

For Eye on the Environment 11-24-13

Beach Bacteria

By Bram Sercu, Ventura County Watershed Protection District

Surf's up, or is it? Local surfers may face a dilemma if the next big swell makes its way to our local breaks on the heels of some rainfall.

Even a moderate half inch rainfall event generates large quantities of stormwater runoff, as rainwater falls on roofs, streets and parking lots. By the time it reaches the ocean, the runoff –which does not receive any treatment - has been transformed into a cocktail of pathogens, nutrients, metals, and toxic chemicals.

The pathogens are mostly associated with mild illnesses such as fever, stomach ache, diarrhea, sore throat, and coughing. While the summer beach crowds have largely vanished, it may matter to surfers, eager to enjoy better and less crowded waves this time of year. Surprisingly (or maybe not), surveys have shown that many surfers know the risks but are more than willing to take their chances. As you are making up your mind, here's a list of arguments to consider.

Beach postings: yesterday's news! True, it takes at least twenty-four hours before results of bacteria testing are available, and therefore beach postings reflect the water quality of the previous day. However, urban stormwater runoff consistently has elevated bacteria concentrations. So once the runoff reaches your break of choice, you know enough...

Diarrhea ..., so what? The most commonly reported illnesses are relatively mild and often self-healing. But do you want to be the exception? Even without contracting a flesh eating bacterium, a severe streptococcus infection can land you in the hospital. Moreover, many stormwater pollutants are not monitored and our understanding of potential health effects is incomplete (although monitoring consistently shows that urban runoff in Ventura County is not toxic to aquatic organisms).

Dilution is the solution. Unfortunately, it takes a while before discharges from rivers and drains get diluted. Incoming waves tend to concentrate pollutants in the near-shore environment, so they don't get dispersed in the ocean that easily. And even with lower bacteria concentrations further out, near the lineup, you still need to paddle out and back, don't you?

The jury is still out. Honestly, that may be your best argument. While the indicator bacteria currently used for posting beaches are indicative of the risk for human health in sewage-contaminated waters, they don't always work well for waters contaminated with stormwater runoff. Also, epidemiology studies, which are the basis for current

regulations, have only targeted swimmers, during summer. So it is a stretch to extrapolate the outcomes to surfing after rains. However, keeping the precautionary principle in mind, I would recommend following the current guidelines not to enter the ocean for at least 72 hours following rainfall.

At the Ventura County Watershed Protection District, we are keeping an eye on the environment, and are actively working to better understand how stormwater may affect beach users. To this end, we are implementing genetic testing methods throughout the county, starting this winter, to identify the sources of bacteria pollution in stormwater. From a management and human health perspective, it makes a big difference if bacteria originate from sewage pollution or wildlife sources. In the San Diego area, a pilot study is underway to quantify the health effects of stormwater runoff on surfers, the first of its kind!

In the meantime, if you just can't resist paddling out right after some rains, here's how you can reduce your chances of getting sick. First, pick a break away from major storm drains and river mouths. How about Emma Wood, Pitas Point or Oxnard Shores? Obviously, try to avoid swallowing ocean water and consider wearing ear plugs (good ones). After your session, flush your sinuses, treat cuts and seek medical attention early if you spot an infection.

A friend once told me he surfed C-Street amidst floating tree branches and other debris from the Ventura River. He didn't get hit in the head nor did he get sick afterwards. Two strokes of luck!

On the net:

www.cleanwatershed.org

<http://www.ventura.org/rma/envhealth/technical-services/ocean/index.html>

<http://ventura.surfrider.org/>

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