



Florida Lake Management Society

Southwest Florida Lake Management Society Newsletter

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Newsletter Publisher
Joanne Spurlino

Newsletter
Editors:
Jim and Nella Griffin

Highlands County Named Clean Water Partner for 21st Century

In June 2002, Highlands County submitted an application to the U.S. EPA to be recognized as a Clean Water Partner for the 21st Century. We have been selected as one of the agencies across the country to receive this honor, recognizing the County's dedication to preserving environmental quality while providing public access to our natural

resources. The Clean Water Partner Program was started last year as part of the celebration of the 30th anniversary of the Clean Water Act.



Jennifer Brunty, Natural Resource Specialist for Highlands County, will be receiving the certificate of recognition at a ceremony in

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Got Duckweed?

*By Kelli Hammer- Levy
Pinellas County Dept. of Environmental
Mangement.*

One of the most frequently asked questions with regard to pond maintenance is "how do I get rid of all that duckweed?" The problem is that most people don't really want the answer; they just want it to disappear. I hear it over and over "we spray and it just keeps coming back." Well, if you are out of herbicide and ready to try something new, here is a place to start.

1. How many pipes drain into the pond system and where do they come from?
2. Do you or your lawn

company bag or mulch the grass clippings?

3. What is your fertilization schedule?
4. Are there any plants around the pond? Are there any beneficial aquatic vegetation species around the littoral zone or submerged in the pond?

Next step, compare your answers to those below.

1. If you are lucky, there are only a couple of pipes and you know where the stormdrains are. If not, do your best to look around the neighborhood and determine

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LAKEWATCH

A PROGRAM ESSENTIAL TO LAKE MANAGEMENT

The LAKEWATCH program, sponsored statewide by the University of Florida, is absolutely essential to successful lake management in Florida. What is LAKEWATCH? LAKEWATCH is a water-quality monitoring network where dedicated volunteers collect monthly water samples from a lake, process the samples (filter samples to remove algae cells) and take the sample to collection centers. The samples are picked up by LAKEWATCH employees and are taken to Gainesville to be analyzed for nitrogen, phosphorus and chlorophyll content. Volunteers also measure water clarity with a 'Secchi' disc¹ while they are collecting samples. A secchi disc¹ is lowered into the water until it disappears, and the depth of disappearance is recorded. The sampling process takes about an hour per month. The information gathered by volunteers provides lake managers with information that we need to determine how good or bad water quality is and whether water quality changes in a given lake over time. Nitrogen and phosphorus levels tell us whether pollution is affecting the lake. High levels of these nutrients often lead to increased growth of algae.

The filtered samples are used to determine the concentration of chlorophyll in the sample. Chlorophyll is found in all plants including algae. The chlorophyll is extracted from the algae samples provided by LAKEWATCH volunteers and is used to estimate the amount of algae present in the lake. High concentrations of planktonic algae cause cloudiness in water. These high concentrations of algae are called *algae blooms* and are of concern to lake managers. This is because large amounts of algae dying suddenly can deplete the oxygen in the water as the algae decompose. Oxygen depletion can lead to fish kills.

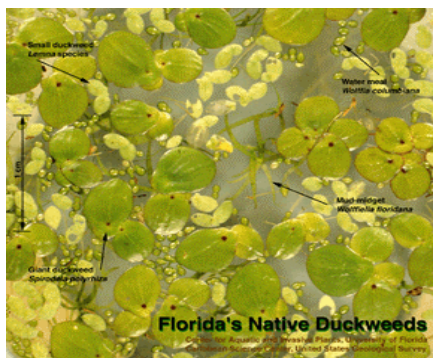
The data collected by LAKEWATCH are also used by the Department of Environmental Protection to determine which lakes are in need of attention. Many states will not use volunteer collected data for official purposes, showing just how much our state values the efforts of concerned citizens.

¹ Secchi Disc (Transparency Disk) is a measure of the clarity of the water, and an accurate method for estimating lake water quality. A black and white disk - secchi disc (or disk) - is lowered into the water until it just disappears from sight -- this depth measurement is recorded. The deeper the measurement, the clearer the water. Secchi disk measurements give a general indication of problems with algae, zooplankton, water color and silt.

Got Duckweed?

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where the drainage is from. Mark the stormdrains, "Dump No Waste



Drains To Pond" Markers may be available free of charge from your local government. If the drains are near your home clear them of leaves and debris as often as possible.

2. Make sure that no grass clippings end up in the water. The grass clippings, leaves and other plant material decay and provide more nutrients for the duckweed.

3. Most grass types found in Florida only require fertilizer three times a year. Follow directions on the fertilizer bag. Over fertilizing promotes thatch growth and the excess nutrients end up downstream in the pond. Consider a no fertilizer zone near the pond.
4. Vegetative buffer zones filter runoff before it reaches the pond, reducing nutrients and trapping sediment. Buffer zones also provide great erosion control. Aquatic vegetation, both submerged and emergent, take up nutrients from the water, provide fish habitat and improve aesthetics. There is a planting scheme for all tastes.

Lastly, wait for a good strong wind and start skimming the duckweed as it accumulates at one end of the pond. When you remove the plant you remove the nutrients stored in the plants. Tilapia, a very common pond fish, eats duckweed and can help manage the plant. Finally, use herbicides sparingly. Products such as fluridone or diquat will kill duckweed, but as you know, it keeps coming back.

Clean Water Partner

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Washington D.C. on February 18th. Highlands County has received the Clean Water Partner recognition for activities in several categories. Restoration and research activities include several cooperatively funded projects with the Southwest Florida Water Management District, and in some cases the City of Sebring, to improve water quality in Lakes Jackson, Little Jackson, Persimmon, Placid, and Josephine. Work with the South Florida Water Management District and the Florida Fish and Wildlife Conservation Commission has focused on evaluating and improving water quality in Arbuckle Creek and Lake Istokpoga.

Public outreach is also an important aspect of the Clean Water Partner Program. County employees have worked with numerous citizen groups, primarily by speaking at meetings, to teach citizens about problems and environmentally friendly solutions. The County has committees to

specifically address problems on Lake Persimmon, Lake Istokpoga and the need for Central Sewer in some areas of the County. Additional public education efforts have involved the production of a Highlands County Watershed video, storm drain stenciling around Lake Jackson, development of a web site for natural resource and lake issues in the county, and sponsorship of booths at local fairs to distribute brochures related to environmental issues.

Finally, the County has addressed the Public Access concern of the Clean Water Partner Program through activities of the Parks Department. This department treats aquatic vegetation to keep invasive plants from taking over lakes, maintains boat ramp access to 42 lakes in the County, and has expanded Istokpoga Park and is working to develop other facilities for Lake Istokpoga. They have also built fishing piers on Lakes Glenada and Red Beach.

For more information on the Clean Water Partner Program, visit www.cleanwaterpartners.org.

Progress on Persimmon

*By Jennifer Brunty, Ph.D
Highlands County Soil & Water Conservation District*

The following article is a report from the Highlands County Natural Resources Department on the restoration of Lake Persimmon, a lake that exhibits some very unusual water chemistry and has been the subject of extensive County and Southwest Florida Water Management District (SWFWMD) studies. The restoration project is Cooperatively funded by the District and Highlands County.

History

The 44 acre Lake Persimmon is located just west of US 27 and a few miles north of the town of Lake Placid. About ten years ago the lake turned a pea soup green color. The lake was once quite clear, according to numerous personal accounts. Many local residents remember swimming in the lake as kids 20 or more years ago. Aerial photos of the lake show that it definitely is different from other lakes in the county. In a black and white aerial photo of area lakes, Persimmon stands out as the only gray colored lake. The normal lake, by contrast, is black. The color photo of the lake taken by Keith Kolasa of SWFWMD, also shows the condition of the lake.



Photo by Keith Kolasa, May 2002

Lake Investigations

The County and SWFWMD began collaborating to identify the problems on Persimmon in 1998 by contracting with the University of Florida to do a paleolimnological study on the lake. Core samples were taken from the lake's sediment and analyzed for alga types, pollen and other indicators of nutrient levels and changes in nutrient levels over the last 100 years. Findings indicate that inorganic fertilizers from lawns and/or agriculture have impacted the lake in recent years.

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Progress on Persimmon

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Community Action

The next step in the process of addressing Persimmon's problems occurred through the formation of the Lake Persimmon Restoration Committee, which was charged with choosing from a list of possible ways to improve lake water quality. Lakes Manager Clell Ford and I began monthly sampling of the water in Lake Persimmon in late 2001, and groundwater sampling of seven shallow wells around the lake in the summer of 2002. Sampling will continue.

The Restoration Committee has been meeting

monthly for more than a year and after considering several alternatives chose hypolimnetic aeration, the use of aerators placed at the bottom of the lake, as the primary restoration method. Aeration was chosen because a significant part of the Lake Persimmon problem was severe anoxia (oxygen deficiency) at the bottom of the lake.

Present Conditions

There are now twelve aerators bubbling away at the bottom of the lake. The aerators mix the lake water and are able to exchange an entire lake volume every few hours. The water clarity as measured by a Secchi Disk has increased from 6 inches or less to 4 feet.

The Lake Oral History Project

The following article was taken from The Oral History Project, a component of the Hillsborough County Watershed Atlas (www.hillsborough.wateratlas.org), a website that brings together environmental, social, and research information into one user-friendly application. Oral

histories incorporate the experiences and perspectives of the citizens who are closely connected to the area's water resources. If you know of any people who you think might have interesting historical stories about or experiences with one of Hillsborough County's water resources, creeks in particular, please contact Christi Schumann at the Florida Center for Community Design and Research. (Telephone: 813-974-8459 or E-mail: schumann@arch.usf.edu)

Lake Magdalene Narrative

By Ms. Erin Buddy

The following narrative is based on an interview with Paul and Mary Bearss in their home on Lake Magdalene in August 1998. The interview provided information, which combined with survey, biological assessment, and other agency's data illustrates the past, present, and future trends of the lake.

Paul and Mary Bearss

The Bearss family has long been a part of Tampa's social and cultural history. Paul's grandfather moved the family to Florida from St. Joe, Missouri in 1894 when he traded 80 acres of Missouri farmland for 600 acres of Florida "pine, scrub and palmetto". Today, the Bearss' retain 100 acres of the original 600; much of the land is still invested in citrus production.

For decades, the Bearss' homestead was the only residence on Lake Magdalene. It was a two story wood structure, built from the pine and cypress on the property. The area was perceived by Paul's grandmother to be a "God-forsaken wilderness" but the family stuck it out and turned the land into productive groves through, "strong backs, quick minds, hoe, axe and shovel."

Through the early years of periodic freezes and slow grove growth, Paul's family supported itself by producing pine charcoal to be sold in Tampa. A trip into Tampa those days was a daylong excursion, making use of the only bridge crossing the Hillsborough River, located at Sulphur Springs.

Much of the Bearss family has moved to other parts of Florida and the United States, although Paul retains a "family compound" on the northwest shores Lake Magdalene shore supports three generations of

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Lake Magdalene Narrative

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of Lake Magdalene. The land they retain along the the Bearss family. It is also the site for family reunions, the last of which in 1995 was attended by 258 members of the Bearss clan.



Lake Magdalene

Lake Magdalene is a privately owned and non-navigable lake. The lake is named, curiously enough, after a relative of Mary Louise Hebble, the woman who became Paul Bearss' wife. The Parrishs, who settled in Manatee County, lived briefly in the area in the late 1800's and the lake was named for Mary Magdalene Parrish, Mary's great aunt.

Lake Magdalene, located between Bearss and Fletcher Avenues in the Hillsborough Basin, contains water that does not flow six months out of the year. In the 1920's, before the Southwest Florida Water Management District implemented flood control measures, the lake flowed east into Haypond slough, now known as Curiosity Creek. The lake historically had a high level of clarity. The Bearss' comment that you could see the blue of their son Marty's eyes when he swam as a child.

The lake has, in more recent times, been the recipient of an increase in the amount of tannic acids from other lakes through the canals dug for flood control.

Much of the land surrounding the lake was under

cultivation for citrus production

until the middle half of this century. The groves were owned for the most part by the Bearss, Greco, and Butler families. Many of the groves have been replaced with residential development, a shift in land use partially due to the freezes the area experienced in the 1980's.

During those winters, the temperature dropped to 18 degrees Fahrenheit, splitting the trunks of foot wide trees nearly 100 years old, and causing many farmers to abandon their groves rather than replant. Some of the original trees from the Bearss' groves still exist on their property. The lake, in historical times, was home to a greater variety of wildlife than is presently evident. Alligators were a part of life on Lake Magdalene. Mary recounts a story of Marty swimming as a child and repeating a phrase, to which she only lent half an ear. When she realized exactly what he was saying, she yanked him out of the water, as the phrase was actually, "Eyes looking at me, Momma!" Marty was not the only family member with a history involving alligators. As a youngster, Paul used to hunt alligators for spending money, and retains somewhat of a preoccupation with the reptiles to this day.

The bird population was also more numerous and exhibited greater variety. Eagles, Herons, Osprey and Whooping Cranes were all frequent visitors to residents around Lake Magdalene. One of the relatives of the Bearss' used to enjoy feeding the cranes, until mobbed by a hungry hoard of them on the way to the mail box, with a young relative yelling "Big Bird, Big Bird!" from the safety of the porch. The population of fish in the lake was also plentiful. Paul, as a child, would be requested by his mother an hour before dinner, to catch the entrée and would return with enough bream and bass to feed the family. Although the Bearss have not seen them recently, Paul remembers stories of his father hunting deer in the area.

The lake, always shallow, has experienced periods of severe fluctuation, which is one of the main reasons for the founding of the Lake Magdalene Restoration Association. One summer, the level dropped so sharply that the Bearss tell a story of a VW Bug, driven out to the middle of the lake to be washed. That was the time that we could look out there and somebody had driven a red Volkswagen, remember, parked it in the middle of the lake and washed it and we decided the lake was too low!"

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Lake Magdalene Narrative

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Development

In 1916, when Paul was born, the Bearss home was the only residence on the lake. As a youngster, he remembers five houses between Lake Magdalene, Armenia and Waters Avenue and he knew everyone in them. Now, Lake Magdalene is the setting for 157 households and an apartment complex. The land around the lake, previously used for agriculture, was developed as residential largely in the 1980's after freezes decimated many of the groves.

Concomitant with the rise in residential development was a decline in the interaction between the property owners around the lake. Facilitating communication among property owners is one of the goals of the Lake Magdalene Restoration Association, established in 1974. The Restoration Association is represented by a core group of individuals who have repeatedly given their time to the health of the lake over the years. The association has been successful in addressing some issues, such as vegetation control and lake level augmentation, and publishes a bulletin to establish guidelines for beneficial lake behavior, safe boating guidelines and to relate the history of the lake to new residents. Development has instigated change in other areas. Paul's father used to take rowboat excursions from Lake Magdalene to Sulphur Springs. Such a trip is now impossible because of development, pumping and water redirection for flood control.

The Future of Lake Magdalene

For the Bearss family, the largest concern for the future of Lake Magdalene is the lake level. The pump, financed by the Restoration Association, is under the charge of the county and they decide when its use is needed, often dropping the lake to a level which the property owners believe is threatening to their property values and the health of the lake. Property owners on Lake Magdalene have a means to address such concerns. The Restoration Association has proven to be an effective vehicle for the residents on Lake Magdalene. They have been able to address many issues by acting as a critical mass, and there is no reason to think this efficacy will decline.

Lake Magdalene is presently developed to its maximum potential, as the only undeveloped lakefront property is owned by the Bearss. Their family has a stake in retaining pieces of their lifestyle from the past, a preservation ethic from which the whole community can benefit. Paul contends, "If you study history, you profit by other people's mistakes and without history, how are you going to do it?"

The Newsletter:

This is the first issue of the Southwest Chapter of Newsletter. The publisher and editors want to thank all those who contributed articles for this issue. The newsletter will be published quarterly and available on the Florida Lake Management web site at <http://www.nalms.org/flms>.

Articles for the newsletter maybe submitted for publication to Joanne Spurlino at SpurlinoJ@aol.com Deadline for article submission to the Spring 2003 edition will be April 7.

If you are concerned about the lakes in your area and would like to join with other volunteers and lake professionals to protect and preserve our lakes, consider joining FLMS and your local Southwest Chapter. Contact Joanne Spurlino, at SpurlinoJ@aol.com.