Florida
LAKEWATCH

A Publication Dedicated to Sharing Information About Water Management and the Florida LAKEWATCH Program Volume X III 1999

Photo by Marilyn Bachmann

Something Fishy

LAKEWATCH Teams Up to Collect Fish Data

photo by John Yocum

Curt Chambers landed this largemouth bass from Lake Riley, near Gainesville. Largemouth bass are one of sportfish species targeted for the LAKEWATCH / GFC fish data collection effort.

One concern frequently expressed by LAKEWATCH volunteers is the health of fish populations in their lake - and rightfully so. Fish represent a major component of a lake's ecology, and fish population data can provide important information about a lake's ability to support life.

And yet, long-term fisheries data are almost nonexistent on a majority of the lakes in the state. Most of the data that do exist consist of fish being sampled one time only, with little or no follow-up. It's often years before a fisheries biologist has the opportunity to return to the same lake to collect more data.

To remedy this situation, Florida LAKEWATCH is working in cooperation with the Florida Game and Fresh Water Fish Commission (GFC) in an unprecedented long-term fisheries data collection effort.

According to Mark Hoyer, UF / IFAS researcher involved in the effort, " twenty LAKEWATCH lakes have been chosen for the study, with the chance for future expansion. Targeted lakes were chosen because each has more than three years of monthly baseline water chemistry data as well as extensive aquatic plant information.

"The ability to put long-term fish data together with these other two data bases will provide a more comprehensive picture of the lakes being studied.

Hoyer adds, "That's why it will be especially important for LAKEWATCH volunteers to continue collecting monthly data on the targeted lakes."

LAKEWATCH staff will be pitching in too, by conducting aquatic plant surveys every other year. A list will be compiled of aquatic plant species found on the lakes, as well as information about the percent area covered (PAC) and the percent of the lake's volume inhabited by plants (PVI)."

Aside from LAKEWATCH data being used, Florida LAKEWATCH volunteers will also be participating in the study on about half of the targeted lakes — assisting LAKEWATCH staff with the electrofishing activities.

Continued on pages 4 and 5.

! Attention !

Don't miss out! Enroll your Homeowner Association with LAKEWATCH today. Look for details in the Volunteer Bulletin Board on page 7.

UNIVERSITY OF FLORIDA
Institute of Food and Agricultural Sciences
Department of Fisheries and Aquatic Sciences

How Is Total Phosphorus Like a Hammer?

As you look at the results of your LAKEWATCH monitoring, some of you look to LAKEWATCH for an understanding of the data. The two questions asked of us most often are, "does this mean my lake is healthy or unhealthy?" and "are these numbers good or bad?" Answers to these two seemingly simple inquiries are actually a bit tricky, and it's important for you to understand why.

First, consider the question of a "healthy" lake. At the present time, LAKEWATCH monitors substances that are neither healthy or unhealthy.[1] The numbers we provide you are purely descriptive. What does this mean? Consider my height as an example. I am 5'4" tall — there is nothing healthy or unhealthy about my height. It is merely a descriptive fact that helps you form a picture of me. That's how it is with LAKEWATCH measurements. The four basic quantities we measure are commonplace in all waterbodies and play major roles in lake and river ecology. Rather than indicate health, they are better suited to providing a descriptive picture of your lake or river.

Can a descriptive picture be useful? You bet it can. One serviceable, often-used technique is to use it for comparison so you can assess your waterbody's potential. LAKEWATCH has handouts (new versions will soon be enclosed in each data packet) that can teach you three ways to use comparisons to evaluate your waterbody. Your LAKEWATCH data can be used to:

• compare your waterbody to others in your geographic Lake Region;

• compare your waterbody to itself at different times in its history by recognizing trends or patterns of change;

• compare your waterbody to four lake descriptions called "Trophic States" which can be used to assess the potential of your lake to support life (for instance, whether it is realistic to expect your lake to support lots of fish).

So even though LAKEWATCH data can't tell you if your lake or river is healthy, it can give you a descriptive picture that can provide valuable insights once you learn how to use it.

The second question "are these numbers good or bad?" is tricky, too. Before a judgment can be made about "good or bad," someone has to decide what standard is going to be used to judge by. Management goals have to be set for your waterbody.[2]

Let's use an aquatic plant example. If your goal is to have lots of plants, then having high values for Total Phosphorus would be good in the sense that phosphorus fertilizes the growth of aquatic plants. However, if your goal is to have fewer plants, then high phosphorus values could be a problem. See how it works? The same numbers can be either good or bad, depending on your goals.

The most productive approach is not to think of your LAKEWATCH data in terms of "good or bad" or "healthy or unhealthy," but as tools. Any tool, like a hammer or screwdriver, is neither good nor bad. Nor is it healthy or unhealthy. But for devising solutions in a variety of problematical situations, tools like your LAKEWATCH data are absolutely invaluable.

There is a saying, "If you give a person a fish, you feed him for a day; but if you teach a person how to fish, you feed him for the rest of his life." While LAKEWATCH may not be able to provide all the answers you want, you will find that by learning to use your data skillfully, you can become empowered to manage your waterbody regardless of what may happen to it in the future. That's the goal of LAKEWATCH. We hope it's yours, too. — Sandy Fisher

1 LAKEWATCH has pilot projects involving monitoring bacteria and mercury and is seeking to expand them. These are about the only cases where LAKEWATCH data may be used to assess health risks.

2 LAKEWATCH can send you a booklet on how to go about defining goals for your lake or river. Ask for "How To Create a Lake Management Plan" by Jess VanDyke.

Director Says Farewell...

The time has come for me to step away from LAKEWATCH. I am sad to be leaving. LAKEWATCH has nourished my heart and soul for ten years. In that time we have worked together to assemble a chunky stew of those who study, regulate, use, or purely love the water. It has been a noble task. Through our successes and failures, you have shared with me your hopes and dreams, your anger and frustrations, your diligence and your dedication. There are true heroes among you, and I will never forget. Think of me as always being with you on your waterway. I'll be there in spirit — watching the water, and watching you with great pride. Bye for now.

— Sandy Fisher

Florida
LAKEWATCH

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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 (525-3928)
352-392-9617 ext. 228

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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	Sandy Fisher
Chemist	Mary Stonecipher
Editor	Amy Richard

The Seney Water Sample Collector

Another ingenious invention by a LAKEWATCHer

The development of the Seney water sample collector was brought about by the fact that LAKEWATCH water samples must be collected without contamination from outside sources such as microscopic top water particles or hand-borne contamination from the sample taker. This manual water collection technique can be quite difficult when operating from seagoing high-transom boats, particularly in rough seas.

This new water sample collector allows the standard 250 ml sample collection container to be screwed into the bottom end of the sampler and lowered into the water column for water collection. It consists of a hollow three-foot long plastic pipe handle. The lower end of the pipe has a customized fitting that is larger in diameter, with female threads that fit the 250 ml collection bottle - forming a watertight seal around the bottle. A smaller diameter plastic rod passes through the inside of the main three-foot plastic pipe handle and extends above the top end of the handle by four inches.

Four large holes around the outer perimeter of the lower end of the sampler permits water to flow into the bottle when the inner plastic rod is pulled up, opening the valve. Lowering the inner plastic rod plugs the valve and prevents additional water from entering the bottle.

Proper water sampling depth is indicated by a black ring painted on the handle, 12 inches above the water sample entrance holes.

Use of the Seney water sampler permits consistent first - class uncontaminated water samples to be easily taken, even in turbulent weather conditions.

Note: A second Seney sampler has been designed that attaches to a standard one gallon milk jug for algae sampling. — John S. Seney

Editor's Note: Water sample collection devices like this one are extremely useful to volunteers who have concerns about alligators or difficulty manuevering in the boat. Diagrams are available by contacting the LAKEWATCH office.

John Seney is the group coordinator for the new LAKEWATCH monitoring team in Sugarloaf Key, in Monroe county. His ingenious inventions are a welcome addition to the program.

Keep Watchin' Your Lake

by Gerre Jaillet

Every 15th of the month or so,
you still load up your boat to go
with red hats on, the motor's goin'
You head on out to the pelagic zone.

It's just before noon, antimeridian late,
On LAKEWATCH day you know your fate.
You have your jugs, small bottles too,
And Secchi seen far in water so blue.

Antenna and telephone pole to port on shore,
You turn to starboard and look for two more.
There they are, triangulation done,
You know that you're at station one.

Plunge the jug 'till your t-shirt's wet,
Don't bring it up, it's bubbling yet,
Nalgene's next, just remember to pour,
Time for the Secchi, get six inches more.

The jug is put away in a place so dark,
Nalgene is laid on ice to park,
Data sheet's done, logged what the
Secchi could do,
Head on down now to station two.

Repeat the process two times more,
Then head on back to the distant shore.
Back to the dock, carry up the stuff,
The work that's left ain't all that rough.

Graduated cylinders and flasks and such,
When filtering's done, please don't touch.
Label and fold and clip it tight,
Then put it in desiccant, leave it to dry.

Put up your equipment, clean up the place,
Ain't in a hurry, you're not in a race.
A few minutes later and you are done,
Not so bad, it's only half past one.

Next weekend comes on the water again,
Maybe just a cruise or a search for fins,
No matter which decision you care to make,
When you're not LAKEWATCHin' keep
watchin' your lake.

Continued from page 1

Because water levels have been shown important to certain developmental phases of some sport fish, water level gauges will be placed on the lake for citizen volunteers to monitor on a monthly basis.

Data bases will be maintained by both Bill Schaeffer of the Florida Game and Freshwater Fish Commission, as well as Dr. Mike Allen with UF's Department of Fisheries and Aquatic Sciences.

Hoyer continues, "Not only is this of historical significance for Florida lakes, but it will provide volunteers with a new way to contribute to their lake's future. It will also create more opportunities to establish an on-going dialogue with researchers."

The primary objective is to gather information on the total number of fish present in these lakes, as well as compile a list of the individual fish species found. Scientists will be watching trends to determine how the numbers of individual fish species fluctuate over time.

A second objective is to evaluate year-class strength* of the major freshwater sport fish species in Florida such as black crappie, largemouth bass, bluegills, redear sunfish, etc..

"However, this study isn't just for the scientists," Hoyer adds. "While the project is an attempt to gather data for research purposes, it's also an attempt to help people learn more about fish populations in their lakes. It dovetails well with GFC's resources and helps them involve the public more in the fisheries management process."

Why the emphasis on freshwater sportfish in Florida?

Simple economics. In 1996, Florida's freshwater fisheries were worth a total of an estimated 775 million dollars, including money spent on food, lodging, transportation, trip costs, equipment, etc.

Fish Collection Methods

Two types of fish collection methods will be used by the GFC / LAKEWATCH long-term fish data collection project:

Electrofishing

Electrofishing is a common method used by researchers for assessing fish populations.

Using a specialized boat, an electric current is transmitted into the water, temporarily stunning fish so they can be netted. Captured fish are typically measured and released, with almost all fish surviving without any long-term detrimental effects. This method allows fisheries biologists to observe fish populations in a water body with minimal harm to the resource.

In the Spring and early summer, electrofishing will be used along the littoral** zone of the lakes to gauge the abundance of individual species in the water body. In addition, the recruitment of individual sportfish species will also be determined. ("Recruitment" refers to fish that have survived their first winter and are expected to continue to grow and join the lake's fish population.)

The electrofishing sampling technique should also provide a good sample of the adult fish populations in the lake.

Fish collected during the electrofishing process will be placed in an aerated tank until they can be counted and measured for total length. Once that's done, the fish will be released back into the lake.

Top: Electrofishing boats are rigged with special equipment that sends an electric current into the water, temporarily stunning fish. The fish are netted, counted, measured, and then released back into the water.

Bottom: Trawls are a common sampling method used by researchers to capture open-water species such as black crappie and sunshine bass. Fish captured in the LAKEWATCH/GFC project will be studied to estimate year-class strength as well as estimate a lake's total number of fish.

Trawls

A trawl is a boat designed to drag a large net behind it for the purpose of collecting open - water fish species. The net has a wide "mouth" that tapers down toward the closed end, where fish become trapped for collection. Fish captured in this way are intended for study in the laboratory.

Trawls will be used in the autumn to capture open-water species such as black crappie and sunshine bass to estimate their year-class* strength. By counting the number of fish captured in each trawling effort, the lake's total number of fish can be estimated.

These same fish will be taken to the fisheries laboratory where ear bones, called otoliths, are removed and studied to determine the fish's age. An otolith has growth rings, similar to tree trunks, that enable scientists to estimate a fish's age.

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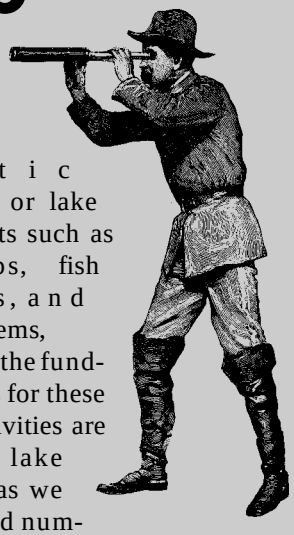
Year class strength - how many fish entered the lake's fish population each year.

****Littoral zone - the shoreward region of a lake where grasses and floating plants can be found.***

You don't have to be a scientist to collect fish data



While we're on the subject of collecting fish data, we want to remind lake residents that you don't have to be a scientist to collect this type of information.

Many anglers keep fish diaries as a way of remembering fishing successes (and adventures!). In fact, some of the best anglers are those that make a mental, or written, note of their observations and begin to find patterns in things like fish behavior, fish habitats, and feeding patterns.

There are even a few pre-printed fish diaries available in bookstores or tackle shops. Computer software has also been developed for recording fish data.

So, what does one record in a fish diary?

Things like the number of hours fished, as well a list of the types of fish caught, length, weight, whether the fish was released or not, and any observations or comments regarding each catch.

Where was the fish caught? What was each fish caught on? Live bait? A fishing lure? What color was the lure? (Of course, this information is to be carefully guarded.)

Other obervations like moon phases, weather conditions and water conditions are also considered important information.

Additional data to collect —

♦ basic observations about how many people are using your lake on a given weekend;

♦counts of the different types of activities such as boating, fishing, swimming, water skiing, jet skiing, nature watching.

Any notes or photos you take could come in handy if you're ever interested in obtaining state or federal funds for restoration projects like replanting aquatic vegetation, or lake enhancements such as boat ramps, fish attractors, and aeration systems,

Many of the funding decisions for these types of activities are based on lake usage. And as we all know, hard numbers are the most convincing argument.

Already keeping fish records? We'd love to hear from you. Call the LAKEWATCH message line and leave a name and phone number.

— Editor

Black crappie

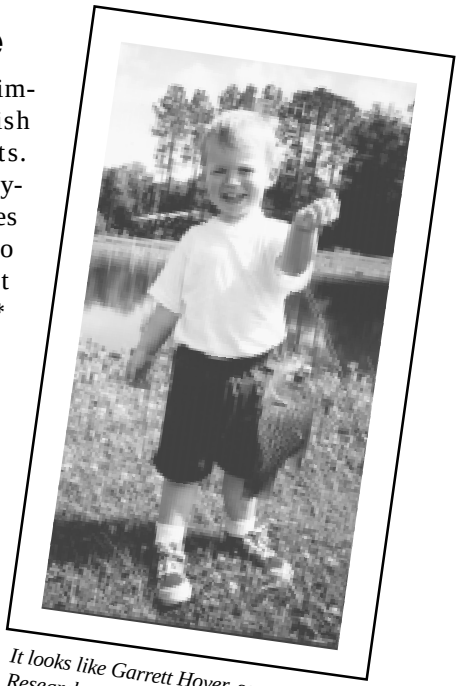
The black crappie is an important freshwater sportfish sought for its tasty fillets. Readily identified by its silvery-green sides with black blotches or spots, black crappie are also called "specks." Their diet consists of zooplankton,* aquatic insects, and fish.

Black crappie spawn in Florida from February through April. Mating pairs nest in colonies with the males fanning the nest and guarding the eggs after spawning. Nests are located in sand or mud bottom, frequently near submerged structures like flooded trees and stumps.

Populations have been known to vary dramatically from year to year, and no one knows why. However, that may soon change. The Florida Game and Fresh Water Fish Commission and Dr. Mike Allen, a UF researcher, are working together on several projects to learn more about these fish.

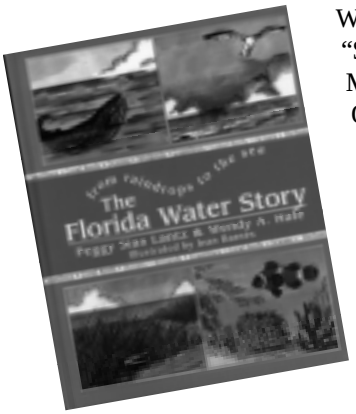
One of the studies includes a three-fold process of raising crappie in ponds, tagging them and then stocking them into several Florida lakes. In a year or so, black crappie will be sampled in these lakes to determine the effectiveness of the stocking effort.

**** microscopic animals found in the water column***



It looks like Garrett Hoyer, son of UF Researcher Mark Hoyer, has a promising future as black crappie angler.

Recommended Reading



The Florida Water Story - From Raindrops to the Sea

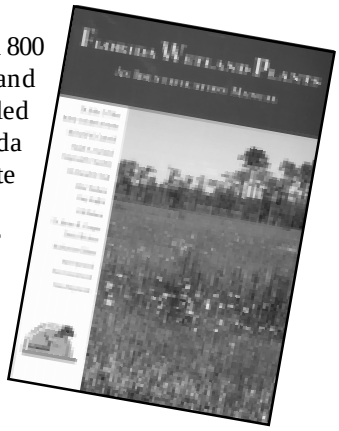
Written by Peggy Sias Lantz and Wendy A. Hale Illustrated by Jean Barnes

"Surrounded by salt seas, dimpled by shining lakes, and streaked by crooked rivers, Florida is a land of water. Many of Florida's plants and animals have adapted to living in its wet places. Divided into four sections - Oceans, Coral Reefs, Coastlines, and Wetlands - this book shows you who lives on ponds and wet prairies, in swamps and sinkholes, and in the vast Everglades... to the many species of birds, mammals, fish, flowers, and trees that are dependent upon Florida's watery world." This book is available in bookstores or from the author for $ 20 (includes shipping and handling):

Order from: Peggy S. Lantz
Phone: (407) 299-1472 E-mail: peglantz@juno.com

Editor's Note: Peggy Sias Lantz is a Florida native, and former editor of the Florida Native Plant Society's magazine, The Palmetto, and the Florida Audubon Society's magazine, The Florida Naturalist. She's also a veteran LAKEWATCHer, inheriting the task from her father on a lake named after her mother Lucy.

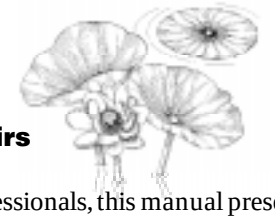
Florida Wetlands Plants: An Identification Manual (SP 244)



A definitive field resource about Florida's wetland plants is now available. With 608 pages and more than 800 color photographs and 1000 entries, Florida Wetland Plants covers almost all the vascular plant species and representative species found in the Florida Wetland Delineation Methodology (1994). The book was compiled and edited by Dr. John Tobe, Katherine Craddock Burks, and Richard Cantrell, three scientists at the Florida Department of Environmental Protection. This new resource is a completely revised and expanded update of the identification Manual for Wetland Plant Species of Florida, published in 1987.

Special features include a glossary and indexes to families and scientific and common names. Color coding of the four main groups of vascular plants and an alphabetical listing of the families and genera make this comprehensive resource easy to use.Price is $35, plus $4 shipping & handling. (Florida residents please add county sales tax.) Check, money order, or Visa / Mastercard accepted. Make checks payable to the University of Florida.

Order from: UF / IFAS Publications
PO Box 110011
Gainesville, FL 32611-0011
Phone: 1-800-226-1764



Aquatic Plant Management in Lakes and Reservoirs

Edited by M.V. Hoyer and D.E. Canfield

Intended for informed citizens and management / regulatory professionals, this manual presents practical information for designing and implementing aquatic plant management programs. Chapters cover the history and development of aquatic plant biology, management problems, management techniques, and how-to develop a management plan. $20 for nonmembers. $15 for members.

Order from: North American Lake Management Society,
PO Box 5443
Madison, WI 53705-5443

Managing Aquatic Vegetation with Grass Carp - A Guide for Resource Managers

Edited by John R. Cassani. 1996. 196 pp. This manual includes sections on the use of grass carp in managing aquatic weeds in lakes, ponds, impoundments, rivers and canal systems. Recapture and removal techniques are covered, as well as stocking rates, ecological side effects, diseases and parasites, staff requirements and other management issues, and finally a review of Florida's experiences in administering the grass carp program. U.S. price is $ 18.00 plus S&H.

Order from: American Fisheries Society
Publication Fulfillment
PO Box 1020,
Sewickley, PA 15143.
Phone (412) 741-5700 Fax: (412) 741-0609

VOLUNTEER BULLETIN BOARD

Web Site News

If you haven't visited the LAKEWATCH web site in a while, we encourage you to do so, as we've made a few changes:

- the previous issue of the newsletter is now posted for reading or printing;
- the Florida LAKEWATCH 1997 data book is also posted. You can browse the alphabetical listing of LAKEWATCH lakes on-line and print summaries on individual lakes — or the entire data book, 595 pages of it, can be downloaded. You'll need Adobe Acrobat Reader software to do this. (Not to worry, we've also included instructions on where and how to obtain it from the Adobe web site);
- A new section entitled Recommended Reading has been posted that includes general reading subjects concerning lakes and lake management, as well as scientific papers;
- Look for the new 1998 data book that will be posted later this Spring.

Have a question?

Just a reminder that, as your LAKEWATCH regional coordinators, we are here to answer any questions you might have about lakes, aquatic plants, algae, lake management issues, etc. Any of us can be reached by calling the toll-free LAKEWATCH message line: 1-800-LAKEWATCH (525-3928)

Sincerely, **Claude Brown, Julie Terrell, David Watson, Dan Willis**

Enroll your homeowner or lake association

LAKEWATCH is creating a much-needed directory of homeowner associations and we need your help. If you're a member of a homeowner association, please call our toll-free citizen message line (1-800-525-3928) today and provide us with:

- the name of your association, and
- the association president's name and phone number

IGFA now keeping freshwater records

The International Game and Fish Association (IGFA) recently began keeping the first-ever freshwater line class records for 49 U.S. states, including Florida.

"With IGFA's expertise in record keeping, and no organization taking the initiative to keep state records by line class, it was a natural for IGFA to step in and offer this opportunity for recognition to the country's freshwater anglers," said Mike Leech, IGFA president.

Eligible fish in Florida include largemouth bass, sunshine bass, bluegill, flathead catfish, and black or white crappie. They will be expanding the state program in the future, to possibly include fly fishermen and junior categories as well.

There is no charge for IGFA members to submit state line class record applications. Nonmember can pay $35 to submit a record fish, and will receive a one-year membership.

On a final note, the IGFA recently opened its new $32 million facility in Dania Beach. The 60,000 square foot facility has numerous indoor galleries and an extensive fishing library. It covers 12.7 acres, with a 51-acre Sportsman Park adjacent.

Visitors and school groups are welcome. Arrangements can be made by calling : (954) 922-4212.

New Collection Centers

Several new collection centers have been set up recently. If any of these are more convenient than the one you are currently using, feel free to deliver your samples to the new location. Just let us know that you'll be switching.

Walton County

South Walton Tourist
Development Council
Corner of Hwy 331 and Hwy 98
Contact: Stacey or Pam (850) 267-1216

Wakulla County

Wakulla County Extension Office
84 Cedar Avenue
Crawfordville, FL
Contact: Kathy Frank (850) 926-3931

Escambia County

Escambia County Extension Office
3740 Stefani Rd
Cantonment, FL 32533-7792
Contact: Dorothy Lee (850) 475-5230

Hillsborough County

The Keystone Library collection center location is no longer accepting samples. Volunteers should use the Keystone Civic Association building for water sample drop-off.
17928 Gunn Hwy
Odessa, FL 33556
Contact:
Jim Griffin (813)272-5912 ext 3615

Lab Note

We want to thank everyone for getting their samples in so promptly at the end of the 1998. This has allowed us to analyze many hundreds of samples in time for the publication of our 1998 data book this Spring.

UNIVERSITY OF FLORIDA
Institute of Food and Agricultural Sciences
Department of Fisheries and Aquatic Sciences
Florida LAKEWATCH
PO Box 110600
Gainesville, FL 32611-0600

ADDRESS SERVICE REQUESTED

Calendar of Events

Florida LAKEWATCH Regional Meetings...
are open to anyone who is interested in the LAKEWATCH program and/or lake management. LAKEWATCH staff will be there to hand out data packets and answer questions.

Hands-on aquatic plant displays are always a hit (come and play "guess that plant"), as well as a smorgasbord of free aquatic science information pamphlets. Compare notes with other dedicated LAKEWATCHers. About 20 meetings are held each year statewide.

If you are on our mail list, you will automatically receive an invitation. Please be sure to RSVP.

If your county is not listed at this time, look for it in the next issue, or call the FLW office at 1-800- LAKEWATCH (525-3928).

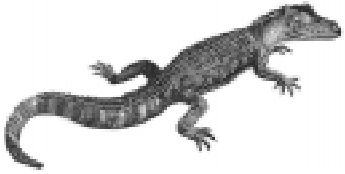
March 25
Polk County 5:30 p.m.

April 8
Flagler County 11:00 a.m.

May 1
Leon, Jefferson, Gadsden, Liberty, Madison, Wakulla, Jackson and Taylor Counties 4 p.m.

May 22
Hillsborough County Lake Day 10 a.m. - 4 p.m.

May 26 - 28
Florida Lake Management Society Annual Conference
Safety Harbor Resort and Spa / Clearwater, Florida. A wide range of topics will be addressed, including regional lake management issues in Florida and subject-related issues aquatic plant management.
Contact: Nancy Page (727) 464-4425
E-mail: npage@co.pinellas.fl.us



Dear Friend of Your Lake,

Do you have a concern about your lake and an interest in its future? 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 LAKEWATCH volunteer program.

Florida LAKEWATCH 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. Participants in the Florida LAKEWATCH program receive:
* a newsletter subscription
* use of sampling materials
* training in monitoring procedures
* periodic reports and an annual report
* access to lake experts (limnologists)
* invitations to LAKEWATCH activities

For more information about how you can become a LAKEWATCH volunter, contact:

***Florida* LAKEWATCH**
7922 NW 71st Street
Gainesville, FL 32653-3071
1-800-LAKEWATCH (1-800-525-3928)
E-mail: lakewat@nervm.nerdc.ufl.edu
Web site address:
http://www.ifas.ufl.edu/~lakewatch/