Effluent, runoff linked to algae

☐ An EPA study puts suspicion on injection wells and fields

By Peter Wagner
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A preliminary study of Maui algae blooms says sewage disposal wells and nearby agricultural fields are prime sources of nutrients that could be overfertilizing the ocean off West Maui.

Highlights of the study, released yesterday by the Environmental Protection Agency, show that 946 tons of phosphorus and nitrogen are discharged by the sources each year. Those nutrients are found at high levels in the area's near-shore waters.

"Injection" wells at the Lahaina sewage treatment plant were found to be the biggest single source of phosphorous, about 65 tons a year, while sugar and pineapple fields contribute the most nitrogen, about 784 tons a year.

Major algae blooms have occurred in the past three years in the vicinity of the county's three sewage treatment plants, at Lahaina, Kihei and Kahului. While no scientific evidence has proved a connection, state regulators are suspicious of the plants and their shoreline injection wells that pump treated effluent deep into the ground.

"Although it would be premature to implicate these sources as the cause of the algae blooms, it is obvious that more-efficient use of fertilizers and reductions in wastewater discharged into the injection wells will reduce the potential for algae blooms to occur," said Bruce Anderson, deputy state Health

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Department director.

Anderson said efforts are afoot to reduce nutrient levels in agricultural fertilizers and to improve land-use practices to prevent runoff. The county, he said, is attempting to reuse sewage effluent to irrigate parks, schools and golf courses instead of dumping it.

The state has taken aim at the wells because they are regulated by permit, while "nonpoint" sources of pollution such as agricultural runoff are not.

Moreover, tracing nonpoint pollution to its myriad sources is a challenge that could elude regulators for years.

The study, by California-based Tetra Tech Inc., found that sewage effluent finds its way into near-shore waters while just 10 percent to 20 percent of agricultural fertilizers wash into the water.

But tracing the water pollution to its specific source is difficult.

"It is not known how much nitrogen and phosphorus reaches the ocean nor are the pathways known," the report states.

Another EPA-funded study that will try to track the nutrients to their source is to begin next week. Dye tests are expected to leave a pinkish residue in waters near Honokowai. Anyone noticing a discoloration in the next several months is asked to call an EPA hot line at 872-6078.

The study recommends further field investigations, studies of the area's hydrology and other work to pin down the source of Maui's algae problem.

Three types of algae have piled up on Maui beaches, usually in summer months, causing a smelly problem.

One species, *cladaphora*, threatens to smother offshore reefs.