



# On Our Pond

A NEWSLETTER FOR CLEANER WATER & BETTER POND ENVIRONMENTS



Volume 7 No 3 Adopt-A-Pond is sponsored by Hillsborough County, the Southwest Florida Water Management District, and YOU! Fall 2001

## ACTIVITIES UPDATE

### Pond Walks

- Southwood Pines St
- Graham Dr
- Bonnevillie Dr
- Greenhills Dr
- Villa Largo Dr
- Emerald Lake Dr

### Education Meetings

- 12 Oaks smaller
- 12 Oaks larger

### Cleanups

- Palm River Rd
- Villager Place
- Tarawood
- Saddle Rd

### Plantings

- Foxridge Cir
- Carrollton Lakes
- Lake St Charles

## WHAT'S GREEN, BROWN, AND ALL OVER MY POND?



We've been getting call after call about ponds that look like this. People describe them as **brown, green, slimy, and scummy**. But truth is, this is just the little group of plants we commonly lump together and call duckweed. Nonetheless, many ponds have been cropping up with large quantities of the little guys so we've got some suggestions for you... 'Cause that's just the kinda guys we are!

**See DUCKWEED on page 3.**

### The 2001 Pond Judging

happening this quarter. Winners in the next issue. Good luck to the competing ponds.

### On Our Pond

Quarterly Newsletter Published By:  
**The Hillsborough County Stormwater Management Environmental Team**  
P.O. Box 1110  
Tampa, FL 33601-1110  
(813)272-5912  
<http://www.hillsboroughcounty.org>  
e-mail [mcgee@hillsboroughcounty.org](mailto:mcgee@hillsboroughcounty.org)  
Editor: John McGee

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## THE LAKE, POND & STREAM SEMINAR

This year's Adopt-A-Pond Seminar was held on August 31 at the Florida Aquarium. The event was held in combination with our Lake and Stream programs here in Stormwater resulting in a much larger event than we could have offered alone. The format was open, with exhibits from organizations all over the county. Guests were able to mingle amongst the displays meeting other pond groups and learning all kinds of useful information. We also had the aquarium touch tank where guests could really come into contact with some beautiful sharks and rays. Some light hors d'oeuvres were provided by our consultants (thanks guys). And in the background were the eclectic stylings of two excellent local musicians, Matt McGee and Rick DePirro. In addition the Aquarium opened their exhibits and guests could treat themselves to a night-time stroll among the various habitats constructed at the Aquarium.



Sylvia Durell from SWFWMD hands out some literature.

We also featured four presentations throughout the evening. Dr. Martin Kelly from the Water Management District spoke on Lake Restoration Techniques. Brian Schatz, a local landscape designer and speaker, told us about Native Landscaping. Carrie Tallman from Lowry Park held an interactive presentation on Aquatic Wildlife. And Tom Champeau from the Fish & Wildlife Conservation Commission gave us some tips on Designing a Lake Management Plan.



Kids and parents get to pet some sharks and rays.

But that's not all. The StreamWATERWATCH folks held water quality training sessions throughout the evening. Everyone had the chance to grab a few aquatic plants on their way out, and we gave away some pretty nice door prizes. All in all, the event was a rousing success. There were over 350 people in attendance from all over Central Florida. If you missed out on this year, keep your eyes open for the announcements in late summer next year.



### MEET DAN

**Dan drives the Schaeff. He's a Schaeffer!**

We'd like to take this opportunity to introduce you to our new Schaeff Operator. Some of you may remember that we lost our original operator about a year ago. Well now Dan has joined our team and we're glad to have him. He's been working for the county for 20 years, and when it comes to skill in the machine... well, we've never seen better. Dan's been working with Adopt-A-Pond since the beginning, before we had a machine of our own. And before taking over full-time, Dan helped us out for almost a year by running the machine on over-time, in addition to his regular duties.

Some of you may have met him at this year's seminar; he was at our booth. But if you haven't had the chance, you will. And if you're in line for a cleanup, you can be certain that Dan will leave you with the best job we can possibly offer.

## DUCKWEED

**Pond scum by any other name would look as gross!!**

Every year it seems there is one problem that just seems to be the aggravation of the year. This year I've received many calls with similar descriptions, and in almost every case it has turned out to be the same thing. Not to fear though, duckweed is a relatively easy problem to deal with. And, ask anyone who's dealt with ponds for awhile, there are a whole lot worse things that could be happening.



So what is this stuff exactly ? Hopefully I can help you with that. This slime, or whatever you'd like to call it, isn't really slimy at all. Close examination will reveal that it is actually a conglomeration of tiny little floating plants, each one separate and unique, like a snowflake. Now if you'll notice, there are probably several KINDS of shapes that you're seeing. Some may be larger with little hairs on the top, this would be *Salvinia*. Others, smaller and smooth, possibly connected at the back, these are the actual duckweeds. Then you may see some teeny tiny little guys called water meal. And if your lucky you may actually have a small branched ferny looking plant called *azolla*. There may be some algae in there as well.



The Culprits! These little guys are virtual nutrient release factories. If you've got alot of muscovies, call the FWC for help getting rid of them!

So what can be done about it? First of all, understand that duckweed is not bad for your pond, it's just aesthetics. In fact, this proliferation is actually treating your water quite well. To that end we don't want to over-react and blast the pond with herbicide. We all know this only releases nutrients into the water fostering more growth. Besides duckweed grows so fast it will be back in two weeks anyway.

The best solution is to **add more aquatic plants** to take up nutrients, **eliminate or reduce any nutrient inputs**, and then **rake out the duckweed** with nets and seines. When it blows to one side you can corral it with silt fence or a floating barrier and that will make it easier to remove. Either way don't panic, just like most things, the duckweed will run it's cycle. We just need to be patient and work with nature instead of against it.

### SOURCES OF THE PROBLEM- THE INVISIBLE HAND

Most ponds have small quantities of these plants all the time, seeds are in the soil, and animals can transport them. Without a rigorous case study we can't know what causes them to proliferate at any given time. But a general explanation can be borrowed from economics. Like a free market, a pond system is a delicate balance of constantly competing factors. Each checks the other as they push to survive in the greatest numbers. If a space opens, something will jump in, and the most competitive wins.

## UPDATE ME- Streamlining the mailing list

We are attempting to update our mailing list. So please check your label. If you've been getting duplicate newsletters, wrong address, misspelled name, let us know. You can call it in, you can cut the form below and mail it in, or you can see the electronic version of this newsletter on the county website and email from the link on this article. We appreciate your help.

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**Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

\_\_\_\_\_

**Email:** \_\_\_\_\_

- delete duplicate entries at this address
- remove from list



Late spring 2000. Before any work. Check out the duckweed.



Just after planting. Check out the duckweed now!



Now in November 2001, nice vegetation and sparkling water!

## It CAN Happen

The inspirational story of a pond that did.

Even though Adopt-A-Pond has been around for about 10 years we're still a pretty progressive program. The idea that citizens can maintain their own ponds, and do it using natural methods? It's pretty much unheard of. Well we're doing it, and you can do it too. Here's one of my favorite success stories.

In the Boyette Springs Subdivision in Riverview there's a pond group called Hitchcock Pond. They signed up for our program in '99 and we got to work in early 2000. When I first saw the pond I knew it had potential. This 2 acre pond was ringed by cattails, had a distinct spoil island at the end of one of the inlets (indicative of sedimentation, probably from neighborhood construction), and was covered by the infamous duckweed. The neighbors were skeptical that we could ever turn the thing around. They had paid a company to spray before, with disastrous results on fish populations. In fact, many of them thought we were coming to nuke the pond with herbicide again. After a little discussion they agreed to give our program a shot, and I told them if they pulled it off, I'd write this article.

We brought our machine and cleaned the edges for them, which only made the duckweed explode across every inch of the water. But they stuck with it and we planted shortly after, right in the duckweed (see picture). After that, the neighborhood stayed on top of things. They maintained the plants and used a small boat to help drag in and corral the duckweed. And when I went out to do our 6 month follow-up, I was blown away. Not only had the plants taken off to beautiful proportions, but there was not a trace

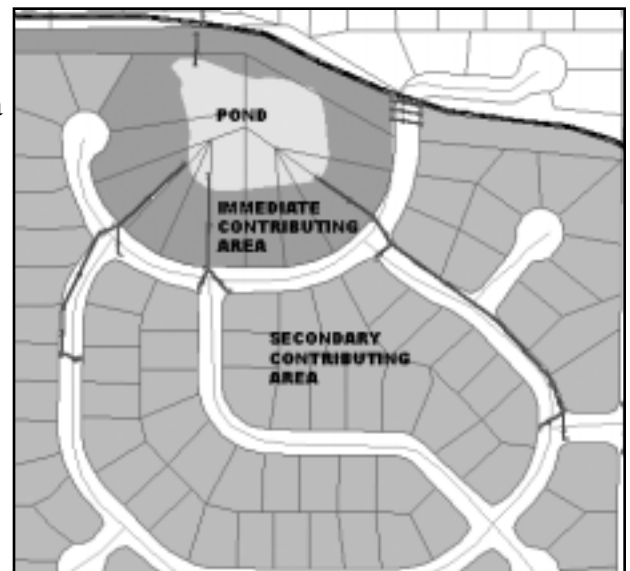
of duckweed anywhere in the pond! Great job guys, you've proved that it can be done!

## THE WATERSHED APPROACH

Extending the area of concern

Recently in environmental circles, people have begun to realize that a waterbody is much bigger than the area covered by water. The truth is that every water body is surrounded by an area that contributes runoff to it. The waterbody and "source area" together make up a watershed.

To relate this to our ponds, we need to consider all areas that contribute to our ponds as part of our managed area. This would include any areas that drain directly to the pond as well as all areas that contribute runoff to pipes connected to the pond. This can make our area of concern much larger and oddly shaped than we may first have figured, but if we are going to have the best possible pond, we need to look at all factors. Of course the trick is to get those people living away from the pond to understand your concern and participate. So here we have to be creative. Come up with interesting ways to appeal to those people directly. What would make them care what goes into their stormdrains? Florida Yards & Neighborhoods is a great program that can indirectly benefit your pond. Think about ways to get others involved and let me know what you come up with. We may be able to use your ideas all over the county!



## WATER QUALITY- DISSOLVED OXYGEN

Continuing our series, we'll be looking at dissolved oxygen. This parameter is one of the more crucial that we test for, as it has direct bearing on the ability of plants and animals to live in your pond. Oxygen is required by all organisms that undergo aerobic respiration, or breathe. This includes plants and animals both small and large, from microscopic algae to fish and mammals. By tracking this factor, we can predict fish kills and determine what type of management our ponds need.

Oxygen enters the water in two ways. By directly diffusing out of the air, or as a byproduct of photosynthesis, courtesy of our good old plants. The amount of oxygen in a pond at any given time is influenced by several factors, including temperature and sunlight. As the water heats it holds less oxygen, therefore we get seasonal variations in oxygen levels. Now in pond systems, which are generally shallow in terms of lake study, we often see something called the diel (daily) oxygen cycle. Basically this means that in the sunlight plants photosynthesize and release lots of oxygen. At night this process stops, plants reverse their function and breathe. This causes the oxygen levels to drop, or disappear. Only to start again the next day. If we combine this cycle with the high summer temperatures that decrease the ability of water to hold oxygen and increase decomposition, which also uses oxygen, the pond may become so depleted that we get a fish kill. In the same way, if we do something to drastically reduce vegetation and promote decay (such as spray for algae or duckweed), we can set off a fish kill, or at the very least reduce the life processes in our pond to a dead crawl. A healthy pond maintains levels of dissolved oxygen at or above 5ppm (parts per million).

*To learn more about interpreting your test results see the **Sampling** section on page 6.*



## GREAT AMERICAN TEACH-IN People sure love Stormwater

If any of you have children, you may be familiar with the annual Great American Teach-In. This event allows parents and professionals to come to classrooms all over the county and talk about what they do for a living and any other topics that would be of interest to the students. And apparently stormwater is a popular subject. This year, Stormwater staff have been inundated with requests to participate. The Officer Snook program had at least 3 calls. Adopt-A-Pond got 2. And 2 other scientists here have had multiple requests as well.

This is a little surprising to us, but we're glad to have the attention. In this county stormwater is a big issue. We sit on the edge of a big estuary known as Tampa Bay. Basically that means we're about as low-lying as it gets. Most of our communities are in danger of flooding to one degree or another. And we're the ones charged with keeping them dry. To that end, we manage approximately 800 miles of pipe and some 35,000 structures designed to move rain water to safe locations quickly and effectively.

What's more, it's our job to make sure that this water stays as clean as possible and is handled in a way that doesn't damage our natural systems. Now we do everything we can to make this happen, but we can't do it alone. That's why pollution prevention and education are so important to us. Without the cooperation of citizens to help us keep these systems working and prevent pollution at the source we'd be fighting a losing battle. So we're glad that people are taking an interest in Stormwater Management and we're more than happy to come speak. If you didn't get us for the Teach-In, try to schedule us for another day. We'll come even if it isn't a special event, after all, that's our job!

