

## **Pupils study pollution up close**

By Paul Young  
Staff writer

LONG BEACH - Daniel Tate grew up next to the Colorado Lagoon knowing it was dirty. He'd often see trash peppering its muddy shores and patches of filthy gunk floating on the water's surface.

But until the 14-year-old began studying the water body in Bill Craychee's eighth-grade science class this year, he really didn't understand the extent of the problem. Now, even a triple-dog-dare wouldn't get him to go swimming there.

"I knew the lagoon was polluted, but this is crazy," Tate said.

Every month, he and his classmates walk less than a half-mile from Rogers Middle School to the lagoon near Park Avenue and Fourth Street to get a real-life lesson in pollution and do some research of their own.

It's part of a program Craychee started about five years ago - first as a field trip, now as a project that's prompting huge corporations to donate thousands of dollars to his classroom. Just last month, it received a \$10,000 grant from Toyota.

"It's amazing how this has evolved," Craychee said. "At first, I didn't have anything in mind except for giving the kids something unusual to do.,....(Now) it's (becoming) an estuary monitoring program."

Craychee said he always starts the program by telling his students they're going swimming in the lagoon, which has several storm drains dumping into it. When they tell him how gross it is, he asks the question: Why?

Since no one ever knows the answer, Craychee has his students begin taking water samples from the lagoon with cans tied to a string. The samples are then analyzed in the classroom using \$15,000 worth of water monitoring equipment, which plots data on a graph to show changes in pollution levels. All the findings are recorded in a log book kept by each student.

"This will be a history lesson in 10 years," said Craychee, a former geophysicist who wants to expand the program to bimonthly lagoon visits next year.

Gary Hatter, 13, sees the project as a lucky break.

The classroom is a bore, he said, but going to class outside is another story - especially if a peer slips in the mud around the lagoon.

"Out here, we do hands on stuff," Hatter said. "We learn about how the water impacts the environment out here."

Instead of talking about comics, movies or girls, Gary speaks more like a little scientist brimming with ideas. He explains how pH, conductivity, nitrates and nutrients can be detrimental to the health of the water body.

The way the water is now, he said, things aren't looking too good.

In a 1998 study, researchers found nearly 60 percent of sediment taken from the west end of the lagoon was significantly toxic to shellfish. It contains elevated levels of chlordane, lead, DDT, PCBs and zinc.

The water body is also named on the Environmental Protection Agency's Clean Water Act Section 303 (d) list, which establishes where water officials should concentrate their efforts to identify sources of harmful chemicals and waste material.

"There are ways we can help," Hatter said. "But the only way to stop (the pollution) is at the drain outlets nearby."

Until then, the students will continue to joke about how filthy the water really is. On one recent field trip one student peered from atop a grassy knoll into the lagoon and saw a greenish-yellow bubbling slime on the water's surface.

"I'll give you a dollar if you drink a cup," he said to his friend.