

"The Role of Aquatic Plants in Turtle Rock"

By Jeff Whaley

In Turtle Rock, there is an abundance of aquatic plants throughout the many storm water retention ponds. The ponds themselves serve as a means to prevent flooding during periods of heavy rainfall. They also serve as an aesthetic feature offering waterfront views for homeowners and visitors alike. A common question from waterfront owners in Turtle Rock is: "Are the plants going to take over the pond?" In order to answer that question, it is important to first understand what littoral areas are.

A littoral area is a shallow portion of a pond that is specifically designed to support the continued growth of aquatic plants. The areas are typically not more than two feet deep and are most often (but not always) located near the outfall point of the pond for water discharge. Most of the ponds in Turtle Rock are interconnected to one another in various ways and will discharge water off the property during periods of heavy rainfall.

In Turtle Rock there are approximately seventeen littoral areas that exist in roughly the southern two thirds of our property. The placement of these areas was determined during the engineering phase of construction, and not every pond in Turtle Rock has a littoral area. They are indicated on maps that are available for the community.

Littoral areas serve two functions in Turtle Rock. The first and most important function is Storm water treatment. The aquatic plants in the littoral areas help to filter nutrients and pollutants that enter the ponds from the surrounding areas. Everything that goes onto the ground in Turtle Rock including fertilizers, pesticides, or oil from cars and trucks enters the storm water ponds. This is, in large part, what the fertilizer ordinance in Sarasota County was meant to address. There are some simple and some very complex biological processes that occur, but very simply the plants help to clean the water before it leaves Turtle Rock and moves on to the bay before it makes its way to the Gulf. Ultimately the water from the ponds enter our bays, rivers, oceans, and even our drinking water, so treatment is a crucial function of the littoral areas.

A second important function of the littoral area is to serve as a vital habitat for wildlife such as fish, birds, and insects that would otherwise be displaced by development. (Photo 1)

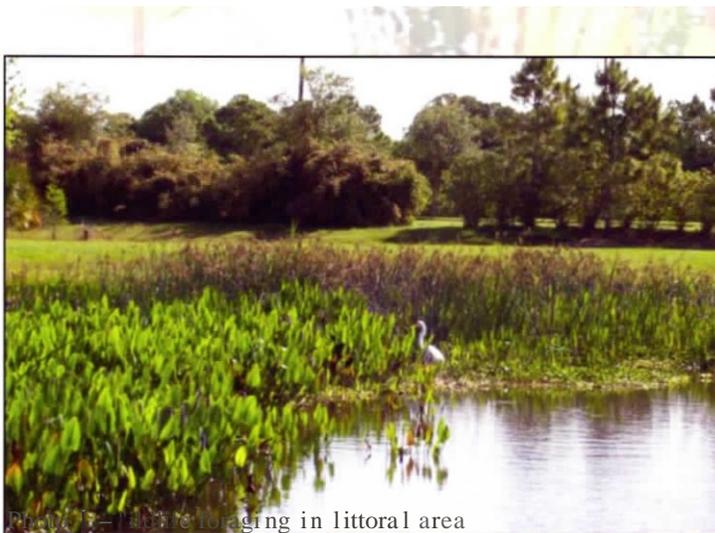


Photo 1 - Egret foraging in littoral area

In most cases, the aquatic plants in the littoral areas seek their own boundaries and are limited in growth by water depth. With the exception of two specific species, most aquatic plants can only grow in water that is two feet or less in depth. This means that they will spread to find these shallow areas that include the immediate shoreline to maximum depth of approximately two feet. Since all of the ponds in Turtle Rock are at least six feet deep, these plants are unable to grow across the entire



2 - Spatterdock in a littoral area

surface of the pond. The exceptions to this rule are two types of floating lily species called Spatterdock (*photo 2*) and Fragrant Water Lily. These two plants can grow in water deeper than two feet.

There are specific requirements set forth by the governing agencies that mandate what types and how much coverage is required. The most stringent of the requirements for Turtle Rock come directly from

from Sarasota County which requires that the littoral areas be vegetated by no less than sixtyfive percent by Florida native aquatic plants. Any lack of vegetative cover below this requirement must be addressed through supplemental planting to maintain compliance. This is an ongoing process and plantings necessary to meet this requirement are done at various times throughout the year and have been done throughout the history of Turtle Rock.

Plants that grow outside of the littoral boundaries, including the floating plants mentioned above, do not harm the ponds. In some cases, their existence outside of the littoral boundaries helps to make up for the lack of required vegetative cover in the littoral areas themselves. In areas where the aquatic plants do not serve as required coverage, they can be controlled through selective treatment by our contractors as part of the ongoing management of the waterways. In most areas the presence of aquatic plants offers only positive benefits to the water quality and wildlife. It is for this reason that as a general rule they are left intact unless it is specifically requested that they be controlled by directive from the Board of Governors or management of Turtle Rock.

Another common statement sometimes heard from residents in Turtle Rock is: "It didn't look like this when we purchased our home". The present day view of the littoral areas offers a better perspective as to what they were designed to be. Generally speaking, most of the littoral areas in Turtle Rock are healthy and in good condition due to diligent maintenance efforts and Mother Nature and our superb contractors. Turtle Rock waterways are considered to be some of the healthiest in all of Sarasota County.