

## Why are Planted Littoral Zones Necessary?

Littoral zones provide a means for pollutants in stormwater to be removed from the environment. As storm water is flushed into detention ponds, some of the pollutants settle out into the sediment. One goal of planting herbaceous species along the side slopes of the detention pond is to improve water quality before release into canals or other receiving bodies.

Provide bank stabilization - Most lakes provide for a 4:1 side slope. Due to the type of soils found in South Florida, wave action and upland runoff, side slopes tend to recede from the banks of the detention pond. Planted littoral zones are very efficient in maintaining side slopes (a gradual slope).

Provide a seed source - As littoral zones are planted, the new plants provide a natural seed source. The seeds allow for enhanced recruitment of native plants in any un-planted remainder of the pond.

Provide habitat - When created lakes are completed, they are sterile. Planted littoral zones provide a place for fish and other aquatic life to find a safe haven and a food source while growing to maturity.

Provide foraging areas for waterfowl - As small fish and other aquatic life find safe haven in planted littoral zones, wading birds find a source of food.

## What is a Stormwater Treatment System?

A stormwater treatment system traps pollutants and prevents flooding. There are several types, such as a retention basin, roadside swale, dry and wet ponds. The system must be maintained effectively to function properly!



Always keep inflow/outflow structures clean and clear of debris.



Monitor eroded slopes. Always repair and revegetate when necessary.



Reduce nutrient inflow to reduce algal blooms.



If you see debris on a storm drain, remove it immediately.

## What is a Stormwater Lake?

Most stormwater lakes are created drainage systems designed to improve water quality and control flooding in an urban area. Lakes temporarily store stormwater runoff and capture urban pollutants, such as lawn fertilizer and motor oil.



Unfortunately, stormwater does not evaporate into thin air, but instead picks up dozens of pollutants along its way to our lakes, streams, wetlands, and rivers. It is one of Florida's leading source of water pollution and contributes to approximately 80-95% of heavy metals such as lead, copper, and cadmium that enter Florida waters.  
*(Statistic from St. Johns River Management District).*



## Native Plant Identification



Water lily



Golden canna



Pickerelweed



Cordgrass



Blue flag iris



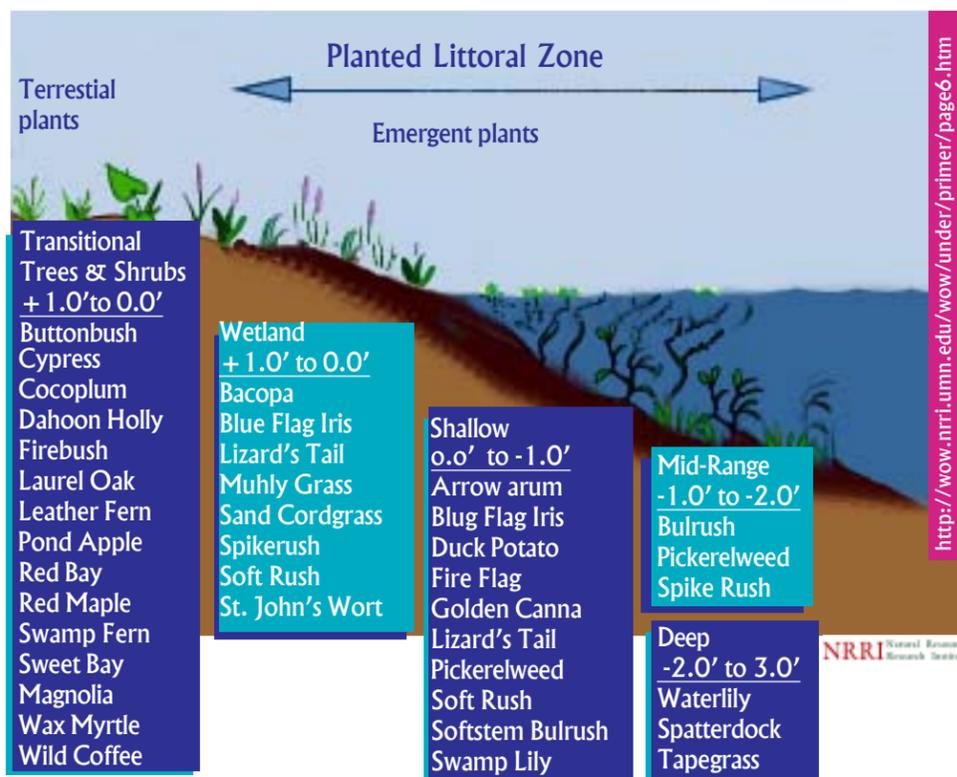
Duck potato



Spatterdock



Fireflag



## Problematic Aquatic Plant Species: What is Wrong?

Waterbodies can become enriched with minerals and nutrients from stormwater runoff. Nonnative plants can take advantage of this condition and grow quickly, often displacing native vegetation. For example, hydrilla can grow up to one inch per day and form thick mats on or just below the water's surface, reducing available sunlight to native plants. Furthermore, nonnative plants can harbor mosquitos. Hydrilla, water lettuce, and cattails are all host for larval stage of mosquitos. Torpedograss rapidly out-competes native plants if left untreated.



**STOP** Torpedograss



**STOP** Hydrilla

Bob Bierman



**STOP** Primrosewillow



**STOP** Water-lettuce

Dennis Woodland, IFAS



**STOP** Cattails



Water-hyacinth

Dennis Woodland, IFAS



Maidencane



Alligatorweed

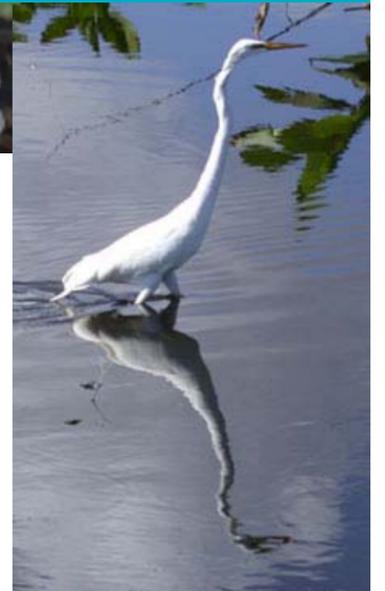


## The Importance of a Healthy Lake

Native plants prevent erosion.  
Healthy plants absorb nutrients and filter sediments from runoff.  
Native plants require little or no maintenance.  
Healthy ponds create biodiversity.  
Healthy ponds remove pollutants from stormwater.



## Palm Beach County Department of Environmental Resources Management



# The Littoral Zone

### Stormwater Lakes:

Provide aesthetic appeal

Serve as treatment areas for stormwater pollutants

Provide critical habitat for fisheries and wildlife

Store stormwater which helps replenish our drinking water supply

Provide recreational opportunities for boaters and anglers

  
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 Department of Environmental  
 Resources Management  
 2300 N. Jog Road - Fourth Floor  
 West Palm Beach, FL 33411-2743  
 (561) 233-2400  
[www.co.palm-beach.fl.us/erm](http://www.co.palm-beach.fl.us/erm)



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