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# City Heights to Ocean Depths: Program Immerses Urban Kids in Self-Discovery on the Sea of Cortez

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## July 12, 2005

On the cactus-covered islands and wildlife-rich waters of Mexico's Sea of Cortez, UC Davis is partnering in a program of discovery and adventure that could profoundly change the lives of 22 high-school students of color from one of San Diego's poorest neighborhoods.

Before enrolling in the program, some of the ninth-graders and 11th-graders had never even seen the ocean. Only two had ever held a sea animal. Few had taken any biology class; none had ever made a scientific measurement. Now they have kayaked and



Kim-Chi, Jared and Terry observe a Isostichopus fuscus (sea cucumber). (UC Davis/Courtesy photo)

snorkeled; held turtles, sea stars and octopuses; surveyed spider populations; and taught younger children about the importance of natural resources.

Phuc Hau, 16, has managed to make excellent grades despite tremendous responsibilities at home, including caring for her 2-year-old sister. Yet despite her demonstrated capability, she says, "My experience here in Bahia de Los Angeles has changed me. I went from feeling anxious to feeling super excited. Every day I would learn something new. This is an experience of a lifetime."

Cervando, 15, spent much of his time back home playing video games -- he had few other recreational activities. In Bahia, he spends his days exploring the natural world and helping to teach his fellow students. "If we had to go back to San Diego tomorrow," he says, "I would go hide in the ocean."

Demetrius, 17, also has had great responsibility for his family. He passed several classes this year only by making a terrific effort. On his fourth day in Bahia, he swam with dolphins. "That right there is one of the best things that has happened in my life," Demetrius says. (Students' last names have been withheld to protect their privacy.)

Demetrius, Cervando and Phuc Hau are from City Heights, a San Diego neighborhood that is one of America's busiest immigrant and refugee gateways. It has the highest poverty levels in the San Diego region. More than 30 languages are spoken there. All 2,200 students at City Heights' Hoover High School qualify for free meals. And fewer than one in 10 Hoover students of color will graduate with the credentials needed to attend the UC or California State University.

In 2003, Shara Fisler decided to try to change that statistic. Fisler, the director of a San Diego non-profit group named Aquatic Adventures (established in 1999), believed that work on meaningful projects "would help these young people improve their academic and leadership abilities -- and maybe their futures."

She partnered with the City Heights Educational Collaborative to create BAHIA, an ambitious program of study and travel. It entails 13 weeks of classroom studies in marine science and ecology at the high school in the spring, followed by five weeks in the summer of Spartan living and directed research at a scientific field station on the shore of spectacular Bahía de Los Angeles (Angels Bay), in the Sea of Cortez.

Fisler also enlisted the help of Drew Talley, a UC Davis postdoctoral researcher who had been working at the Bahia field station since 2001. Talley had been working with Gary Huxel of the University of Arkansas, and Francisco Piñero of the University of Granada, Spain, continuing a long-term ecological study begun by UC Davis professor Gary Polis, who died in the bay in a boat accident in 2000.

That long-term study is yielding an understanding of the bay's ecology that has become particularly critical: The Mexican government wants to develop Bahia de Los Angeles into a marina and resort for American tourists.

Talley agreed to teach the BAHIA student researchers to conduct biological surveys using the established Polis field sites -- starkly beautiful desert islands in the bay. He wanted to help the youngsters see new possibilities for themselves as adults. But then an amazing thing happened. The kids turned out to be excellent surveyors -- so good that they collected enough data to keep the study's continuity intact. In fact, this summer's BAHIA class will produce the 16th consecutive year of data.

Support from UC Davis has been critical to the continuation of Polis' research and its integration with the outreach program, Talley said. For instance, a vital partner at UC Davis is Marcel Holyoak, an assistant professor in environmental science and policy, who provided lab and office space and intellectual support to help the work continue.

The program's \$164,000 budget is funded by the California Post-Secondary Education Commission, through a grant to San Diego State University; by foundation and corporate sponsors, including The Bravo Foundation and Home Depot Supply; and by individual contributors. In addition to the travel and studies, the budget pays for follow-up support

such as visits to college campuses, crisis prevention and response, college readiness training, and continuing informal science activities such as internships.

Donna Ross of San Diego State University, an associate professor of science education, advises Fisler and is studying the effectiveness of the program. "The first year showed us that the students became more aware of opportunities in science, became much more interested in applying to college, and recognized how science could help them understand different perspectives on societal issues," Ross said.

Last summer, 11 ninth-grade "mentees" and 14 11th-grade "mentors" completed the first class of the BAHIA program. Of those 14, nine will attend UC or CSU schools this fall. Two of them will attend UC Berkeley; one will attend San Diego State University on a full scholarship. Two were accepted at UC Davis. One chose Berkeley instead; the other could not afford to come to Davis and will attend UC San Diego.

"We do not know yet how many will pursue science majors and careers, but we do know they have an increased awareness of the natural world," Ross said.

Talley said the days he spends working with the young people in the sun, saltwater and cactus spines have made him "a zealot" for outreach and education.

"The kids' lives are really changed by this experience -- not that necessarily they will become oceanographers or go to college, but that they come in unsure of themselves and scared," he said, "and they go out with not only a renewed interest and ability in academics, but also a strong sense of self-confidence."

### **Additional information:**

**Aquatice Adventures** 

## Media contact(s):

• Sylvia Wright, UC Davis News Service, (530) 752-7704, <a href="mailto:swright@ucdavis.edu">swright@ucdavis.edu</a>

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