

Creek pollution linked to humans

DNA testing at Rincon Creek pinpoints sources of contamination.

By **SCOTT HADLY**
NEWS-PRESS STAFF WRITER

Human waste is the largest single source for the stew of fecal bacteria flowing down Rincon Creek and into the ocean, according to a recent DNA study of water samples taken from the area.

Paid for by the environmental group Heal the Ocean and the county's Environmental Health Services, the study showed that much of the bacteria — which has made the popular surf spot also one of the most polluted beaches in the county — is coming from human sources.

But the study, which will be presented today to the county Board of Supervisors, also indicated that a long list of wild animals contributed to the E. coli bacteria found in the samples. And the report has not answered where the human waste originates.

"The study proves the usefulness of using DNA to identify the sources of contamination," said Jeff Young, co-director of Heal the Ocean.

Members of the group have long suspected that the septic systems for the 72 homes at the Rincon are the culprits of the pollution, yet the study did not make that link.

Although the samples showed spikes in human waste in the lagoon and ocean adjacent to homes, there was little or no human contamination in the creek above the homes.

"We feel this study strongly implicates the septic systems," Young said. On walks along the creek county officials have not found any homeless encampments, which have been sources for contamination on other creeks, leading Young to conclude that the homes at Rincon are the only other possible source.

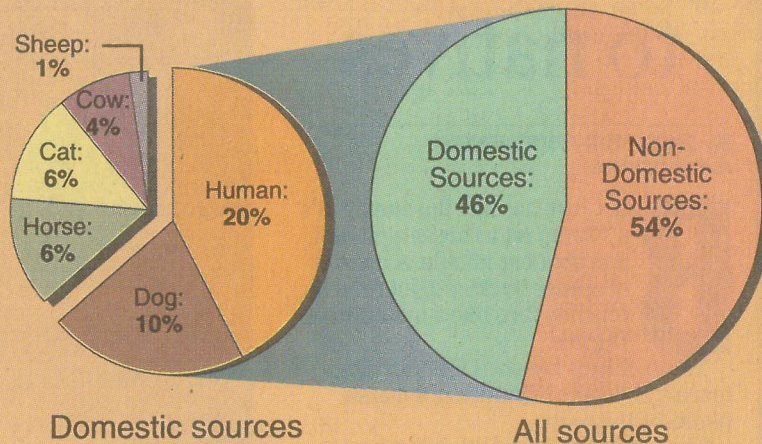
Not waiting for definitive data to make changes, the Rincon Homeowners Association voted earlier this year to spend \$2.1 million to hook into a sewer system. It will likely take about two years for the work to be done by the Carpinteria Sanitary District.

"This is our backyard and we want it cleaned up," said Steve Halsted, president of the homeowners group.

SEE **ENVIRONMENT ON B4**

DNA Matches by Type of Animal

Lower Rincon Creek Watershed Study



SOURCES: Santa Barbara County Environmental Health and Heal The Ocean.

TOM DEWALT/NEWS-PRESS

Animal waste adds to pollution

ENVIRONMENT

Continued from Page B1

The study took more than 100 water samples in May and June from three spots along the creek, lagoon and ocean. From those samples DNA tests were done. They showed that although 46 percent of the contamination was from domestic animals, pets and people, 54 percent of the fecal bacteria was from such wild animals as coyotes, raccoons, skunks and even bear that live in the watershed along the 17-mile creek.

Of the 46 percent from domestic sources, humans accounted for 20 percent of the bacteria — making people the single-largest contributor of fecal contamination.

Rincon Creek was the first of the many county creeks studied because the sources of pollution were thought to be the simplest to discern, said Dan Reid, project manager for county Environmental Health Services. The creek is not as densely populated as others in the county, and it does not have homeless encampments or large livestock operations along its



STEVE MALONE/NEWS-PRESS

Jeff Young and Hillary Hauser, co-directors of Heal the Ocean, review the findings Monday of DNA sampling from Rincon Creek. Heal the Ocean and the county paid for the test.

banks as other waterways do, Reid said.

But the study was expensive. Heal the Ocean paid \$22,500 to cover the DNA sampling, and the county spent about \$14,000 on in-kind work. As part of the study, county workers also gathered this spring more than 200 fecal samples from mammals, including dogs, cats, bobcats, bear, raccoons and skunks. The samples were sent to Mansour Samadpour of the University of Washington School of Public Health. Samadpour folded the samples into a library of more than 27,000 genetic fingerprints of *E. coli* bacteria that he has collected from 100 different species in his lab over the last 10 years.

In 1993 Samadpour performed a DNA study of a polluted creek in King County, Wash., where the suspected

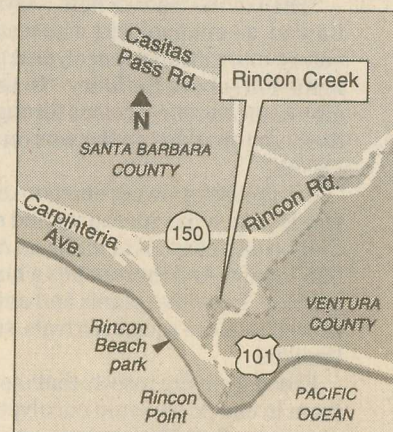
causes were the septic systems and livestock on small ranches along the creek. The DNA study identified dogs and cattle—and not septic tanks—as the major contributor to fecal bacteria in the stream.

Young, of Heal the Ocean, said the sampling is a powerful tool for regulators.

“It can tell us if the contamination is coming from, say, horse manure or raccoons,” he said.

So beyond making recommendations for fixing broken sewer mains or moving neighborhoods off septic systems, regulators may be able to make recommendations about setbacks for horse corrals or animal control.

Heal the Ocean is now pushing for similar studies on Arroyo Burro Creek, while the county's Solid Waste



NEWS-PRESS GRAPHIC

Department has plans to conduct DNA studies of water flowing out of Arroyo Quemada, downstream from the county's landfill in the Gaviota area.