

Surprise: storm runoff not main cause of illness from polluted beaches

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It's been thought for decades that stormwater runoff is the major source of bacterial pollution in the county's rivers, bays and beaches — triggering swimming advisories up and down the region's shoreline for 72 hours after it rains.

However, the greatest source of dangerous pathogens flowing from these urban waterways into the ocean may actually be coming from human waste. That's according to a newly released study

commissioned by the area's top water-quality regulators in collaboration with the city and county of San Diego.

The report's authors said cleaning up sources of human feces — such as leaky sewer pipes and homeless encampments near rivers and streams — is the cheapest way to improve public health at beaches and bays following periods of precipitation.

Human waste carries significantly more pathogens that can cause gastrointestinal illness and other infections than waste from other warm-blooded animals, including raccoons, coyotes, horses and dogs, according to scientists.

“I was personally surprised at the extent of human waste that we've observed in our monitoring,” said Todd Snyder, manager of the watershed protection program for the county of San Diego. “The preliminary results that we're seeing is that this human waste is everywhere — upstream in the watershed, downstream in the watershed, tributaries, the main stem of the San Diego River.”

The San Diego Regional Water Quality Control Board has required cities under its jurisdiction to limit bacterial pollution at specific locations during dry-weather conditions by 2021 and during rain events by 2031. The program stretches through more than a dozen watersheds, from Chollas and Scripps to San Marcos and Laguna Beach.

The new report looked at the most cost-effective ways to meet state standards for cleaning up fecal bacteria at 20 of the most impacted beaches, rivers and creek segments in San Diego and southern Orange counties.

Following release of the cost analysis, environmental groups expressed concern that local governments would try to use the findings to delay compliance with broader water-quality regulations. But they agreed that leaking sewer pipes and other sources of human waste could be the primary culprit polluting beaches with harmful bacteria.

“While we question the motives behind the study and some of its methodology, to the extent this study allows our governments to reverse years of poor planning and fix aging wastewater infrastructure, we hope it can be useful,” said Matt O'Malley, executive director of San Diego Coastkeeper.

According to the report, for every \$1 million spent by public agencies to reduce human waste in rivers and beaches, about 152 fewer people a decade on average would get sick from associated pathogens.

A different analysis — the Surfer Health Study commissioned last year by the city and county of San Diego — found that adults who went surfing 72 hours after it rained were more likely than dry-weather beachgoers to suffer gastrointestinal illnesses.

For every 1,000 surfers who went into the ocean within three days of a rain event, 30 fell ill on average, according to the Surfer Health analysis. That's compared with 25 out of 1,000 surfers who got sick after getting in the water during dry-weather conditions.

The Surfer Health examination, which was conducted by UC Berkeley and the Surfrider Foundation, also found that while higher rates of illness were correlated with wet-weather conditions, the increase didn't exceed water-quality guidelines established by the U.S. Environmental Protection Agency.

At this point, San Diego County officials are trying to pinpoint where the human sewage in watersheds is coming from. The potential sources are wide-ranging: broken septic tanks, illegal dumping by RVs, transients camped in creek beds and cracking wastewater pipes.

"We're doing more water-quality monitoring to see where are the highest concentrations, so we can go after those and dig in further," said Snyder, the watershed protection manager. "For sewer pipes, we just need to keep working our way upstream to figure out where those hotspots are."

Community advocates for river and creek rehabilitation projects said homeless encampments are a significant source of pollution in urban waterways.

"One of the large problems is transient populations in the creek, all up and down the watershed," said Leslie Reynolds, executive director of Groundwork San Diego.

On Friday, she was standing next to a section of Chollas Creek at Market Street and Euclid Avenue that her nonprofit group has helped restore dramatically, including a walking path, interpretive signage and native vegetation.

The revamped creek also had at least half a dozen homeless people congregating in and around it Friday, including 64-year-old Marcel Smith. He said people sleep in a culvert in the dry creek bed and that some relieve themselves in the area.

"We have Starbucks across the street, so a lot of times if a person needs to go to the bathroom, that's where we go," Smith said. "You find a lot that go over to the Starbucks and then you find the ones that don't. It varies."

The newly released cost-analysis report for reducing fecal bacteria comes as part of a debate about how — and to what extent — to improve water quality throughout the region. Should cities and

counties follow traditional metrics that look at particular types of contamination, such as harmful bacteria? Or should they embrace broader approaches that seek to restore entire rivers and streams? Or should they concentrate on improving only aspects of watershed health that directly affect people?

Water-quality regulators have long pressured cities in San Diego County to clean up pollution through improvements to their stormwater systems. River contamination is worsened by rains, which flush everything from cigarette butts and industrial chemicals to lawn fertilizers and pet feces into waterways.

Municipalities have submitted extensive plans for meeting these goals, and in the past decade have started limiting hardscape surfaces in targeted areas — because they speed up runoff flows — and tightening rules on new housing and commercial development to require filtration systems that enable more urban runoff to soak into the ground.

All the while, cities have routinely pushed back on the huge price tags associated with larger river restoration projects and major overhauls of public stormwater systems. The collective cost runs into the billions of dollars over time.

After accounting for financial benefits associated with recreation, public health and other factors, the expense associated with cleaning up bacterial pollution in the region's rivers, creeks and beaches during and after storms would amount to about \$34.6 million a year for the next 65 years, according to the new report.

In light of the latest findings, city and county officials have a chance to petition the regional water quality board to revise its overall approach and extend timelines for compliance.

While focusing efforts on human waste wouldn't necessarily satisfy the board's current standards for limiting overall bacterial pollution, it would be cheaper — requiring about \$20.7 million annually for the next 65 years.

The new report also said if the deadline for wet-weather compliance were postponed until 2051, municipalities could reach compliance by spending only \$7.8 million on average for the next 65 years.

Environmental advocates have strongly rejected a longer timeline for compliance, arguing that the water quality board has already extended its deadline for wet-weather standards from 10 years to two decades.

They have pushed for even more expensive changes, calling for large-scale rehabilitation of urban rivers and streams. They believe such investments would create lush, clean and inviting spaces that would also boost home values.

The new report found that incorporating more restoration strategies along with upgrading stormwater systems would have by far the greatest benefits — including millions of dollars of savings in public-health costs and higher revenues associated with recreation.

But wide-scale rehabilitation of rivers and comprehensive restoration of wetlands would also end up costing the most money in the long run. To meet the regional water quality board's standards for limiting bacteria, it would cost on balance about \$60.4 million a year for the next 65 years.

Elected officials in San Diego and Orange counties will have a chance to submit their latest proposals to the water quality board later this year. The board will then likely make a determination of how to proceed in early 2018.

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