

# Students explore marine ecosystems

NMSU

A day's drive from the New Mexico State University campus is a unique outdoor laboratory where the Sonoran Desert meets the Gulf of California and the tide changes are among the world's most extreme.

At Puerto Penasco, Sonora, Mexico, the water level can drop as much as 18 feet from high tide to low, said NMSU marine biologist Michele Nishiguchi, who recently took a group of students there to study the sea creatures that populate the area's rocky tidal basins, mud flats and sandy beaches.



When the tide is out,

"you can observe critters you normally would see only when you are snorkeling or scuba diving," she said.

It's a special treat for students from the desert Southwest, but it's also valuable training in the rigors of field research.

"The students collect things they're interested in, make careful field notes, observe interactions of organisms and learn observation techniques," Nishiguchi said. "We run transect lines, lay out quadrants and compare habitats and what kinds of species are present during daytime low tides and nighttime low tides. It's the very basic way you do research in the field."

Field experiences like the one-week excursion Nishiguchi's class took are made possible in part by the existence of a non-profit research and education organization known as CEDO — the Spanish abbreviation for Center for the Studies of Deserts and

Oceans. With the support of Mexican and U.S. foundations, CEDO maintains a field research station and education center just outside of Puerto Penasco.



Courtesy photo by Michele Nishiguchi

**New Mexico State University biology students examine a tidal pool at Puerto Penasco, Mexico.**

Nishiguchi and her 15 students were at CEDO during its 20th anniversary celebration and helped to throw a fund-raising party that drew more than 300 people. But otherwise their days were spent rising before dawn for the first low tide, trekking out again late in the day for the second low tide, and spending time in between working in the lab, visiting an oyster farm and cooperative run by local women, and keeping up with assignments from the classes they were missing while at CEDO.

They also shared cooking and clean-up duties. "It helps you decide if field biology work is really for you," doctoral student Brian Jones said jokingly of the busy schedule.

Students who take the Invertebrate Zoology Field Trip pay for their food and lodging

for the week, which usually totals less than \$150. The university pays travel expenses, insurance and CEDO institutional fees.

"It's important for the students to see animals in their natural habitat," Nishiguchi said. "If we were a coastal school, it would be easy."

The experience was well worth the effort, several students from the group said.

"I grew up in the desert," said Melanie Sanchez of Albuquerque, a senior biology major who plans to do graduate studies in biomedical engineering.

"Seeing organisms in the lab or in a jar is just not the same as actually seeing them in their habitat. In the lab, you tend to study one thing at a time and you don't see how everything interacts."