

I would like to take this opportunity to introduce Aquagenix, briefly outline the services we provide to the residents of Palma Sola Trace and discuss stormwater systems.

Aquagenix is a full service environmental consulting company providing pond and wetland maintenance throughout the state of Florida. To learn more visit <http://www.aquagenixaquatics.com/>. Aquagenix's parent company DBi Services provides infrastructure maintenance, operations and management solutions in North America and Europe for government agencies, utilities, private industries, railways, retailers and other infrastructure owners. To learn more visit <http://www.dbiservices.com/>.

Aquagenix has provided pond maintenance services for Palma Sola Trace since January of 2007. We service the ponds monthly. During our scheduled visits our licensed aquatic technicians work to enhance and protect the stormwater system. We utilize algaecides, herbicides, bacteria products, perform manual removals, install native vegetation and install and maintain aerations systems in an effort to minimize algae blooms and control non-native / invasive vegetation. The purpose of our efforts is to protect the functionality of the storm water system, ensure compliance with state and local regulatory agencies, protect the native vegetation in the designed littoral areas and enhance the appearance of the stormwater ponds.

It is important to understand that the 10 "lakes" in Palma Sola Trace are stormwater ponds. The primary function of the ponds is to collect, store and control stormwater runoff. The ponds protect against flooding and work to improve water quality. During a rain event water enters the ponds as runoff from the yards and streets carrying with it sediment and pollutants. The ponds store the water allowing the sediment time to settle to the bottom and natural processes to work to breakdown pollutants and the sediment. If the system is functioning properly the water that exits the system, via the outflow structures on its journey to our rivers and bays, is cleaner than it was when it entered the ponds.

Aquagenix technicians work to maintain balance in an ever changing eco-system. The composition of the pond water can change overnight with a rain event. Even though the home owners keep fertilizers away from the water's edge, a rain event will carry fertilizers from the front yards to the street, to the curb drains and into the ponds. Odds are that any trash you see in the ponds came from the streets via the curb drains. The technicians utilize bacteria products to augment natural processes working to break down organic sediment. They utilize algaecides to control algae blooms resulting from nutrient rich water. They also use herbicides to control non-native vegetation that can overrun a pond, which would adversely affect the functionality of the pond by reducing its holding capacity.

You also may have noticed that several of the ponds have areas of aquatic vegetation. These areas are called littoral zones. The purpose of a littoral zone is to further clean the water and provide habitat for fish and fowl. Littoral areas are a permit requirement and regulated by state and local government agencies. The vegetation on the littoral areas help to remove phosphorus and nitrogen dissolved in the water through plant respiration. The vegetation also traps trash preventing it from exiting the ponds via the outflow structure. The vegetation further benefits the environment by creating a mini estuary for fish and fowl. Aquagenix technicians work to protect the native vegetation by targeting non-native invasive vegetation that would out compete and overrun the native vegetation if not kept in check. Periodically Aquagenix technicians will manually remove dead vegetation and trash to improve the appearance of the littoral area. The predominate species of native vegetation in the littoral zones are Spike rush (*Eleocharis interstincta*), Pickerel weed (*Pontederia cordata*), Arrowhead (*Sagittaria*

lancifolia), Canna (Canna flaccida) and Bulrush (Scirpus spp.). Pickerel weed, Arrowhead and Canna are flowering plants. The pickerel weed has a long purple flower, the arrowhead has small white flowers and the Canna has a large yellow flower. This time of year the aquatic vegetation is normally dormant and can be brown and appear stressed. By the end of March, the plants will rebound and should be in bloom in April. A healthy well maintained littoral area can be quite beautiful when in bloom. For those of you who would like to learn more about aquatic vegetation The University of Florida Center for Aquatic and Invasive Vegetation has an outstanding website complete with pictures, descriptions and videos of aquatic vegetation. To learn more visit <https://plants.ifas.ufl.edu/plant-directory/plant-profiles/>.

You may have noticed that the water level of the majority of the ponds is low. Portions of the bank that were underwater during the summer are now exposed. This exposed bank can be unsightly and give off a foul odor. The odor is a result of decaying material now exposed to the air. Unfortunately, Aquagenix can do nothing to combat the odor. The technicians are applying herbicide to the exposed pond bottom to prevent terrestrial vegetation from growing, specifically torpedo-grass. This vegetation if left unchecked would cause problems when the water level returns to normal elevation. As I mentioned previously the water in the ponds comes from rain in the form of runoff. Rest assured water levels will rise again come the rainy season.

I appreciate the opportunity to introduce Aquagenix, briefly outline the services we provide to the residents of Palma Sola Trace and discuss stormwater systems. We look forward to continuing to serve, protect and enhance a crucial component of the Palma Sola Trace infrastructure. If you have questions, please feel free to contact our office.

Sincerely,

Michael D. Kaighin
Branch Manager
Aquagenix / DBI LLC