

## Algae scrubbers could help clean Caloosahatchee River

By Julio Ochoa

Wednesday, May 16, 2007

The same technology used to filter fish tanks could clean harmful nutrients from the Caloosahatchee River.

Lee County leaders hope to put that technology to use with new funding the South Florida Water Management District recently made available for local projects.

By now, most Southwest Florida residents are familiar with the concept of algae feeding on nutrients. The micro-organisms bloom to massive proportions and litter area beaches.

But a filter, called an Algal Turf Scrubber, uses algae's voracious appetite to solve the problem rather than compound it.

"This is a very simple process based on nature," said Margaret Palmer, president of HydroMentia Inc., which develops and sells the Algal Turf Scrubber.

The Turf Scrubber works by sending thin sheets of water over a sloped surface covered in algae. The algae eats the nutrients in the water and grows. The machine automatically harvests the algae, which can be used as fertilizer.

On a large scale, with several acres of surface area, the filters are much more effective than traditional filter marshes, said Margaret Palmer, president of HydroMentia, Inc. Compared to a stormwater treatment wetland, which takes between 10 and 40 pounds of phosphorus per acre from water every year, the Turf Scrubber will take about 800 pounds per acre every year, Palmer said.

"We can accomplish a much larger amount of nutrient removal on a much smaller piece of property," she said.

HydroMentia has one Algal Turf Scrubber in operation on Taylor Creek, about 10 miles north of Lake Okeechobee. The device filters 15 million gallons of water per day, but the optimum size of each unit can filter 25 million gallons per day. At that rate, several strategically placed Turf Scrubbers could filter the entire Caloosahatchee River before it reaches the Gulf of Mexico.

For now, county officials aren't thinking that big.

The county has been looking at building scrubbers instead of digging marsh systems, said Kurt Harclerode, operations manager for Lee Natural Resources.

"We're looking very closely at doing some more cutting-edge technical work," Harclerode said.

The water management district recently made another \$3.4 million available for water-quality improvements to the Caloosahatchee River and Estuary. The only catch is the projects must be completed by the end of the fiscal year on Sept. 30, said Phil Flood, director of the districts Lower West Coast. Local governments must submit project proposals by Friday.

Flood has been talking with Lee about placing a Turf Scrubber on a tributary to the Caloosahatchee River to use as a test project.

If it works on a larger scale, it may be worth considering on the C-43 Reservoir, which is being built in Hendry County to hold back some of the damaging releases from Lake Okeechobee, Flood said.

“The technology shows great promise,” Flood said. “The Legislature appears to be very interested in this alternative technology.”

The additional funding is part of a commitment the district made months ago to provide more resources to the region, Harclerode said.

So far, Sanibel has sent in four applications for funding.

“We look forward to working with them on these proposals,” Harclerode said. “It’s an exciting time when a lot more resources are coming to this region.”

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