College makes dive lagoon crystal-clear

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The scene at the college's dive lagoon silt-removal project is otherworldly.

A dredge barge vacuums silt off the lagoon bottom and pushes it and the accompanying water through long plastic pipes and into 70-foot-long, interconnected nylon bags in the Florida Keys Community College parking lot.

As the water enters the huge bags, which resemble lengths of pastry before a baker cuts them into smaller pieces, the silt separates from it and falls to the bottom. Each successive bag, known as geotubes, removes smaller particles until the water returns to the lagoon crystal-clear.

"As the water is taken out, it's moved through a series of 6-foot-wide tubes to get the sediment from the water," said college spokeswoman Amber Ernst-Leonard. "The sediment falls to the bottom of the tubes and good water rises to the top. What's returned to the lagoon is as clear as drinking water."

When it's finished in July, the $676,000 project will move 13,000 cubic yards of material and increase the depth of the lagoon by 2 feet to 10 feet. The lagoon generally will be about 40 feet deep when it's finished, Ernst-Leonard said.

The James E. Lockwood Jr. School of Diving and Underwater Technology teaches certification courses in open-water diving in the lagoon, as well as commercial work diving, research diving and hyperbaric medicine. The school also offers public safety diving courses for Keys law enforcement agencies, fire departments and other emergency responders. The school most recently has received a grant to help develop underwater technology for Homeland Security uses.

"The bottom right now is covered in a gelatinous muck," said Patrick Rice, the dean of Marine Science and Technology. "You can put your whole arm up to your elbow in the bottom."

The silting occurred because the lagoon is a carved L-shaped basin surrounded by depths of a foot or less. As the shallow water flows over the depths of the lagoon, it drops silt, much as the water in the nylon bags is doing, Rice said.

When several divers are on the bottom, especially inexperienced students, the silt gets kicked up, creating zero visibility, said Arnold Marzaoff, who's been in the dive program for several years.

"It's difficult to see; you can't see the hand in front of your face," he said. "It will be great when the dredging is complete. I'm looking forward to the great visibility."

Travis Naeger, the youthful supervisor for Dredge America of Kansas City, Mo., said he and his crew -- quietly grabbing lunch in the shade of a picnic area -- began dredging in May and will finish sometime in July.
They will insert drainage pipes in the lagoon so the water will flow naturally under the paved road and parking lot next to it, according to Bill Cole, director of facilities and special projects at the college. That way the natural flow of tide and surge will carry sediment where it belongs.

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