



Healthy
Stormwater
PONDS



START

Preserving Our
Coastal Waters

START1.ORG

Solutions To Avoid Red Tide

START is a 501 (c) (3) non-profit citizens' organization working since 1995 to reduce the excess nutrients in our waterways that feed red tide and other Harmful Algal Blooms (HABs)

We do it three ways:

1. **Public Education Program**
2. **Water Quality Government Outreach**
3. **Nutrient Control Program:**
 - Sarasota Bay Bivalve Restoration Program
 - Stormwater Filtering System at Bay Park
 - Microforest Program
 - Stormwater Pond Enhancement Program

Healthy Pond Collaborative

Funded by a
Three-Year Grant
from the:

CHARLES & MARGERY
BARANCIK
FOUNDATION



Partnering With:



START is a Member of the Gulf Coast Community Foundation Nutrient Initiative

Providing:

- Advice on maintaining healthy stormwater ponds
- Funding for aquatic plants on the littoral shelf

Stormwater Pond Functions



1. **Flood control**
2. **Filter out excess nutrients (*Nitrogen & Phosphorus*) and pollutants (*oil & gas*)**
3. **Provide habitat for wildlife**

Healthy Pond Collaborative



Three objectives:

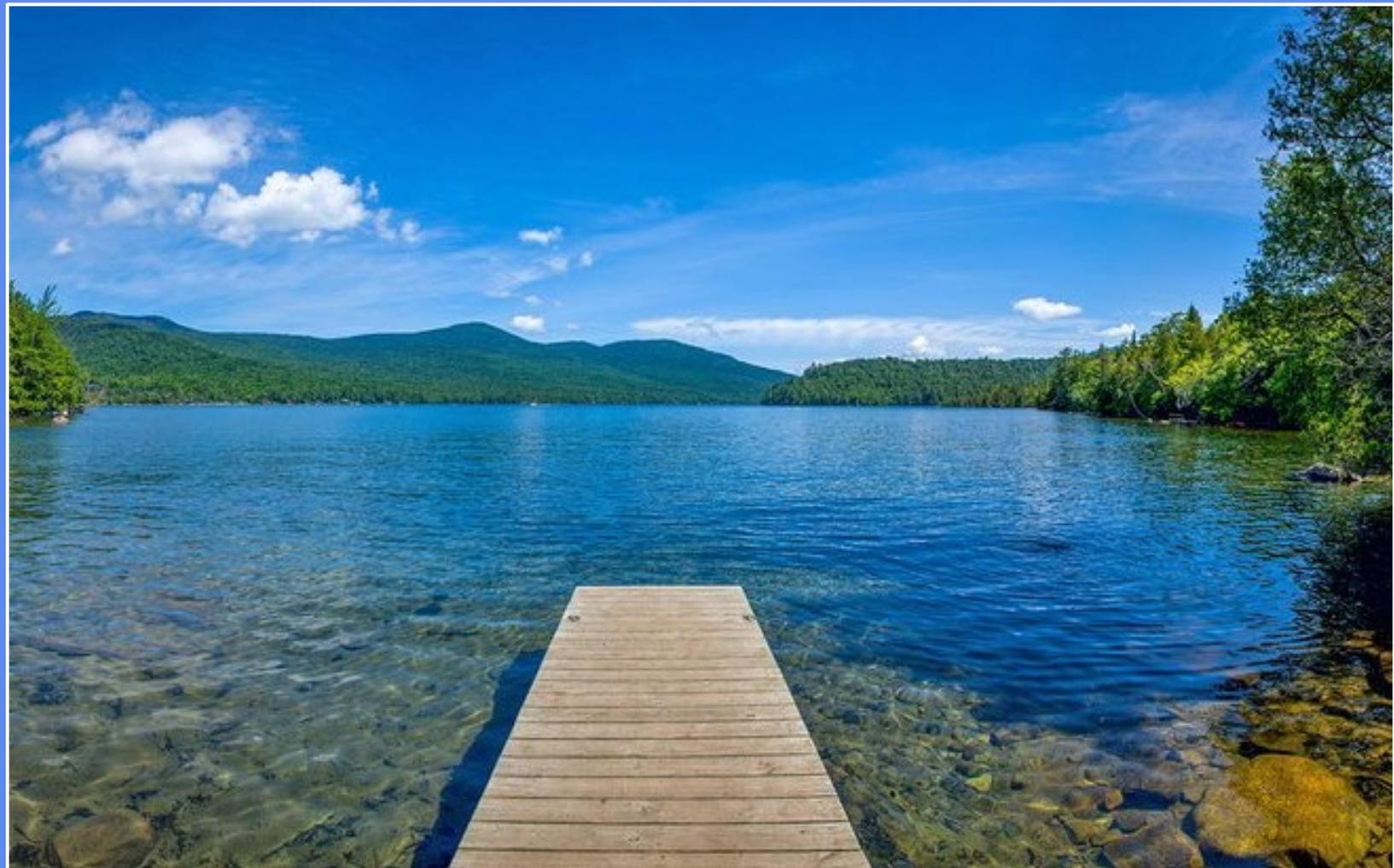
- 1. Control erosion**
- 2. Improve pond filtering efficiency**
(Current average is only 40%–60%)
- 3. Help implement a cost-efficient Pond Maintenance Program**

Stormwater Ponds are not Lakes

Lakes look and function differently

Lakes are:

- Naturally formed
- Larger
- Deeper
- Clearer
- Less or no in-water vegetation
- Require little or no maintenance



Stormwater Pond Features



Ponds are:

- Man-made
(developer)
- Permitted by
SWFWMD & local governments
- Shallow
(6–12 feet deep)
- Evolve/change
over time *(wind and water impacts)*
- Maintenance
required by the
community

Your Ponds are the Foundation of your Stormwater Control System



1. Series of linked ponds
(upland to lowland)

**2. Linked by man-made
control boxes (Weirs)**

**3. Complemented by
natural wetland**

Healthy Stormwater Ponds Look Like This

1. **No Mow Zone:**
at least 8–12
inches high and
at least 3 feet
wide
2. **Aquatic vegetation**
on the Littoral
Shelf (*shallow*
water) at least 30%
to 50% density



Too Many Ponds Look Like This...



With No NMZ and No Aquatic Plants

Will Soon Lead to This



1. Poor water clarity
(excess nutrients)

**2. Unsightly
algae bloom**

3. Little to no wildlife

Controlling Algae



No Mow Zone:

- Taller grass helps keep grass cuttings and fertilizer out of pond
- Deeper roots absorb more stormwater and excess nutrients

Aquatic Plants:

- Crowd out algae
- Shade sunlight limiting algal growth
- Absorb nutrients reducing algal food source
- Reduce need for herbicides (*Copper Sulfate*)

Controlling Algae

- Monitor/adjust irrigation and fertilizing practices
- Many communities are over watering and using too much fertilizer
- Stormwater and irrigation water quickly seep into the ground in our sandy, porous soil
- Water enters the pond under ground in the water table
- You may be fertilizing your ponds



Ponds Like This



With No NMZ and No Aquatic Plants ...

Will Begin to Look Like This



With Costly Eroding Banks ...

Pond Remediation is Very Expensive



Geotube reinforced banks (\$70–\$100 per linear foot)

Pond Remediation is Very Expensive



Geoweb reinforced banks (\$100–\$150 per linear foot)

Sediment Removal



\$150 + per linear foot

Controlling Erosion:



No Mow Zone:

- Keeps heavy lawnmowers from weakening the bank
- Deeper grass roots help stabilize the bank
- Helps preserve preferred 4 to 1 ratio for the bank slope
- Absorbs stormwater that can erode the bank
- Sustains the holding capacity (depth) of the pond

Aquatic Plants:

- Blunt wind and wave action against the bank
- Help control undercutting of the bank

Successful Pond Maintenance Programs Come in a Variety of Styles



Wild/Preserve Style (*Rivendell*)

Successful Pond Maintenance Programs Come in a Variety of Styles



Natural Style (*Stoneybrook*)

Successful Pond Maintenance Programs Come in a Variety of Styles



Landscaped Style (*Mira Lago*)

Aquatic Plants Beautify the Landscape



Healthy Pond Maintenance Program

Features:

1. No Mow Zone
2. Aquatic plants on the littoral shelf/zone
3. Modified irrigation and fertilizing practices
4. Reduced use of herbicides
(*Copper Sulfate*)
5. Active resident pond committee



A Pond Program with these Features is Cost Effective

1. NMZ: Little to no cost

- Made up of taller St Augustine grass
- Hand mowing with a Hedge Trimmer or a String Trimmer (*from no cost to \$1.00 per linear foot annually*)

2. Aquatic plants *(\$1.00 to \$2.50 per linear foot)*

3. Shoreline plants: **Plants, bushes and trees** *(\$2.00 to \$4.00 per linear foot)*

4. Developed in stages over time

5. Use available resident volunteers to monitor the ponds



Benefits of an Ongoing Pond Enhancement Program

1. Improves flood control
2. Stabilizes banks to control erosion
3. Reduces algal growth
4. Reduces need for costly and damaging algal control



Expands Community Involvement and Lifestyle



More things to do

Expands Community Involvement and Lifestyle



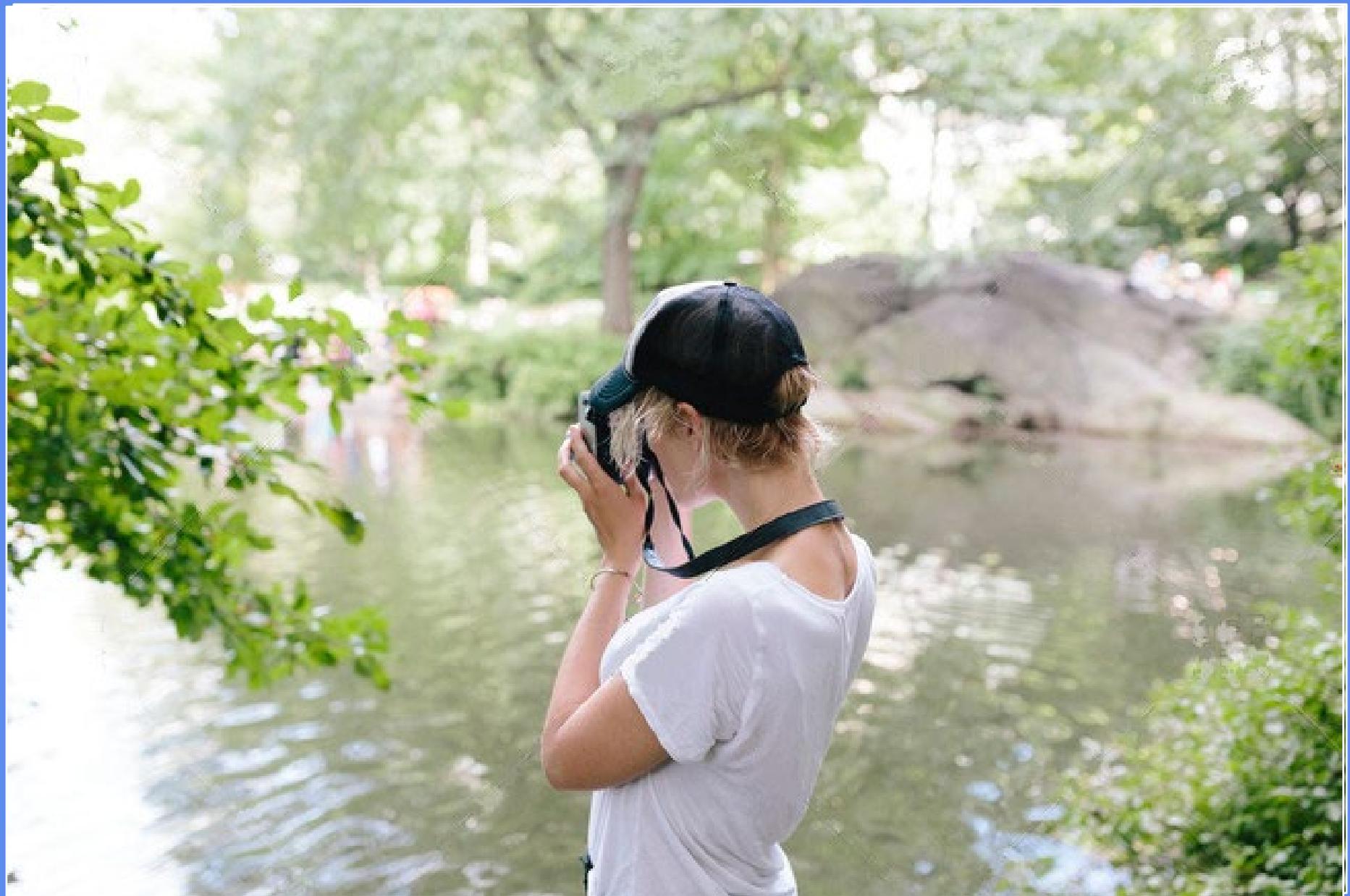
Watching wildlife

Expands Community Involvement and Lifestyle



Fishing

Expands Community Involvement and Lifestyle



Photography

Expands Community Involvement and Lifestyle



More places to socialize

Improved Housing Values



20% increase in property values for homes overlooking healthy ponds

Why Are We Supporting your Pond Enhancement Program?



1. Sarasota Bay has twice as much Nitrogen in it today than it did In 2000
2. Seagrass coverage is down by over 30%
3. Red Tide has increased in frequency, intensity and duration
4. Stormwater runoff accounts for 65% of the excess nutrients in the Bay
5. Stormwater ponds average only 40% to 60% efficiency in nutrient removal

Stormwater is a major source of excess nutrients and pollutants in the Bay

Healthy Stormwater Ponds Make a Difference



Cormorant Lake (above) *Source: Lakeshore Village, December 2017 to August 2019

Lakeshore Village achieved the following results in just 20 months*

• **Water Clarity**
+ 50 %

• **Chlorophyll**
- 51 %

• **Phosphorus**
- 30 %

• **Nitrogen**
- 22 %



Be Part of the Solution

Join the Healthy Pond Collaborative

1. Expert advice:

- START
- Sarasota County NEST Program
- University of Florida IFAS Sarasota Extension
- Manatee County Department of Natural Resources

2. Monitoring/Reporting Service:

- LAKEWATCH Program

Be Part of the Solution



3. Funding Support:

- Healthy Pond Collaborative
- Gulf Coast Community Foundation
- Sarasota County Neighborhood Services
- Chiles Moore Pond Program
- Manatee County Neighborhood Connections

Let's Get to Work!



Photo courtesy of Carmen Merriam for the Sarasota Bay Foundation



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