not repairable. Some of the flasks distributed in 1994 hold less than 1000 mL, so watch those water levels.

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Thanks go to Anthony Ackrill, graphic artist, for layout consultation on this Newsletter.

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There are exciting developments on the horizon in Florida. Lake users are finding their voice. We will try to keep you updated. In the meantime,

**keep up the good work  
and stay in touch!**



## Volunteers "Red Flag" Problems

Since most LAKEWATCH volunteers live on their lakes, they are the first ones to spot problems or to have made observations which can be helpful in finding solutions.

For example, Gerry Jaillet, LAKEWATCH volunteer for Lake Ola in Orange County since October, 1990, contacted LAKEWATCH in June, 1994 to report the *Nitella prolunga* (multicellular green algae that anchors to the bottom sediments and can grow up to 5 feet) seemed to be dying. LAKEWATCH biologists were sent to investigate.

The dying plants were easily spotted, resembling bare sandy patches on the lake bottom. The *Nitella prolunga* was turning white and falling in upon itself. Algae and other organisms were attaching to it. After some time, the dead material appears to rise to the surface in gelatinous mats of decaying matter.

Samples of the dying *Nitella prolunga*, along with healthy plants for comparison, were taken to a Professor of Pathology at the University of Florida, Dr. Raghavan Charudattan. Several

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fungi and bacteria species were identified on the infected plants, that were not found on the healthy specimens.

Dr. Charudattan is in the process of cultivating healthy plants and trying to infect them with the fungi and bacteria to determine if they are the cause of the plants' decline. If so, appropriate action can be taken in the early stages of the problem because of the intervention from an alert volunteer.

A second example comes from North Blue Lake in Polk County, which was found to have extremely high levels of nitrogen of unknown origin.

Maurice Logan, LAKEWATCH monitor on North Blue since

1991, noticed small depressions on the lake bottom with sand and shell debris surrounding them. He wondered if some type of underground water intrusion could be forming them and perhaps be the source of the nitrogen.

Dr. David Robert Lee of the University of Waterloo in Ontario has developed a device to measure seepage flux underwater. LAKEWATCH biologists, built a modified version of Lee's device and took it to North Blue Lake.

The first day of testing indicated there was very little inflow of water from the depressions, but a surprisingly high level of ammonia was present.

Additional testing will be performed to find out, for instance, if part of the testing procedure itself may be contributing to the production of the ammonia. As the testing procedure is refined, additional variables will be measured to provide clues to the source of the inflowing water and possibly to the nitrogen.

By Dan Willis  
LAKEWATCH Biologist



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This document was promulgated at a cost of \$.08 or 8 cents per copy for the purpose of public education on lake water quality, management, and monitoring.