

Algae Collection Technology, LLC Moves a Major Step Closer to Estuary Clean-up and Alternative Energy



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Author: **GRES, Inc.**

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On November 30, 2009 Algae Collection Technology, LLC (ACT) conducted a macro algae harvesting demonstration for Florida permitting officials, in the Indian River Lagoon, just east of downtown Melbourne. The successful demonstration was a major step towards securing harvesting permits that will allow the company to remove excess harmful algae from estuaries, and then work with their partners to convert the algae into commercially beneficial products such as [alternative energy sources](#).

ACT's goal with the demonstration was to show that the environmental impact appeared negligible so a permit could be issued to do a research pilot program. The research from the pilot will measure the amount of harmful nutrients removed from the estuary when excess [algae](#) is removed, the impact and volume of any by-catch, the improvement of water quality by avoiding anoxic conditions created by decomposing algae, the impact on sea grasses and juvenile species, and the potential improvement in water clarity/quality. It will also allow ACT's partners to explore the yield from commercial uses of the product. For example, Global Renewable Energy Resources (GRES) intends to conduct extensive research on the algae harvested in the pilot period to determine if newly invented enzymes can break down the algae into a high yield energy source.

In attendance at the demonstration were representatives from the Florida Department of Environmental Protection (DEP), the St. John's River Water Management District, The Florida Fish and Wildlife Department, and Brevard County. Viewers saw the exact harvesting equipment that will be used during the research pilot, and were briefed by Clark Giangarra, the President of ACT

on how the equipment was designed, and the objectives of the harvesting. As Mr. Giangarra indicated, removing the algae has "two major ecological values. First, the algae acts like a sponge for run-off nutrients like phosphorous and nitrogen (fertilizers). When you remove algae, it takes the nutrients with it and keeps the estuary from simply adding more and more nutrients to the system. Second, this algae grows into huge deposits that are often several feet thick. If they are not removed, those algae deposits die and create anoxic conditions where all surrounding sea life dies." Mr. Giangarra went on to say that the cleanup process that removes the algae can be expensive, but interest from potential partners such as GRES has convinced him that the commercial value of the product will ensure that the estuary cleanup is financed by those participating partners at no governmental expense.

The two hour demonstration featured ACT's harvesting and wash-down system as algae was collected. The harvesting equipment is a simple hand-operated collection device that skims over the bottom. The wash-down system was designed to return by-catch to the estuary, thereby minimizing by-catch impact. As the harvesting was conducted, representatives from Fish and Wildlife and DEP actually sifted through the algae noting and counting any species. In addition, divers from DEP followed the harvesting equipment to observe and note any potential impact on the estuary bottom.

At the conclusion of the demonstration, an out-briefing was conducted to voice any concerns and observations, and to clarify the objectives and processes of the pilot research project. In the end, all parties had a clear understanding, and the permitting authorities agreed to allow ACT to move forward with the application for the research pilot permitting process.

"This was a huge step forward, because if we were not able to convince all parties that we apparently had minimal ecological impact, and that the pilot research project will provide extensive documentation, then they wouldn't have even let us proceed with a permit application" said Clark Giangarra. Today, we are closer than ever to cleaning up a harmful nuisance and creating alternative [renewable energy](#) than ever before thanks to the Florida permitting officials.

Contact Details: Eric Johnson, GRES, Inc. 4115 Blackhawk Plaza Circle.
suite 100, Danville, CA.
94506. ejohnson@greservices.com, www.greservices.com

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