

Floating Islands

Coming to a Retention Pond Near You? *by Linda Maree*

Peter and Julia Seyffert are on a mission to clean up Sarasota County's waterways... one retention pond at a time, if necessary. That may sound a little crazy, but the Seyfferts think that ignoring neighborhood retention ponds could be a big mistake. Retention ponds, they say, can be equated to "aquatic garbage dumps." This is because storm-water runoff, which is captured in retention ponds, can be contaminated with the fertilizers, herbicides, and pesticides we use on our lawns, the gasoline, oil, and toxic chemicals that leak from our vehicles, and other noxious substances. This toxic soup eventually makes its way from retention ponds into our rivers and streams, bays, and ultimately into aquifers and out to the Gulf. Julia and Peter, co-owners of Creative Aquascapes, believe that keeping these important larger bodies of water clean and healthy literally begins in our own backyards.

In Florida, storm-water retention ponds are ubiquitous and serve an important purpose in mitigating local flooding caused by heavy rains and the management of downstream water flow. But perhaps even more important, retention ponds, with the addition of native aquatic plants at the riparian edges, provide natural filtration of storm water, removing sediment and pollutants before they can get into the larger bodies of water these ponds eventually feed into. Creative Aquascapes supplies and services "floating islands," which are said to enhance the natural filtration capability of retention ponds and other bodies of water.

Although they are not common, floating island wetlands do occur naturally, and the study of these has provided the basis for manmade floating islands. Natural attached wetlands, which are rooted in the earth, can experience varying periods of flooding or drought that can hinder growth or even cause vegetation to die, possibly

creating a fire hazard. Floating wetlands are able to withstand the vagaries of water levels and wet/dry seasons, providing virtually year-round filtration capabilities.

The theory behind floating islands is simple: Provide more habitats for beneficial bacteria to live, and they will take care of cleaning up the water. That's right – bacteria. According to the Seyfferts, about 85 percent of the filtration that occurs in aquatic systems is done by bacteria that colonize plant roots and other underwater surfaces. The bacteria can consume nutrients and sequester heavy metals that would be toxic to many plants and animals, including us. Additionally, floating islands sequester CO₂, so their effect on our atmosphere is also beneficial.

Floating islands are made of porous foam from recycled plastic, which can be planted with either aquatic or land-based plants. The plant roots grow through the foam into the water where they provide a breeding ground for beneficial bacteria and other underwater populations. The plastic foam forms eventually become covered with biomass, making them indistinguishable from natural vegetative features found in lakes, ponds, and other waterways.

A significant feature of floating islands is their ability to create wetlands without taking up any existing land space; just one cubic inch of floating island matrix provides 25 square feet of surface area for filtration. Not only that, but the islands look great and provide habitat for wildlife – birds, land animals, and fish and other marine creatures. In this way, lowly retention ponds can actually be transformed into beautiful places for community gathering and recreation.

But floating islands are not just for retention ponds. The brainchild of Bruce Kania of Shepherd, Montana, floating islands were envisioned as a means for managing "some of the most serious water concerns on the planet." For instance, in addition to storm-water management, other applications for floating islands include wetland restoration, beach erosion control, wildlife habitat restoration, and waste water management. They can be used in salt water as well as fresh, serving as bio-filters and a means for naturalizing and beautifying coastlines, while also providing wave attenuation, crucial in a storm and for beach erosion control.

The Seyfferts believe that, depending on their size, floating islands can be designed to help clarify and revitalize any size body of water (in-



Dock vegetable garden.

cluding the Gulf!), making them a useful tool for living gracefully and thoughtfully upon the planet. In addition, floating islands are extremely buoyant and can even be tied together to create larger parcels of "land" suitable for aquaculture (Floating islands have already been used successfully to grow food crops such as herbs, tomatoes, spinach, lettuce, and strawberries.) and even human habitation. The possibilities suggested by these ideas are intriguing in an era of widespread drought, global warming, and rising sea levels (particularly here in low-lying Florida). But that's another story.

For now, Peter and Julia are focusing their efforts locally, hoping to convince Sarasota County residents and officials of the practicality and viability of floating islands... coming to a retention pond near you. Stay tuned.



Floating island in koi pond at a Zoo Montana.

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Five executives launch of a 250-sq.-ft. floating island in Shepherd, MT at the International Headquarters.

