

## Budding scientists dig Guana

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For middle and high school students in Ponte Vedra, field trips to the Guana reserve for a nice, relaxing day in the sun may soon be a luxury of the past.

Instead, students will soon be traveling with classmates for a jam-packed, mud-filled day of hands-on research in the Guana - just like the scientists who work there every day.

"This is very much a field study - not a field trip," said Janet Zimmerman, education coordinator for the Guana reserve south of Ponte Vedra Beach.

She was talking about a program called Learning in Florida's Environment (LIFE), which the Department of Environmental Protection (DEP) established in the Guana this year.

The program is an initiative by the DEP, partnered with school districts, to establish field-based environmental science education programs around the state.

The Guana reserve is the second site in the state for the program, which began in Appalachicola. By 2007, at least five other sites will be established.



Tom Harding of Ponte Vedra Beach, a volunteer at the Guana reserve, and Lacey Smith with the Department of Environmental Protection (DEP) collect tiny grass shrimp from a net Tuesday in the Guana reserve. The two are part of the Guana's new Learning in Florida's Environment (LIFE) program, which invites seventh graders to conduct field research in the reserve about 12 miles south of Ponte Vedra. (photo by Laura Fowler)

Seventh graders from Sebastian Middle School in St. Augustine have already jumped right in, having visited the Guana for "field studies" three times this year already.

The other schools in the St. Johns County district were introduced to LIFE Tuesday at a meeting between principals and Zimmerman in the Guana Tolomato Matanzas National Estuarine Research Reserve Environmental Education Center.

The administrators also saw the students in action as groups of Sebastian seventh graders waded through the water and tromped through the mud in their research efforts that day:

"The students have been so excited to get out here on the property and have been true scientists," Zimmerman said.

Teachers from schools in Ponte Vedra can involve their students by attending teacher workshops, where they will learn about the program and how to conduct lessons in the field.

Zimmerman said teachers can design the focus of the research around what the students are learning, and many subjects can be involved.

Students involved in the curriculum break into three groups to study vegetation, water quality and small creatures such as plankton.

"Now they have a chance to actually see shrimp with their heads on," Zimmerman joked with the principals.

The students learn to identify plants and animals, and they learn how to make inferences about their research findings, such as why the water on one side of the Guana dam contains more salt than water on the other side.

In the process, students have access to the same technology and equipment that Guana researchers use every day, such as microscopes, GPS navigation instruments and turbidity tubes for testing water clarity.

But the lesson doesn't start or end in the salt marshes of the Guana.

Classroom lessons before and after the trip to the Guana introduce students to the equipment and vocabulary and help them evaluate their findings afterward.

Guana volunteers will make visits to the schools so that students can familiarize themselves with the technology.

Furthermore, Zimmerman said the spring installment of the program will bring students back for a research day in the Guana's beach area.

Zimmerman said eventually teachers will look at the students' FCAT science scores to see if the experiences helped improve them.

Deborah Hagenbuch-Reese, a geography teacher at Sebastian, said she has seen the program spark students' interests.

"They have been very excited about this," Hagenbuch-Reese said.

"This hands on activity is always great for the kids."

She also said that involving many subjects, such as math, science and geography, in the field-studies helps keep the students interested by offering a variety.

Meanwhile, Landrum Middle School Principal Beverly Gordon said Tuesday that she is considering

the LIFE program for students at Landrum.

"It's . . . an untapped resource," Gordon said.

"I really want to get the information out there to our science program teachers."

Gordon said she would meet with teachers in the next couple of weeks and explain the program.

Zimmerman said the programs are completely booked through February, but teachers can sign up their classes for the spring sessions.

She said students from Fletcher Middle School in Neptune Beach as well as teens from Bartram Trail High School in Northwest St. Johns are scheduled for session. Nease High School has also expressed some interest, Zimmerman said.

She said "it's been a lot of work to put it together," but added that it was "definitely" worth it.