SEMINOLE COUNTY
FLORIDA'S NATURAL CHOICE

A Guide on

How to Plant Your Lakefront

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How to Plant Your Lakefront




Introduction:

Lakefront homeowners have a direct impact on the water quality, aquatic habitat and the overall health of their waterbody. Nutrients enter a waterbody by way of stormwater runoff, septic tanks (especially improperly maintained septic tanks) or excess fertilizer run off from lawns to name just a few sources. All of these contribute to the decline in health of urban and neighborhood lakes. Excess nutrients in a waterbody can speed up the natural aging of a lake through a process called eutrophication. Eutrophication can lead to negative effects such as algae blooms (a great increase of phytoplankton in a waterbody) and the depletion of oxygen in the waterbody, which can result in fish kills. This guide will detail one simple method to minimize these nutrient impacts on your waterbody and protect it for the future.

Having a healthy ecosystem of shoreline plants plays an important role in improving and maintaining the quality of your lake. While many people enjoy a white sandy beach along their shoreline, this unfortunately allows nutrients from the yard and surrounding areas to flow directly into the lake. Shoreline plants act as a buffer and help reduce the amount of runoff that can reach your lake. Appropriate shoreline plants also helps reduce shoreline erosion. Having native aquatic plants along the shoreline (or littoral zone) can protect and improve the ecological health of your waterbody and provide a great view at the same time!

This guide details how to plant the littoral zone by identifying:

- *species of beneficial native plants to use,*
- *the correct zone in which to plant,*
- *the tools needed for aquatic planting,*
- *preparation of the shoreling before planting,*
- *planting techniques, and*
- *maintenance of the shoreline after planting.*

Native and Exotic Plant Species:

While many plants can and will grow along the shoreline, selecting the correct species and then planting it in the appropriate place (zone) is important to its long term survival and success of your shoreline project. Exotic/invasive species, because of their rapid growth, can completely take over an area and prevent the establishment of more beneficial and desirable native species. Exotic species alter the landscape of Florida and renders habitat unsuitable to native species that are critical to the balance of a lake's ecosystem. There are many ways to remove exotic/invasive species and some are identified in the "Preparation of Your Shoreline" section of this guide. Although there are numerous types of exotic and invasive plants, the following are species most commonly encountered by lakefront homeowners.

Undesirable invasive and/or exotic species:

Primrose Willow (*Lugwigia peruviana*)

(A) Alligator Weed (*Alternanthera philoxeroides*)

(B) Torpedo Grass (*Panicum repens*)

Water Hyacinth (*Eichhornia crassipes*)

(C) Water Lettuce (*Pistia Stratiotes*)

(D) Wild Taro (*Colocasia esculenta*)

Para Grass (*Urochloa mutica*)

Native aquatic plants provide the most benefit in terms of habitat creation and protecting the health of a waterbody by absorbing nutrients out of the water column and lake bottom soils. Some of the most commonly used beneficial native aquatic plant species are listed on the next page. Check the phone book and Internet for local aquatic plant nurseries where you can purchase your own native shoreline plants.

Desirable Native Species:

Thalia (*Thalia geniculata*)

(B) Canna (*Canna flaccida*)

Burr Marigold (*Bidens laevis*)

Crinum (*Crinum americanum*)

Iris (*Iris virginica*)

Soft Rush (*Juncus effusus*)

Spike Rush (*Eleocharis sp.*)

(C) Pickerelweed (*Pontederia cordata*)

(A) Duck Potato (*Sagittaria lancifolia*)

(D) Saw Grass (*Cladium jamaicense*)

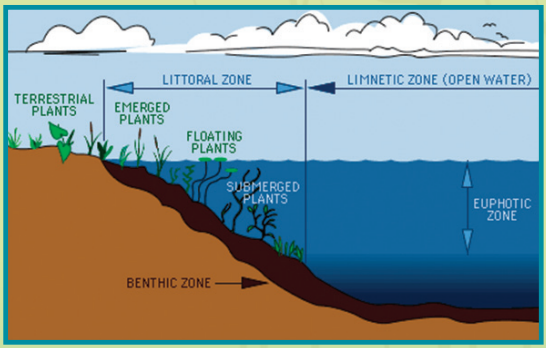
Bulrush (*Scirpus validus*)

Maidencane (*Panicum hemitomon*)

Planting Zones:

In order for aquatic plants to survive and flourish, you must first determine which plant species is most appropriate for the desired planting zone. Different aquatic plant species are adapted to different ranges of water depth, soil moisture and inundation period (length of time submerged underwater). Each species should be planted within the zone for which it is best suited. Your aquatic plant nursery or local lake management staff can help you identify the proper zone for the type of plants that you have.

Typical Lake Zones



Step 1 - Preparation of Your Shoreline:

The first step in preparing your shoreline is to identify and remove the undesirable exotic species from the area.

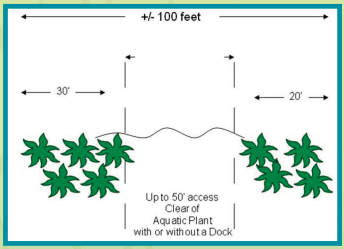
There are two ways to remove undesirable vegetation, mechanical/physical removal and chemical removal.




Mechanical/physical removal means the use of any machinery, hand tools or hands to physically harvest the plant material. Hand removal will be sufficient for most residential lakefront properties. The tools needed for hand removal will include shovels, clippers, rakes and string trimmers (weed whacker or weed eater). In situations where vegetation is too dense for hand removal, like large areas of cattails or primrose willow, you may want to hire a contractor to remove this vegetation with heavy equipment.

Florida Fish and Wildlife Conservation Commission (FWC) Aquatic Plant Management guidelines allow homeowners to clear non-woody plants (no trees) from 50% or 50 feet of their shoreline (whichever is less) by physical or mechanical means in order to create an "access corridor." This allows for navigation to open water and does not require a permit from the FWC. A permit **is** required for the use of herbicides **and** for the removal of any plants outside the "access corridor." A FWC permit is free. If you think that you may need a permit, or are not sure, please contact your FWC regional biologist at (407) 858-6170 for assistance. For more FWC permitting information, please visit:

https://myfwc.com/license/aquatic-plants/






Chemical removal includes spraying unwanted vegetation with a herbicide that is approved for aquatic use. Once vegetation is treated with a herbicide, it will need to be removed after it has died. Treating vegetation with a herbicide greatly reduces the effort of removal. A shoreline should be treated no sooner than two weeks before planned removal, and several months before in most cases. Contractors that provide these services are readily available. Check the phone book and Internet for local contractors.

Step 2 - Planting:

Planting usually requires only the most basic and common garden tools, although a few specialized tools will make the job easier. One very handy tool to use during planting is a plant anchor. Plant anchors are used to hold down the plants underwater in the soil once planted, preventing them from floating to the surface. This is especially helpful on lakes where there is a lot of watercraft activity.




Tools recommended:

Shovel	Dirt Rake	Plant Anchors
Clippers	Machete	Hand Trowel
Rake	String Trimmer (Weed Whacker)	

It is important to install aquatic plants as deep into the soil as possible to help prevent them from "floating or popping" back up to the surface. Six to eight inches is the standard depth to dig the hole in the lake bottom, and deeper when possible.

Plants obtained from a nursery or contractor may be small juvenile plants, known as a bareroot plant. These plants are typically anywhere from six inches to a few feet long, depending on the species. It is not necessary to plant bareroot plants one at a time. Three or four of the same plant species can be combined together into one hole, which will expand into a cluster of plants. Planting in clusters and not rows will improve the survival rate of the plants.

When using plant anchors on plants, pack dirt tightly into the hole, then insert plant anchors around the cluster, one from each side. It is not necessary to plant the entire shoreline. The clustered plants will fill in and expand into the space between clusters. This will also help reduce the need for maintenance over time.




Step 3 - Maintenance:

- *Routine maintenance of the restored/revegetated area needs to be done in order to prevent regrowth of exotic species and to allow expansion of the desirable native species.*
- *Maintenance will need to be done more frequently in the beginning, when the plants are first getting established.*
- *Planted vegetation that is found floating (i.e. "popped up") should be replanted and secured.*
- *Large exotic species like cattail and primrose willow are easier to hand remove when the plants are young and small.*
- *It is important to be sure to try to remove all of the roots of undesirable plants to prevent regrowth.*
- *Spot spraying exotics with herbicides may be done as long as you are careful not to spray the new native plants.*
- *Once the desirable native species have become established and adequate coverage is achieved, the maintenance requirements will be minimal.*
- *The desirable native species recommended in this guide should be hardy and able to withstand normal fluctuations in water levels.*
- *Desirable natives do not require fertilizers or pesticide spray.*

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