Flushing it Out

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Could Stormwater Be The Real Culprit?

The panel of scientists who review how Capital Regional District staff measure environmental impacts from our sewage discharge say the present monitoring system may miss potential contaminants to the marine environment by failing to closely examine the chemical content of the South Island's stormwater runoff.

That notion—and a request for a broadened mandate for the Marine Monitoring Advisory Group (MMAG), as it is called—are contained in the CRD's annual report on the health of the aquatic ecosystems around the Clover Point and Macaulay sewage outfalls. (As in years past, CRD testing did not detect anything particularly troubling in its sample areas, writing in a report to the region's core area liquid waste management committee that, "predicted wastewater concentrations in the marine environment met receiving water quality guidelines for the protection of aquatic life.")

And while MMAG, which reviews the CRD's methodology and results, largely agreed with the annual report's findings, it wrote in a letter to B.C.'s environment ministry that, "Following a presentation from CRD staff at the January 21, 2009 MMAG meeting, the group identified a significant gap in knowledge with respect to contaminant loadings coming from stormwater discharges relative to the region's wastewater outfalls, particularly as the 'first flush' is ignored in current stormwater sampling programmes. There is potential that the stormwater discharges could be a greater source of some contaminants to the marine environment than the wastewater outfalls. Concern was also expressed that stormwater issues will largely not be addressed by infrastructure improvements associated with the move to advanced treatment in the region."

CRD director of scientific programs Glenn Harris says the regional government already has some stormwater testing procedures in place.

"We rate the discharges as low, medium and high, and I don't have the exact numbers in front of me, but there are a fair number of high-rated stormwater discharges," says Harris. "We think they're fairly localized around the discharge points, but they are adding to the mix out there and we are looking at that now with a review of our program to see how much of a problem it is."

Stormwater discharge potentially contains fluids from automobiles, run-off from asphalt shingles, lawn and garden chemicals and anything else people dispose of down their storm drains.

As for keeping tabs on the first flush—that being the first blast of liquid out of the pipes after a dry spell—Harris says that requires being at the right place at the right time, but adds that the question will be examined in his department's review of its monitoring programs.

“Traditionally the service hasn’t looked at that first-flush quick loading,” he says. “We’ve been looking at the long term trends from the discharges and trying to get an overall loading and contribution from the storm pipes, so sometimes they do miss that flash flood when you can see whether it’s a significant contribution or not. But we know that it’s tough to gauge and tough to measure.”

Harris says first-flush contaminants from storm water should be detectable over the long term in the sediments around the storm sewer outfalls.

Meanwhile, here’s what CRD staff scientists had to say about the marine environment around our sanitary sewage outfalls in 2008:

“After accounting for dilution, the levels of substances in the wastewater were below B.C. and national water quality guidelines. Surface water fecal coliform concentrations were generally low, with some exceptions, but overall potential for human exposure was low. Few substances exceeded sediment quality guidelines in 2008, with concentrations above guidelines generally found within 200 metres of Macaulay Point. Only four metals exceeded guidelines at Clover Point. Benthic communities exhibited some differences, relative to reference stations, mainly due to the abundance of polychaete worms that feed on the organic matter near the outfall. Mussel communities were healthy and generally larger at the outfall than at the reference sites.”

Translation? Just one reason that local marine scientists think our current secondary sewage treatment plans are a waste of money. M