



# Aquatic Vegetation Control, Inc.

Environmental Management

Riviera Beach, FL  
Port Saint Lucie, FL  
Pembroke Pines, FL  
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## **The Positive Benefit of Shoreline Plants in Sawgrass Lakes in Port Saint Lucie**

Recently, the management of the plant called slender Spikerush has come under attack from some in Sawgrass Lakes. It was characterized as ugly, invasive, impairing birds from feeding and causing disease.

“Ugly” certainly is a descriptive term that is not shared by all but may be accurate to some, depending on perspective. If 100 residents were asked what looked best for their lake, there probably would be as many answers.

To properly manage a lake, more criteria need to be evaluated than what is appealing to some. The lakes health, environmental asset and productivity also need to be considered.

Shore zones can have high biodiversity and play a critical role in slowing water flow from land into a body of water.

One needs also to examine what we know about their ecological functioning in order to make recommendations for design, planting and management of these specialized zones.

Lakes can be managed with no littoral zones and there may be a place for that in some areas.

The littoral zone however is very important. A littoral zone is any area of a body of water that is shallow and allows vegetation rooted underwater enough access to sunlight to grow. It is often the areas closest to the shore of a lake or pond. It is shallow, warm and more productive compared to other areas. It is home to a diverse community that includes aquatic plants, snails, clams, insects, crustaceans, fish, probiotic bacteria and amphibians. The littoral zone is critical for the reproductive cycle of several kinds of wildlife.

It is an area that utilizes the excessive phosphorous and nitrogen that is the most detrimental in most residential lakes. In addition to the many critters that need this area to develop, probiotic bacteria attached to the plants are also needed to break down the organic grass clippings and leaves that enter the lake. The bacteria also utilize phosphorous, carbon (muck) and nitrogen in their body composition and for energy use. The bacteria are then eaten by protozoa and then by fish ending up in the food chain rather than the nutrients forming unsightly unproductive algae mats that constantly need herbicide treatment.

This becomes more important as the lake ages and more nutrients from fertilizer from the immediate lawns and also from drainage upstream ends up into the lake.

Dragonflies and frogs lay their eggs here. Once they hatch, the larvae and tadpoles forage in the shallow water as they develop. Ducks, wading birds and turtles also rely on the plants and animals living in this zone for food and shelter. Fish also rely on such areas for reproduction and shelter from predators.

Research shows that shorelines without vegetation reduce biodiversity at the shore's edge. Shorelines without vegetation reduce biodiversity by at least 25% compared to vegetated shorelines. There are about 50 – 60% fewer birds, 20 - 30% fewer swimming aquatic animals, and a lot fewer organisms living in the substrate.

This is why Port Saint Lucie has been so proactive for years in creating habitat for animals and also reduce nutrient.

Besides acting as habitat, vegetated shorelines provide other valuable ecosystem services. Waves, currents and wakes may focus enormous amounts of energy onto shore zones. Vegetation absorbs significant amounts of wave energy, important during tropical storm events, thereby reducing erosion along the shore and improving habitat for a diversity of organisms.

This does not mean the lake shoreline needs 100% vegetation but some access to open water may be needed for access. The primary vegetation in Sawgrass Lakes is a plant called Spikerush. It is a native plant that is common in Florida and very valuable habitat. It tends to grow in water up to about 3 feet deep, is excellent habitat for aquatic organisms and provides excellent habitat for nutrient removal.

Hopefully, we can look at the big picture, mitigate our personal aesthetic desires and do what is needed for our lake, not just for us but for the future also.

Lakes in Broward, Palm Beach and many other locations have mandates requiring vegetation around homeowner lakes. Port Saint Lucie does not have those mandates but is forward-looking to include vegetation around lakes to mitigate damage from high nutrient runoff and provide habitat for the Port Saint Lucie's large bird and fish population.

Thanks for your interest in lake management.

Yes, I live in Sawgrass Lakes also.

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