

# LAKEWATCH

A Publication Dedicated to Sharing Information About Water Management and the Florida LAKEWATCH Program Volume VIII Winter 1997



Greg Stauffer, left, a graduate student in fisheries and aquatic sciences, peers through an aquarium at a tank full of young redcap oranda with Assistant Professor Andy Lazar. Tropical ornamental fish such as these are the number one air freight item out of Tampa's international airport. (Photo by Thomas Wright, courtesy of IFAS media)

## New Law Promotes Florida Aquaculture

A comprehensive Aquaculture Bill became law October 1, 1996. According to Mr. Mark Berrigan with the Florida Department of Environmental Protection, "the new law has not changed water quality standards or guidelines, or weakened existing environmental protection standards, but is an attempt to consolidate and simplify what is already in existence, and has been for years."

However, concerns and questions have been raised by some Florida lake residents. The following article is an attempt to give readers a general understanding of the new Aquaculture Law (Chap. 96-247 Laws of FL). A detailed analysis isn't possible here, as it contains 33 sections and hundreds of provisions. A summarization (Bill Analysis 1996 SB 602 Relating to Aquaculture), as well as a more comprehensive analysis, can be obtained by contacting Mr. Mark Berrigan, Florida DEP, 3900 Commonwealth Blvd., MS 205, Suite 822B, Tallahassee, FL 32399, (904) 488-5471.

**W**ebster's Dictionary defines **Aquaculture** as "the cultivation of the natural produce of water, such as fish or shellfish." As the term itself suggests, water is an essential component in this very specialized farming technique.

Aquacultural "produce" can include hundreds of species of tropical ornamental aquarium fish, aquatic plants, sport and game fish (largemouth bass, bluegill, redear sunfish), food fish (hybrid striped bass, tilapia, and channel catfish), as well as edible shellfish (oysters, clams and shrimp).

A 1996 survey, conducted by Florida Agricultural Statistics Service, reveals that Florida aquaculturists sold \$79 million in aquacultural products in 1995, more than double the sales reported for 1987. Tropical ornamental fish, just one facet of the aquaculture industry, represents 67 percent of aquaculture sales in 1995. With profits

reaching \$52.5 million. Ornamental fish qualify as the single largest airfreight export in the state. Aquatic plants (for aquariums, ornamental pools, and farm-produced plants used in wetland restoration projects) ranked second, with 72 growers and \$8.6 million net sales in 1995. Clam production earned \$5.4 million, a 48 percent increase from 1993.

As impressive as these statistics are, the aquaculture industry has had its share of struggles. Until now, it has been one of the most unpredictable farming propositions around, for several reasons. Topping the list is the fact that aquaculturists were not able to insure their crop and risked losing an entire year's harvest as a result of natural disasters such as storms, freezes, and disease. The new law changed this situation by declaring, for the first time in the state of Florida, that aquaculture is classified as a valid (CONTINUED ON PAGE 4)



## From the director

A new year is upon us — a time to look back over the past year while gazing forward to the future.

I can unreservedly report to all of you that the LAKEWATCH crew worked very hard last year. Volunteers now number over 1500 across the state on about 600 water bodies, monitoring more freshwater sites than any single agency in the state! I frequently enjoy the picture in my mind's eye of this group setting out every month in their various crafts, paddle boats, canoes, pontoon boats, kayaks — anything seaworthy. The accomplishments of our LAKEWATCH "fleet" are impressive.

LAKEWATCH expanded in other areas as well, in 1996. Forty-two collection centers around the state were established for volunteers to drop off their samples and pickup supplies. A one-year grant from the U.S. Environmental Protection Agency permitted lifting the enrollment cap to add 100 new lakes statewide. LAKEWATCH hosted twenty gatherings in different regions of Florida, giving our volunteers and friends the opportunity to get together to share experiences, concerns, and information.

Our strength is in our diversity as many groups pitch in. The Highlands County Lakes Association spearheaded a grant from the Peace River Basin Board that will enable the training and equipping of sixty new LAKEWATCH lakes in Highlands County. Hillsborough County, with the cooperation of the South Florida Water Management District, has hired Dr. Jim Griffin to work with LAKEWATCH to train 60 lakes there. Jim (or "Dr. Duck" as he is known on the Internet), was formerly the Director of Water Quality Monitoring Programs for the Indian River Lagoon Volunteer Monitoring Program.

Working closely with Jim, is Mr. John Brenneman of the Agricultural Extension Service of the University of Florida's Institute of Food and Agricultural Sciences (IFAS). John has allowed us to benefit from

his considerable skill and agricultural background by doing an outstanding job of working with LAKEWATCH volunteers in the Polk and Hillsborough areas.

Listing all the LAKEWATCH partners would require several pages and include Agricultural Extension Offices, State Parks, public and private schools, fire stations, city and county municipalities, Water Management Districts, local real estate offices, environmental groups, and homeowner associations.

What does the future hold?

First things first. As many of you know, our budget must be annually approved and requires support from the state legislature. Letters you write to educate legislators about the LAKEWATCH program are literally worth their weight in gold. This becomes particularly important this year, as there are many newcomers in the legislature that may not be familiar with the LAKEWATCH program.

LAKEWATCH has several new pioneering projects in the works for 1997 — for example, working with volunteers to collect fish samples for mercury testing as part of a cooperative effort with Florida Game and Freshwater Fish Commission (GFC), coastal monitoring in the Big Bend area, and monitoring underwater springs. I am very proud of what we are able to accomplish by working together.

As always, LAKEWATCH is pledged to continue gathering high quality information, improving education and communication, and doing our best to provide Floridians with the tools needed to make informed water management decisions.

And at this time of year, it is important to learn from our past while looking forward with optimism to our future. I hope LAKEWATCHers and friends are eager to don their LAKEWATCH hats and "boldly go where no one has gone before." It promises to be an interesting trip.

Sandy Fisher  
Director

## LAKEWATCH has a new number!

**1-800-LAKEWATCH**  
**(1-800-525-3928)**

Volunteers, please make a note of our new number.

P.S. All toll free calls are charged by the minute, so we do ask that callers anticipating lengthy calls please leave a message and we'll call you right back..

Or call LAKEWATCH's original number (352-392-9617, ext. 228 )

Thank you!

## INNOVATIVE PARTNERSHIPS

**Grayton Beach State Recreation Area** Park Rangers are working in cooperation with citizen volunteers to sample lakes in the park.

**Washington County Extension Office** is assisting citizen volunteers (leaders of a 4-H Marine Science Club) and their families by providing a UF/IFAS vehicle for transporting collected water samples.

**Palm Beach County Master Gardners** ran an article in their newsletter to recruit new LAKEWATCH volunteers.

### Florida

## LAKEWATCH

newsletter is generated by the Florida LAKEWATCH program, within the Department of Fisheries and Aquatic Sciences of the Institute of Food and Agricultural Sciences (IFAS) at the University of Florida (UF). Support for the LAKEWATCH program is provided by appropriations from the Florida Legislature, contracts, grants and donations.

For more information about LAKEWATCH, to inquire about volunteer training sessions, or to submit materials for inclusion in this publication, write to:

Editor / Florida LAKEWATCH  
7922 NW 71st Street  
Gainesville, FL 32653-3071  
or call 1-800-LAKEWATCH (1-800-525-3928)  
or 352-392-9617 ext. 228

All unsolicited articles, photographs, artwork or other written material must include contributor's name, address and phone number. All submissions shall remain the property of Florida LAKEWATCH and cannot be returned. Opinions expressed are solely those of the individual contributor and do not necessarily reflect the opinion or policy of the Florida LAKEWATCH program.

Inclusion does not constitute endorsement, nor does exclusion represent censure of any item, organization, individual, or institution by the University of Florida or the Florida LAKEWATCH program.

Director  
Chemist  
Editor

Sandy Fisher  
Mary Stonecipher  
Amy Richard



UNIVERSITY OF  
FLORIDA

Institute of Food and Agricultural Sciences  
Department of Fisheries and Aquatic Sciences



# Anatomy Of A Lake Association

*In response to requests from LAKEWATCH volunteers, we will be including an ongoing series of articles about lake associations in our newsletters this year.*

*The following article was written by A. Richard De Luca, and is an excerpt from LAKELINE magazine, June 1995. Although DeLuca's article is based on a study of lake associations on northern lakes (New Jersey), it does include many of the basic components found in lake associations. Segments of the article were edited, due to space limitations.*

*—Editor*

## ORGANIZATION

A lake community association's constitution and bylaws establish the management structure, and normally consist of a **Board of Trustees, officers, and committee chairs**. Board size is related to the size of the lake community membership base. Small lake associations (fewer than 100 property owners) typically elect an average of five to six trustees, while the larger lake associations elect as many as twelve to fifteen trustees. Most lake associations elect four officers: president, vice-president, secretary, and treasurer. In small lakes, the secretary and treasurer functions are often combined. Some of the larger lake communities also elect a 1st vice-president. Board members normally serve two to three-year terms, while officers serve one to two-year terms. There are usually no re-election limits.

Committee chairs operate very much like first line supervision in the business world; they direct day-to-day operations and make actionable decisions affecting routine services, with (or frequently without) officer or board participation.

## COMMITTEES

Lake associations are committee-driven organizations. Even in the smallest lake communities, one finds as many as six or seven committees functioning. In all except the very largest lake communities (over 1,000 members), all the work is performed by volunteers. Only larger lake communities employ paid personnel, usually a small office staff, lifeguards, maintenance personnel and in a few cases, a professional "lake manager". In all the lake communities, volunteers serve as

officers and trustees, staff the committees and carry out most of the community's activities. Trustees are usually appointed as liaison to one or more committees. In some cases, officers also assume liaison roles.

Common committees are Ecology/Water Quality, Finance and Budget, Beach, Maintenance, Membership, Social, Fishing, Planning and Athletic. The lakes which own their own roads have a Roads Committee. A few have a Clubhouse Committee.

An **Ecology/Water Quality Committee** manages the lake's water quality and fishery. It contracts with lake consultants for water treatment, water testing, water quality studies, and the like. In a few cases, this committee also monitors the lake's watershed to protect the lake community's interests.

**Finance Committees** assemble the annual budget based on inputs from the various committees, and recommends the budget to the Officers and Board. After the budget has been approved, this committee monitors the association's spending. A recent trend is the development of a separate Capital budget for repair and replacement of fixed assets (clubhouse, renovations, or road work, if roads are privately owned).

An **Athletic/Recreation or Social Committee** organizes and oversees the operation of various team and recreational sports or social activities associated with the lake. *(In Florida, these activities might be water skiing, volleyball, or even golf if the lake is located in a golf course community. - Ed.)*

A **Membership Committee** promotes the community, recruits and organizes information sessions for new members, handles communications. Some lake communities even employ a separate **Communications Committee** to strengthen member communications, which (this researcher has found) can be a key to high operational and organizational effectiveness.

## FINANCES

The major financing vehicle for all lake communities is annual dues, combined with member initiation fees which range from under \$100 to \$500. An increasing number of lake communities give senior discounts between 20 percent and 50 per-

cent. Average dues are highly variable being primarily a function of the variety of services offered and facilities maintained. The most common ranges \$100-\$300, with significant variances.

Annual budgets are highly variable; in the under 50-member population, the range was \$1500 to \$17,500, while in the 300-499 member associations, the range was \$523,000 to \$205,000. These large variations reflect the types of expenses involved in carrying out the services performed, which might include dam and road maintenance, garbage collection, gypsy moth spraying and clubhouse repair and maintenance.

## EXTERNAL RELATIONS

Lake associations must deal with internal and external constituencies. In the latter category, at the municipal level, the Planning and Zoning Board, Police and Health departments and the Environmental Commission are crucial. At the county level, Soil Conservation Districts and Health departments are involved; at the state level, the Dept. of Environmental Protection, the Health department, and the Fish, Game and Wildlife department actively interact with the lake communities.

The 63 lake communities involved in this study reported over 25 types of problems. The following were the most common, in order of priority:

Lake water quality, weeds and algae, member apathy—particularly the increasing difficulty of obtaining enough volunteers to perform the expected services, nonpoint pollution and soil erosion, septic maintenance, vandalism, over-regulation, particularly by state agencies, poaching and trespassing, finances, facilities maintenance.

## CONCLUSION

Managing a lake community involves many challenges which are different from those found in other types of organizations. Therefore, individuals who assume managerial responsibilities in lake associations need to understand the scope and content of operations and the internal and external constituencies to which they must relate in carrying out their management responsibilities.



## **SURFACE WATER CLASSIFICATIONS:**

Most state water regulatory agencies reference the following categories as a way to define water quality.\*

- CLASS I: potable (drinkable) water
- CLASS II: used for shellfish propagation (breeding) or harvesting
- CLASS III: appropriate for recreation, fish & wildlife propagation
- CLASS IV: used for agricultural water
- CLASS V: waters used for navigation, utility and industrial uses

\*From the Florida Administrative Code (FAC) Chapter 62-302.400

## **HOW MUCH DISCHARGE IS INVOLVED IN A TYPICAL AQUACULTURE OPERATION?**

Dr. Chuck Cichra (Dept. of Fisheries and Aquatic Sciences at UF) says that it's almost impossible to estimate a "typical amount" of discharge involved in an "average" aquaculture operation, as there are too many variables to consider.

He did point out however, "It's in an aquaculturist's best interest to reuse their production water; it's a whole lot cheaper and easier for a fish farmer to recycle water than pump new water from a well, or some other source. Many production ponds are used for years before they need to be drained; some are never drained.

"If a farmer does need to drain fish ponds, it's almost always pumped or gravity-fed into a retention pond and eventually pumped back into the production ponds. Sometimes production water is pumped into adjacent ditches and allowed to seep back into the production ponds from the ditch — using the soil as a natural filter.

Lastly, Dr. Cichra says, "Most water releases from production ponds are incidental as a result of heavy rainfall, and such occurrences are sporadic, depending on weather patterns." In addition, "if a fish farm were to happen to discharge pond water to surface waters more than 30 days per year (and produce more than 100,000 pounds of fish per year...), they would be required to obtain industrial waste water permits."

## **Aquaculture Law... (continued from page 1)**

agricultural pursuit and provides for it to be regulated similarly.

The permitting process has also been an issue for aquaculturists; for years the state didn't officially recognize *aquaculture* as *agriculture*, so "water farming" remained in a regulatory gray zone. Regulators lumped aquaculture with industry, requiring aquaculturists to obtain *industrial* waste water permits. For the smaller aquaculture operations (typically a farmer raising under 10,000 pounds of fish in less than 10 acres of water, with none of the water leaving the property) these permits were prohibitively expensive and time consuming.

This issue prompted the Florida DEP to contract with University of Florida's Department of Fisheries and Aquatic Sciences to conduct a major study (in 1990) on water quality of aquaculture effluents. Data from the study, along with data collected from ornamental fish farms (by the DEP), revealed that, in general, aquaculture effluent met state standards for Class III water\*, "thus justifying the development of a general aquaculture discharge permit for channel catfish, tilapia, sportfish fingerlings and ornamental fish in Florida."

As a result of the study, it was decided that general (freshwater) fish farm permits are adequate for most aquaculture ventures; any project deviating from the general permit guidelines would, however, need industrial wastewater permits. Smaller fee-fishing operations (with a standing crop of less than 1000 pounds of fish per acre), fish farms growing only native fish, and farms that produce less than 10,000 pounds of fish, with no discharges to state surface waters are exempt — as long as they don't violate state water quality standards, or discharge to Outstanding Florida Waters (OFWs).

According to Dr. Charles Cichra, who helped conduct the UF study, the new aquaculture law is in no way a free-for-all for aquaculturists. "Fish farm permits are still required and fairly restrictive, it's just that some redundancies are eliminated. Our study showed that if an aquaculture farmer follows Best Management Practices, guidelines, and restrictions spelled out in the general permit for fish farms, then effluents from these operations will generally be within acceptable water quality standards. By staying within these set guidelines, farmers can avoid having to collect the same water quality data that we've already collected, and will only be required to have the general fish farm permit, as opposed to industrial wastewater permits."

While the permitting process is made more reasonable for the farmer, it places a great deal

of responsibility on the DEP and Water Management Districts to streamline the permitting process, and act as liaisons for the different agencies.

However, the DEP and WMD's aren't the only agencies with added responsibilities. Kal Knickerbocker, with the Florida Department of Agriculture and Consumer Services (DACS) stated recently, "The aquaculture bill gives DACS two new responsibilities: The first one involves the department running an Agricultural Certification Program to identify and certify aquaculture producers, and products (such as fish and plants) as separate entities from Florida wildlife." He added that "DACS will not be setting or regulating standards, or dealing with quality control, but will be simply identifying the products."

"Our second responsibility is to serve as an ombudsman in a mediating or moderating role, if any problems should arise (such as environmental issues or conflicts), as a result of an aquaculture farmer applying for permits. It will be the responsibility of our department to help find solutions that will be economically feasible as well as environmentally sound."

**"In the past, aquaculturists had to apply for six to as many as twelve permits. Now they only have to apply for one. It helps consolidate the entire process."**

**—Kal Knickerbocker  
Department of Agriculture and  
Consumer Services**

Knickerbocker continues, "The regulating aspect of the industry, however, will be handled through the DEP. This is unusual in that it puts DEP in the position of serving as a consultant to the industry. Once an individual applies for a permit for aquaculture activities, it will be the responsibility of the DEP to find the different agencies that would have regulatory control over the activity and to determine whether or not the project meets all the requirements for the permit. In the past, aquaculturists had to apply for six to as many as twelve permits. Now they only have to apply for one. It helps consolidate the entire process."

Mark Berrigan (DEP) also helped clarify the bill's permitting segment: "In it's effort to consolidate the permitting process, the DEP



will be responsible for permitting *saltwater* aquaculture activities and WMDs will be responsible for permitting *freshwater* aquaculture activities."

He adds, "when sovereign lands are part of the permit process, the DEP is the appropriate permitting agency; when a consumptive use permit or an environmental resource permit is required, the local WMD would be the appropriate permitting agency."

In an effort to alleviate concerns about any possible loopholes in the permitting process, Mr. Berrigan explains, "the ability of local government to approve or deny a permit for aquacultural activities on submerged state lands is a critical component of the permitting process. If someone is planning to lease public lands to practice aquaculture, it would require approval from the Board of Trustees and would probably involve public hearings, if necessary. It's also important to remember that DEP's primary responsibility remains environmental protection, and aquaculture activities are secondary. The DEP is constantly evaluating aquacultural activities to determine whether or not they're consistent with the state's management goals."

Florida lake residents will be relieved to hear this, as there has been some trepidation about these issues and the new law in general. Shirley Little, a resident of Lake Weir, stated recently that she does not oppose aquaculture, but thinks that "the bill appears to set aside some water quality issues." She also questions "whether or not aquaculture is appropriate in aquatic preserves," which fall under the permitting jurisdiction of the DEP in the new bill. Lastly, she expressed a concern that the new bill "does not appear to place any limitations on native vs. non-native species," and thinks these issues need to be looked at.

Mr. Berrigan acknowledges her concerns about native vs. non-native species by stating, "the DEP has an amendment to the aquaculture bill that will go before legislators this year that addresses certain standards and criteria dealing with the use of native and non-native species in aquaculture—including disease prevention, safeguards against accidental introduction of non-native species, and specifying Best Management Practices."

With questions being raised about Florida aquaculture and its possible effect on lakes, one thing is for certain—Florida residents can only gain by staying informed about this growing industry, and by being active participants in local lake management issues.

**FLW**

(\* see side-bar for surface water classifications)

# VOLUNTEER BULLETIN BOARD

Citizen groups (such as Friends of Lake Hickory Nut) often wish to make donations to LAKEWATCH. If you are considering making a tax-deductible donation, checks should be made out to:

*University of Florida Foundation.*

Mail to: **LAKEWATCH**  
7922 NW 71st Street  
Gainesville, FL 32653

## E-Mail LAKEWATCH

E-Mail correspondence concerning LAKEWATCH, including submissions to the newsletter, questions for the director, or requests for information concerning lake ecology, etc. can be sent to the following e-mail address:

**lakewat@nervm.nerdc.ufl.edu**

## Calendar of Events\*

### FLORIDA LAKE MANAGEMENT SOCIETY EIGHTH ANNUAL MEETING

West Palm Beach, **May 7 - 9, 1997**

Contact: Chuck Hanlon, Conference Chairman (561) 687-6748

### ECOSYSTEMS AND HABITAT: RESEARCH, MANAGEMENT, AND RESTORATION

17th Annual Meeting of the Florida Chapter American Fisheries Society  
Withlacoochee Training Center, Brooksville, Florida

**February 25 - 27, 1997**

For more information contact:

Larry Connor, Program Committee Chair

Florida Game and Fresh Water Fish Commission

PO Box 1903, Eustis, FL 32727-1903 or e-mail at: larryc@mail.state.fl.us

### FLORIDA 2020: VISIONS OF OUR FUTURE

The Third Annual Public Interest Environmental Conference

University of Florida, Reitz Union **March 20 - 22, 1997**

For more information & registration materials contact:

**Public Interest Environmental Conference Committee**

Bruton-Geer Post Office Box 117640

University of Florida College of Law

Gainesville, FL 32611

Voice (352) 846-1198 or FAX (352) 392-1457

**piec.law@law.ufl.edu** **http://grove.ufl.edu/~els**

\*Inclusion does not constitute endorsement, nor does exclusion represent censure of any item, organization, individual, or institution by the University of Florida or the Florida LAKEWATCH program.



# CONGRATULATIONS

## Edgewater High School Lake Sentry Program

LAKEWATCH hats are off to students in the Edgewater High School Lake Sentry Program, recent recipients of a Disney Community Service Award. Of the 532 agencies that participated in the awards program, only 74 were selected as finalists—and the EHS Lake Sentry program was one of them, receiving a trophy and a \$3000 grant award in the Environmentalist category. The award will benefit the program, which largely depends upon outside sources of funding.

These same award-winning students are working with Florida LAKEWATCH, as part of their Science curriculum in the *Lake Sentry* program. Every month, students collect water samples (for LAKEWATCH) in nine lakes in the Orlando area. Once they've

collected the water samples for LAKEWATCH, the Environmental Engineering class takes things several steps further, by training students to operate professional lab equipment, such as the Hydrolab and the Atomic Absorption Unit (AAU). Students analyze the chemistry of the water, as well as the physical characteristics and the biological aspects.

Individual environmental projects are also part of the curriculum. For example, one group of students is working to restore the lake shore on Lake Silver; another student is working to build a dock on Edgewater's campus. Some students write grant applications, others study various qualities involved with the ecological impact that is made upon the surrounding ecosystem.

## Correction:

In last issue's Boating Safety article, the statement: "it's no wonder PWC activities aren't covered under standard life insurance policies, (according to the Florida Insurance Commissioner's Office)," was erroneous.

According to the Florida Insurance Commissioner's Office, it is up to each individual insurance company as to whether or not PWC activities are covered on standard policies. For more information about this issue, call the Florida Insurance Consumer Hotline at:

1-800-342-2762.

## LETTER TO THE EDITOR

Dear LAKEWATCH,

The LAKEWATCHer's of Lake Hickory Nut have done it again! We had our annual "Country Fair" and were able to raise donations for our "Gift" to Florida LAKEWATCH. We sold hamburgers, hotdogs, drinks, and chips and also had a donation jar for coffee. You would be amazed at all the 'Friends' that gave donations to your wonderful cause. This is just our way of showing how much all of you are appreciated here at Lake Hickory Nut. We hope that you will be able to put this gift to good use. We were able to raise almost double the amount from last year! Please find the enclosed check from your 'Friends of Lake Hickory Nut LAKEWATCHers.'

Linda Temple / LAKEWATCHer



## Lab Notes:

Periodically, LAKEWATCH volunteers request an identification of algae samples, usually when the algae is posing a problem on their lake. When this happens, we ask that you DON'T freeze the samples. It's virtually impossible to identify the algae once it's been frozen and then thawed. The best bet is to call LAKEWATCH (feel free to use the toll free number) and arrange a pick-up of the samples. In most cases, with proper packaging, samples can be mailed to us.

Also, lake samplers may be hearing from us more frequently this year. We are trying to touch base every few months to see how the sampling is going. If you have any questions, or need more supplies, don't hesitate to call 1-800-LAKEWATCH (1-800-525-3928) to let us know. Keep up the good work!



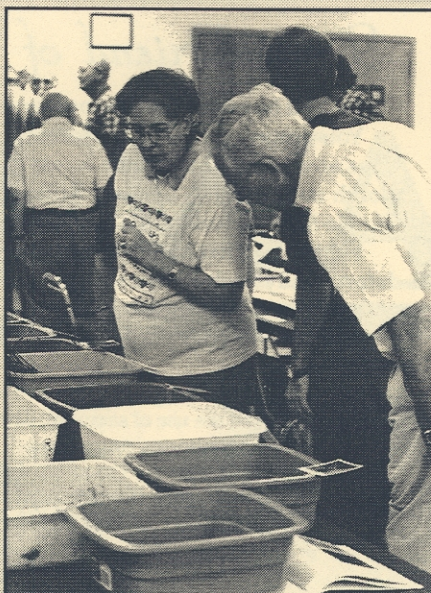
## REGIONAL MEETINGS TAKE ON A NEW LOOK

In an effort to continue sharing lake ecology and lake management information with our volunteers, LAKEWATCH staff have developed several new displays that will be featured at regional meetings around the state this year.

For starters, data sets and graphs on each lake (per region) will be displayed so that comparisons can be made between the different lakes; the graphs allow LAKEWATCH volunteers to compare and contrast their lake with others in the region. LAKEWATCH staff will also be on hand to answer questions folks might have about the data sets.

Aquatic plant displays (see photo) will also be included, providing an opportunity for LAKEWATCH volunteers to view (and ask questions about) a broad selection of aquatic plants and algae.

Another display *What Is The Trophic State Of Your Lake?* gives viewers a better understanding of the term



*Volunteers peruse aquatic plant display at a Putnam County regional meeting.*

"trophic state," illustrating the difference between **oligotrophic**, **mesotrophic**, **eutrophic** and **hyper-eutrophic** lakes.

Lastly, participants will have fun exploring the *What Does LAKEWATCH Do?* display, featuring several local lake residents including a frog, bass, turtle and even zooplankton.

## LAKEWATCH Data Books Now In Libraries

LAKEWATCH data books, with collected water quality data from 1992 through 1995, are now accessible to the public in Florida's nine state university libraries, as well as the state's five regional Florida Water Management Districts (WMD's).

Volunteers that have been with the program for several years should already have data reports for their lake. However, many new volunteers do not have them and may wish to gather information about their lake from previous years; they will be glad to know they can access this information directly at the libraries or WMD's.

Annual data books include long-term (yearly) as well as monthly data on nutrients such as phosphorus, nitrogen, and chlorophyll *a*. Long term water clarity information (Secchi disk readings) is also provided and can be useful for those looking for long-term trends. The 1993 and 1994 reports include plant survey information; copies of 1994 databooks are still available upon request.

A comprehensive 1996 data report is now in progress and will include data on every lake that LAKEWATCH has ever monitored. (All other yearly reports include only lakes that were monitored that particular year.) Citizens interested in obtaining the 1996 book can call or send in requests to receive the book at cost.

### FLORIDA WMD's

Northwest Florida WMD (Havanna)  
Suwannee River WMD (Live Oak)  
St. Johns River WMD (Palatka)  
Southwest Florida WMD (Brooksville)  
South Florida WMD (West Palm Beach)

### STATE UNIVERSITIES

University of Florida (Gainesville)  
Florida International University (Miami)  
University of Central Florida (Orlando)  
University of West Florida (Pensacola)  
University of South Florida (Tampa)  
Florida A & M (Tallahassee)  
Florida State University (Tallahassee)  
Florida Atlantic University (Boca Raton)  
University of North Florida (Jacksonville)

## Florida

# LAKEWATCH

The *Florida LAKEWATCH* program facilitates citizen participation in the lake management process by: training and certifying volunteers to collect water samples from designated lakes, and providing the sampling equipment and chemical analysis.

LAKEWATCH staff then compiles and analyzes the data generated (as a result of the volunteer sampling) and makes this information available to the public by: talking with interested citizens, and meeting with volunteers and lake management groups, school groups, government and regulatory agencies, and community businesses on a regular basis to provide the results of the lake water sampling and address how this information relates to lake management options and to citizens' specific concerns.

The *Florida LAKEWATCH* program welcomes volunteers who are willing to participate in a long-term effort to monitor lakes in their region.

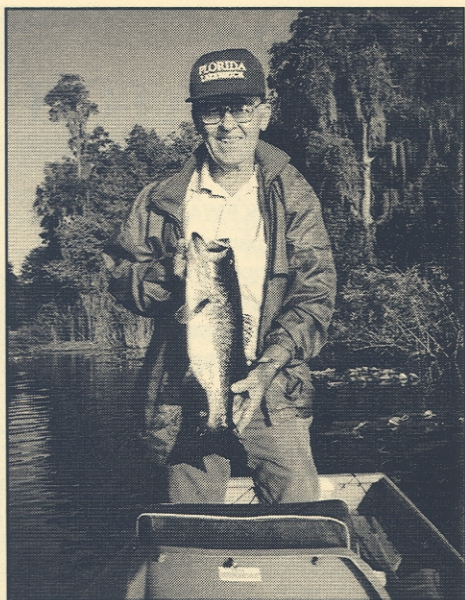
The Florida Legislature created the LAKEWATCH program in response to citizen demand (Chapter 91-69; s 240.5329, F.S.), within the Department of Fisheries and Aquatic Sciences of the Institute of Food and Agricultural Sciences at the University of Florida (UF/IFAS) in 1991. The information generated by this program will be useful in fulfilling Federal 305(b) requirements and in developing Ecosystem Management Plans. All LAKEWATCH data is included in the STORET data base for use by all State agencies.

## NOTICE TO READERS

We've had several requests recently from folks wanting to reprint articles from their LAKEWATCH newsletters.

We'd like to take this opportunity to encourage you to use or reprint information you find to be useful. Of course, we'd love any credit you can give us....so readers know where you saw it first!





### Nice catch Marvin!

Congratulations to Marvin Dawkins for catching his biggest bass ever (weighing 7 pounds) while wearing his lucky LAKWATCH hat.

## Dear Friend of Your Lake,

Do you have a concern about your lake and an interest in its future?

You deserve help in your efforts to learn about and manage your lake's precious ecosystem. If you have access to any type of boat, can spend two hours each month on your lake, and are willing to monitor for at least a year, you might be eligible for the Florida LAKWATCH volunteer program.

Florida LAKWATCH is currently the only research program gathering monthly data to study such a large number and a wide variety of Florida's lakes. However, without the help of volunteers, it would not be possible. We need you!

In return for your participation in the Florida LAKWATCH program, you will receive:

- \* a newsletter subscription
- \* supplies and the use of sampling equipment
- \* training in monitoring procedures
- \* periodic reports on your monthly data, including an annual report
- \* access to lake experts (limnologists) at the University of Florida
- \* invitations to local LAKWATCH seminars

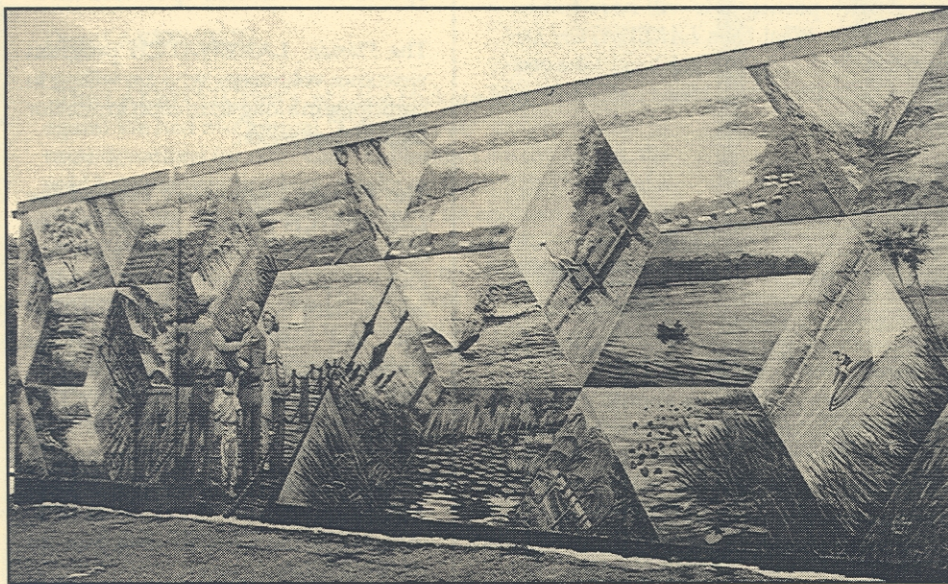
For more information about how you can become a LAKWATCH volunteer, contact:

**Florida LAKWATCH**

7922 NW 71st Street

Gainesville, FL 32653

1-800-LAKWATCH (1-800-525-3928) or call (352) 392-9617 ext. 228



*The Jewels of Highlands County mural. Dimensions: 42 feet wide and 11 feet tall.*

## Lake Placid Mural

Traveling LAKWATCHER's might take a few minutes next time they're in Lake Placid to stop and see the 42-foot by 11-foot tribute to the lakes of Highlands county. Appropriately referred to as the "Jewels of Highlands County," the 70+ lakes in the Highlands County area offer a tremendous variety of lake habitats, as well as recreational possibilities.

Completed in March of last year and dedicated this past Fall, the mural was painted by John Gutcher of Tampa. After struggling at

first as to how to depict the various unique characteristics of the lakes in the region, he decided upon an interesting multifaceted format, similar to the facets found in a diamond.

The mural was sponsored by the Highlands County Lakes Association together with Lake Placid Marine and Boat Corral, and is part of Lake Placid's ongoing mural program. Over 21 murals have been painted, with several more currently on the drawing board.

## reference materials

### Books:

#### **Handbook of Common Freshwater Fish in Florida Lakes**

by Mark V. Hoyer & Daniel E. Canfield, Jr.  
SP160. UF/IFAS Publications 1994  
\$ 15.00\*

#### **Florida Freshwater Plants**

A Handbook of Common Aquatic Plants in Florida Lakes

Mark V. Hoyer, Daniel E. Canfield, Jr.  
Christine A. Horsburgh, Karen Brown  
SP189 UF/IFAS Publications 1996  
\$ 35.00\*

**Both books can be ordered by mail at:**

UF Publications Distribution Center  
PO Box 110011  
Gainesville, FL 32611-0011  
1-800-226-1764

\* Prices do not include sales tax or shipping charges. Call for more information.

### Video:

#### **What Makes A Quality Lake?**

Catalog # VT-398 Length: 24 minutes  
\$ 15.00\* (loaner copies also available)  
**UF/IFAS Media Library**  
Building 116, Mowry Road  
PO Box 110810  
Gainesville, FL 32611-0810  
(352) 392-2411 Fax (352) 392-8583  
E-mail: [NEWMEDIA@GNV.IFAS.UFL.EDU](mailto:NEWMEDIA@GNV.IFAS.UFL.EDU)