

Is the water safe to swim?

By Bran Sercu, Ventura County Watershed Protection District

Although beaches in Ventura County are among the cleanest in the state, based on the environmental organization Heal the Bay's Annual Beach Report Card, some beaches do exceed water quality criteria for bacteria from time to time. Is the health of swimmers, surfers, and children playing in the surf at stake? Not necessarily. The latest scientific research is suggesting that current water quality criteria may be overly protective in some cases.

Currently, the risk for swimmer-associated illnesses is not determined by measuring what causes illnesses, but is estimated indirectly by measuring indicator bacteria that do not cause illness themselves, but that are present in high numbers when water is contaminated by fecal pollution, and likely, pathogens. These indicator bacteria are relatively easy and cheap to measure, and are effective at predicting the risk of swimmer-associated illnesses when the water is affected by human sources, such as sewage spills. However, sometimes indicator bacteria can be present while human pathogens are not. This can occur when gull droppings are washed into the surf. Or when indicator bacteria multiply in creeks and storm drains, while human pathogens have died off before they reach the ocean. In fact, studies suggest that established relationships between indicator bacteria and risk for human health are questionable when human sources are absent.

Nonetheless, County beaches are required to meet water quality criteria based on indicator bacteria. Take our Kiddie and Hobie Beaches (Harbor Beaches) for example. The County and other responsible parties have spent hundreds of thousands of dollars for water quality monitoring, special studies and implementing controls, to reduce indicator bacteria concentrations in the water and ensure the absence of sewage contamination. However, water quality criteria exceedances still occur, and the California State Water Resources Control Board has identified the Harbor Beaches as being impacted by fecal indicator bacteria. A Total Maximum Daily Load ("TMDL") has been developed, and responsible parties were forced to adopt TMDL implementation plans, including committing to several millions of dollars in efforts to meet the indicator bacteria criteria.

Clearly, it's in all our interests that this money is well spent. Therefore, the County is collaborating in what is called a Quantitative Microbial Risk Assessment Study (QMRA) this summer at the Harbor Beaches. Experts from the Southern California research institute SCCWRP, the United States Environmental Protection Agency and other consultants teamed up with the County, Heal the Bay and local, statewide and national regulators to determine if the indicator bacteria seen at Kiddie and Hobie beaches are greatly overestimating the presence of pathogens and therefore the chance of swimming-associated illnesses. This summer, researchers will be sampling beach waters and potential sources of

indicator bacteria (e.g. gull droppings, sewers, sand) to the beach, and use modeling to determine the risk for illness when indicator bacteria at Harbor Beaches exceed the current water quality criteria.

If it turns out that the risk for illness is much less than previously assumed, regulators may adjust the indicator bacteria criteria at these beaches, because they will be confident that swimmers will be protected from illness. In turn, the County can redirect TMDL implementation funds to needed projects that will make a difference. It is not a surprise that the results of this study, the first of its kind in marine waters, will be of interest to many communities in Southern California and the Nation.

There are a few things you can do as well to keep our beaches clean and safe to swim. Please conserve water by not wasting it down the storm drains, clean up after your dog, and keep the beach clean. And if you visit Kiddie or Hobie Beach this summer and see research staff sampling the waters, you will know that they are keeping an eye on the environment, and your health.

To learn more about how to keep the watershed clean, go to www.cleanwatershed.org.

For information on beach water quality visit

http://www.ventura.org/rma/envhealth/programs/tech_serv/ocean/index.html.

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