Florida
LAKEWATCH

Volume December, 1991

How is Florida LAKEWATCH data being used?

Florida LAKEWATCH data is primarily intended to provide lake-specific information that can be used to predict how individual lakes will react to different circumstances (for example, drought, herbicide use, drawdowns, etc.). I may also be useful in detecting possibly detrimental trends in a lake at an early stage when they may be more easily reversible. In recent years, however, LAKEWATCHers have found their data can be put to good use in many ways.

For example, Mr. Eugene Harralson on Broken Arrow Lake in Volusia County has been collecting data since January of 1988. When a sewage treatment plant was proposed which would have put percolation ponds within 500 feet of the lake, percolating 300,000 gallons of wastewater per day, he was able to use his database, along with expert testimony, to convince the Department of Environmental Regulation, the County Zoning Board, and the local Health Department that the ponds would degrade the lake's water quality.

The Kingsley Lake Property Owners Association in Clay County was able to use data collected by Laura Cocks, their LAKEWATCH volunteer since August, 1988. The data showed the lake had exceptionally good water quality and was used as part of an exemplary application for status as an Outstanding Florida Water (OFW). The OFW status was granted and entitles the lake to "the highest level of protection" from environmental protection agencies. If not for the contribution of time and energy from Ms. Cocks, collection of the water quality data would have cost the Association tens of thousands of dollars.

Tom and Peggy Prevost, the husband and wife team who collect samples on Melrose Bay in Alachua County, were able to document changes in their water quality when increased boat traffic in the small bay caused severe shoreline erosion. The County Commission put a horsepower limitation on the boats that could be launched in the bay (there is a County ramp nearby outside the bay for the larger boats) and also created a "no wake" zone in the bay. Shortly thereafter, the water quality improved. Thanks to several teams of monitors over the years, Melrose Bay has been monitored since August, 1986, so there was a comprehensive database available.

Once a database is established for a lake, often that is when the real detective work begins. The challenge is to figure out what events cause changes in the lake's water chemistry.

For example, on Santa Fe Lake in Alachua County, the phosphorus level quadrupled in one month. The next month it returned to its normal level. What could have caused such a change on this lake which is thousands of acres in size? One possibility, noticed by the residents, is that the change was associated with the presence of tens of thousands of sea gulls that were spending the night on the lake after feeding at a nearby landfill during the day. The sea gulls left, and the high phosphorus level has not recurred. Residents are on the lookout for the gulls and will be able to see if their return coincides with another phosphorus jump.

Not only is LAKEWATCH data being used by lake residents, it is also being used by researchers and regulatory agencies. Dr. Daniel Canfield, Professor of Limnology at the University of Florida, is using the data to develop a longterm database on Florida's lakes. Regulatory agencies and personnel, including Southwest Florida Water Management District, St. Johns River Water Management District, The Department of Environmental Regulation, The City of Orlando Stormwater Utility Bureau, The Orange County Environmental Protec

Uses, continued

tion Department, The City of Winter Haven Lakes Manager, The City of Maitland Lakes Manager, The City of Lake Mary, and The Lake County Water Authority have been networking with LAKEWATCH in order to make the best possible lake management decisions.

All LAKEWATCH data will be put into a computer database (called STORET) that will be accessible to everyone in Florida.

In addition, several groups of LAKEWATCH lakes have taken advantage of opportunities to participate in other studies. For example, in one study measurements of pH, alkalinity, conductivity, chloride, iron, silicates, sulfates, calcium, magnesium, sodium, potassium, color, and phaeophytin were made twice on over 120 lakes. In another study, one Hillsborough County lake was treated for hydrilla, saving the lake residents an estimated cost of $300 per acre. A study by University of Florida students resulted in plant surveys being done on 18 LAKEWATCH lakes in which the volume of infestation, percent of acreage covered, and species of plants were documented.

So far, thanks to the teamwork between the LAKEWATCHERs, researchers, and regulators, the collection and use of data has been productive and beneficial.

Of course this type of long-range scientific data gathering takes time, but thanks to the diligence and dedication of the LAKEWATCH volunteers, it is working.

Good for you!

Collection Centers

Many agencies and organizations around the State have volunteered to help with the Florida LAKEWATCH Program by providing a Collection Center. They maintain a freezer so that volunteer monitors can take their water samples to a location that may be more convenient than bringing them to Gainesville. The following is a list of Centers:

Keystone Civic Association
Odessa (Marilyn Heyck: 813-961-2715)
Lake County Water Authority
Tavares (Linda Marino: 904-343-3777)
Lake Region Lakes Management District (Canal Commission)
Winter Haven (Jessica Sewell; Carolyn Whitehead: 813-293-1441)
Lakewood Park Homeowner Association
Ft. Pierce (Dwayne Zunner: 407-465-2679)
Maclay Garden State Park (DNR District II)
Tallahassee (Catherine Florko: 904-488-3648)
Orlando, City of
Stormwater Utility Bureau (Bruce Fallon: 407-246-2370)
Osceola County Cooperative Extension
Kissimmee (Eleanor Foerste: 407-846-4181)
Sanibel-Captiva Conservation Foundation
Sanibel (Dr. Norman Bowles or Kristie Seaman: 813-472-2329)
St. Andrew Bay Resource Management Association
Panama City (Dr. John Taylor: 904-235-2213)
Seminole County Cooperative Extension
Sanford (Stephen Crnko [Sin'-ko]: 407-323-2500)
U.S. Forest Service, Ocala National Forest
Visitor Center on SR 40 at Silver Springs (904-625-7470)
Visitor Center on SR 19 at Altoona (Bob Grinstead: 904-669-3153)
Volusia County Cooperative Extension
Deland (David Griffis: 904-822-5778)

Proposed Centers:

Clay County Cooperative Extension
Green Cove Spgs. (Raymond Zerba)
Maitland, City of
Maitland (Richard Pirino: 407-539-6203)
Orange County Cooperative Extension
Orlando (Jay Hebert: 407-836-7570)
St. Johns River Water Management District
Palatka (904-329-4500)

Please call ahead before you go to a Center for the first time, because some of them have limited freezer space. Also, be mindful of the fact that the people who work there are not trained LAKEWATCH personnel, but are taking on these extra duties on a volunteer basis -- it may take them a while to iron out their procedures. You should deliver:

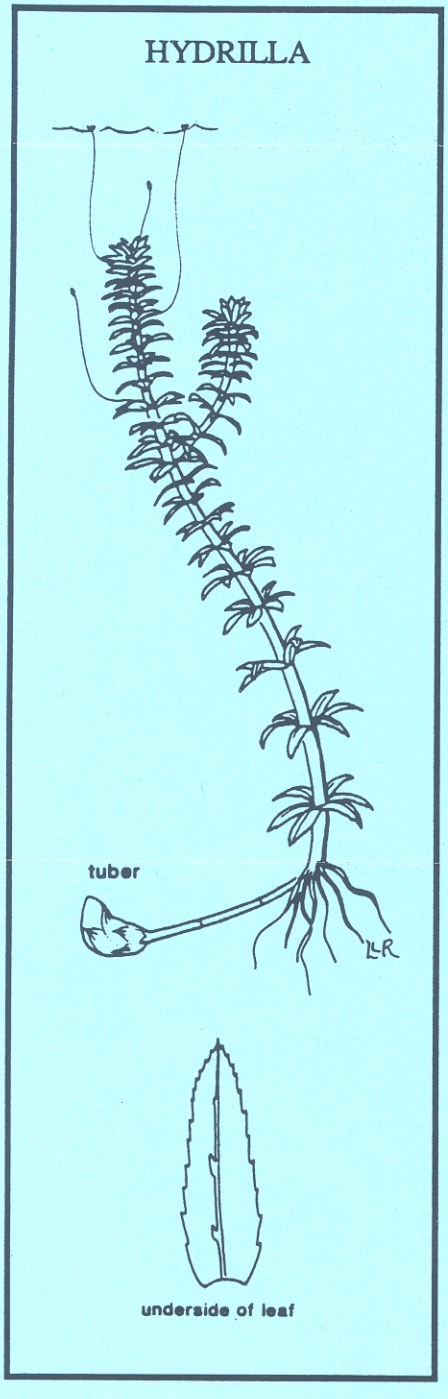
1. properly-labelled water sample bottles enclosed in a plastic bag
2. dessicant bottle (containing the blue crystals and filter papers)
3. data sheets

You will be able to pick up supplies as you need them from the Center. If supplies run low, have the Center call the Gainesville Office to request more. Hope this makes sampling easier for you.

Hydrilla Alert

The Department of Natural Resources (DNR) has authority to regulate the growth of aquatic plants in Florida's lakes. In response to the troublesome proliferation of an agressive plant called "hydrilla," Mr. Jeffrey Schardt, DNR Environmental Administrator of the Bureau of Aquatic Plant Management, is requesting your help. Please notify him if you see infestations of hydrilla on any lake that has a public boat ramp. He can be phoned at 904/488-5631 or written to at the following address:

Mr. Jeffrey Schardt
Innovation Park
Collins Building
2051 East Dirac Drive
Tallahassee, Fl. 32310



It is important to identify these growths of hydrilla while they are small so that they can be controlled with minimal amounts of herbicides. Once the plant fills in a large area, it is often too expensive to eradicate or manage. Relatively small populations of hydrilla were found by DNR on 19 boat ramps areas last year. Because they were spotted early, they were successfully controlled at a cost of less than $1,000 per lake. in contrast, $1.4 million was spent to control a widespread hydrilla population on Lake Istokpoga. If left untreated, hydrilla has the potential of filling in the entire lake from top to bottom, completely preventing recreational uses of the lake.

Because hydrilla is so often transported from one lake to another on boats and boat trailers, areas near the public boat ramps are usually the first to become infested.

To identify hydrilla (refer to the picture), look at the underside of a leaf and feel the central vein running along the middle of the leaf. If you can feel or see tiny spines poking out from the central vein, the plant is hydrilla. If there are no spines, check other leaves; not all the leaves have obvious spines.

You should know that there are about a dozen DNR Regional Biologists to whom you can go for free information and suggestions about plants in your lake. Mr. Schardt can refer you to the one for your county.

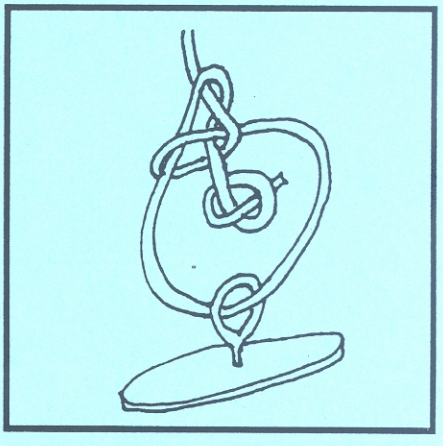
Helpful Suggestions

Bill Jaeger, a lake monitor from Wisconsin, suggests wrapping the free end of your Secchi disc rope around an empty, capped 32-ounce dishwashing detergent bottle. It is neat and, in case of a slip, it may provide enough floatation to enable you to retrieve the Secchi disc easily.

A Florida LAKEWATCH volunteer suggests using empty film cannisters for storing the paper clips from your sample kit. Keeps them dry.

Jack Bolinger, one of the Florida LAKEWATCH volunteers on Lake Giles in Orlando, suggests a method for pulling cattails without straining your back. To do the "Bolinger Tug," stand side by side with the plant on the outside of your foot. Grasp the stalk at a height about six inches above your own knee. Bend your knees slightly and pull the plant across your thigh. Lean your weight against the plant and hold the tension on it. This will result in the plant slowly being pulled up while your body weight does the work, not your back

. Gerre Jaillet, A LAKEWATCHer on Ola/Orange, an expert in parachute rigging suggested a knot for your Secchi discs (see below). If you re-tie your discs, be sure there is exactly one foot between the upper, flat surface of your Secchi disc (not the metal loop) and the first foot mark on your clothesline.



Spotlight on . . .

Star Lake Forest, "A Great Place To Live"

By Dee Rose, Star Lake resident

Star lake Forest is located in the southwest corner of Putnam County. This area has been carefully developed through the concern of property owners and guided by Star lake Forest Association governed by a five-member rotating board of directors. The purpose of this association is the upkeep and maintenance of our roads and the viability of our three lakes: Star, Riley, and Blue. Strong leadership has produced positive results in both areas. A covered-dish lunch and meeting is highlighted with speakers each year

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At a recent picnic hosted by Dr. Daniel Canfield, Director of Florida LAKEWATCH, we met other volunteers from around the state. A computer displayed graphs of all lakes and it was interesting to compare our lake results. Our three lakes have been monitored since October, 1989. This would be a great annual event to meet and exchange ideas with other LAKEWATCH volunteers.

Star Lake Forest Association holds several Saturday work mornings each year. Water hyacinths are hand-gathered, carried on a homemade barge, and deposited on shore for owners to use a fertilizer. A work crew works year around to keep hyacinths in check on Star Lake. Roadside cleanup is also a part of work mornings which ends with a picnic lunch for all workers at the commons area. Much can be accomplished through this type of activity and a strong association. Our lakes are clear, clean, stable and safe. Our roads are posted with speed limits, patrolled and well maintained. We have established a neighborhood watch program; we help and care about our neighbors. We are vitally concerned in presenting Star lake Forest as a very special place whether it is a vacation retreat, retirement haven or homes for young families. Star Lake Forest is indeed a great place to live!

LAKEWATCH News

Because of present funding levels, the Florida LAKEWATCH Program is having to limit the number of lakes which will be permitted to participate in the Program in 1992. The Program is being "capped" so that the focus can be re-directed towards developing better feedback and information services to the volunteers doing the lake sampling. In the past two years, demand has been so great that the focus has been on including as many lakes as possible. Florida LAKEWATCH is now the largest program of its kind in the United States (and in the world -- probably in the solar system!). The policy in 1992 will have to be one of allowing the addition of a new lake only in the event that one lake drops out of the Program or is purged because of lack of adequate participation.

Many of you have been collecting water samples on your lake for a year or longer. Don't be shy about letting us know you have earned your red Florida LAKEWATCH cap! Remember, this cap can't be bought -- you have to get one the old-fashioned way.

Welcome! Welcome, to two new groups. The Florida Chapter B.A.S.S Federation has volunteered to adopt LAKEWATCH lakes around the state. Also, a women's bass fishing group that calls itself the Talquin Hookers has been trained to monitor Lake Talquin.

Congratulations are due to newly-certified LAKEWATCH trainers:

Mr. Bruce Fallon, City of Orlando Stormwater Utility Bureau
Mr. Mike Britt, City of Winter Haven Lakes Manager
Dr. Joe Branham, retired biologist in Lake County
Dr. John Taylor, Environmental Engineer in Bay County

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LAKEWATCH News, continued

It was a pleasure recently to train David Trzeciak on Lake Tomahawk in Marion County. David takes over LAKEWATCH sampling from his father, Dennis Trzeciak. This is the first time so far that the LAKEWATCH "torch" has passed from one generation to another. We hope many of you are including your sons and daughters in your LAKEWATCHing.

The first annual LAKEWATCH picnic at the home of Dr. Dan Canfield, LAKEWATCH Director, was attended by about 80 folks from around Florida. There was BBQ and lots of food and good discussions of lake problems and solutions.

A bag of water samples was delivered to the Winter Haven Collection Center that contained, not only bottles of lake water, but also two frozen hamburger patties! We also have to report that prompt attention from the lab chemists was given to the lake water samples that were delivered in Bud cartons. LAKEWATCHers are always creative, and the lab workers never know what to expect next.

Info Bulletin Board

If you have questions that are of interest to a number of volunteers, we will answer them in the newsletter so everyone can learn. We are also interested in knowing of any upcoming meetings that other LAKEWATCH volunteers may want to attend. If you know of these meetings, let us know in advance and we will be glad to include them in this newsletter.

What Can We Do About Our Lakes? Dr. Daniel Canfield, Professor of Limnology and Director of Florida LAKEWATCH, will be meeting with groups of active and potential volunteers and other interested folks in the following areas (call for details):

St. Andrews Bay, Jan. 7 (Dr. Jack Taylor: 904-235-2213)
Orange County, Jan. 15 (Jay Hebert: 407-836-7570)
Lake Co. Water Authority, Jan. 22 (Linda Marino: 904-343-3777)
City of Orlando, Jan. 29 (Mr. Bruce Fallon: 407-246-2370)
Keystone Civic Assn. (Hillsborough), Feb. 5 (replace mtg on 10th)
Howie-in-the-Hills, Feb. 12 (Town Hall: 904-324-2290)
Winter Haven, Feb. 19 (Mr. Mike Britt: 813-297-4010)
Lakewood Park (St. Lucie Co.), Mar 11 (407-464-9377)

Aquatic Plants Are Not "Weeds"! The Department of Natural Resources (DNR) is offering an aquatic plant identification seminar in Live Oak, Florida, on April 7th to be taught by Dr. David Hall from the University of Florida. Limited spaces are available, and there is a $10 fee. RSVP to Mr. Jeffrey Schardt at 904-488-5631.

To get onto the Bulletin Board, please contact:
Sandy Fisher or Dr. Dan Canfield, Jr.
Department of Fisheries and Aquaculture
7922 NW 71st Street
Gainesville, FL 32606
(904) 392-9613/392-9617

LAKEWATCHers Tested

When the LAKEWATCH Program began, many scientists and agency personnel were skeptical about whether volunteers could accurately take water samples and lake data. The Department of Environmental Regulation (DER) required the Florida LAKEWATCH Program to test its volunteers to see if the data they were getting could be trusted.

Twice during 1991 LAKEWATCH volunteers on over 120 lakes were tested. The volunteers were told that a biologist would accompany them on their regular sampling trip and would take samples for extra water chemistry; they were not told that they themselves were being tested.

In reality, the biologist was taking samples that would be tested for the same variables that the volunteers were sampling for, in addition to the extra variables. After the sampling, the biologists' data was compared with that of the volunteers.

The results showed there was no significant difference in the values obtained.

Some of us think the study proved the biologists were taking samples correctly! We always knew our volunteers were hot tickets. You can all be proud of the high quality of work you are doing.

By doing a careful and consciencious job, you make it easier to obtain funding for the continuation of the Program and for its expansion in the future to include more lakes across Florida.

Keep up the good work!

<<<<< LAKEWATCHer's Questions >>>>>

Should I feed the ducks on my lake?

Most lakes in Florida have a population of resident, domestic ducks. They naturally feed on insects and plants. When people start feeding the ducks, however, problems can develop.

Firstly, bread is the food people most often toss to the ducks. Not part of a duck's natural diet, bread contributes calories and has little nutritional value. Ducks are greedy and will over-consume food if given the chance. Not only will ducks who are fed bread lose their interest in foraging, but they will pretend to be hungry in order to encourage people to feed them more. The result is likely to be a flock of fat, poorly-nourished ducks.

Additionally, ducks feeding on plants and insects help keep the lake clean. However, when ducks are fed by man, the nutrients in the food are converted to fecal matter and added to the lake's nutrient load. Unlike the aquatic plants and insects that are already within the lake, the man-provided duck food comes from outside the lake, resulting in an additional source of nutrients to the lake. Because of this additional input of nutrients, small lakes may become "eutrophic" more quickly -- experiencing lowered oxygen levels, unsightly water, and foul odors. City park lakes are particularly vulnerable to accelerated eutrophication due to the large numbers of people who feed the ducks for entertainment, attracting large duck populations on relatively small lakes.

Lastly, ducks contribute to the spread of disease. Their fecal matter on land attracts flies and has noxious odors. According to the Lee County Health Department, the unsanitary conditions caused by ducks may lead to the spread of diseases such as Histoplasma (a fungus disease of the lungs that mimics TB; this fungus can survive for a long time in dried droppings and the dust from these droppings can be spread by the wind for some distance), Psittacosis (a pneumonia-type disease), and Saint Louis Encephalitis (a central nervous system disease spread from birds to people by mosquitos). Several children have died from *Nagleria fowleri* which is an ameoba which infests the bottom sediments of all Florida lakes and may be spread in bird droppings. Feeding them, results in a higher population of ducks which, in turn, increases the chances of their spreading diseases.

In summary, it may be better for the health of your lake, your ducks, and your family if you stop feeding the ducks. Consider the enjoyment you can get from watching them forage in their natural habitat.

Videos Available

The following educational videotape programs are available in the Aquatic Plant Management Series:

Florida's Aquatic Plant Story -- describes the benefits of native aquatic plants, recounts problems caused by some exotic "aquatic weeds," and introduces the major methods of aquatic plant management. (24 minutes; IFAS Catalog No. VT-315)

Istokpoga -- tells the story of one of Florida's largest lakes, and the hydrilla infestation that made its waters all but unusable; recounts the citizen activism and agency cooperation that resulted in the largest aquatic herbicide application in Florida history, and describes the results of that treatment. (39 minutes; IFAS Catalog No. VT-285)

Aquatic Plant Identification of Floating and Floating-leaved Plants -- features descriptions and pictures of 14 of the most common floating and floating-leaved plants in Florida. (26 minutes; IFAS Catalog No. VT-360)

Emersed Plants -- Part I -- features descriptions and pictures of 19 of the most common emersed plants in Florida. (IFAS Catalog No. VT-361).

All programs cost $15.90, payable to the "University of Florida." They are available on VHS, S-VHS, and PAL video formats. Please specify format and IFAS Catalog number.

Order from:

IFAS Publications
IFAS Building 664
Gainesville, Fl. 32611-0001

Or arrange to borrow them at no charge by calling 904-392-1799.