

## San Mateo RCD Water Quality Presentations Q&A

First Flush Results Presentation March 24, 2021:

Is the increased traffic on the coast a likely cause of the metals that we saw in the First Flush data at Vassar Avenue outfall and West Point Avenue ditch?

The metals that we observed (copper, lead and zinc) can come from cars (brake pads), architectural features, industrial processes, and more. When it comes from cars, that would typically be seen where there is a large amount of traffic (highways, etc.) and where people are using their brakes a lot (e.g. coming down a large hill). We have not observed those types of conditions in the area of Vassar and West Point avenues. We did not observe high levels of these metals in areas where there is higher traffic and conditions are hillier, e.g. drainage from Highway 1 and Highway 92.

Could feeding wildlife by Barbara's Fishtrap be a significant contributor to the water quality impairments we see at Capistrano?

The food itself would not be a source of Fecal Indicator Bacteria but could attract wildlife that might be a source. While that may be a potential episodic source of bacteria, it wouldn't explain the chronically high counts of bacteria that enter the beach from the outflows to the beach. It is our understanding that the majority of the chronic sources of bacteria is from the watershed, not the beach.

Does anyone monitor for pesticides?

There was testing for pyrethroid pesticides in stormwater discharging into the Fitzgerald Marine Reserve in 2013 and 2014. This was focused on monitoring the effectiveness of vegetated swales that the County installed along the parking lot to protect stormwater. See "James V. Fitzgerald Area of Special Biological Significance Pollution Reduction Program Final Project Report (2016) @ [Fitzgerald ASBS Pollution Reduction Program - San Mateo County Health \(smchealth.org\)](#). One of the main issues around monitoring for pesticides is the large diversity of ingredients. Another thing to remember is that pesticides in stormwater can come from residential use, not just agriculture and while agricultural use of pesticides is regulated, residential use is not. We really do not know much about residential use.

Can the County include the First Flush results in its weekly report?

The County's weekly report follows the protocols established in AB 411, from 1999, which requires local health officers to conduct weekly bacterial testing between April 1 and October 31 of waters adjacent to public beaches that have more than 50,000 visitors annually and that are near storm drains

flowing in summer. We will ask the County representatives if they would like to include our First Flush results in the future, but we would note that AB 411 notifications are about current water quality issues to notify potential beach users, while First Flush results are indicative of the worst-case scenario once a year and the results are available months after the impairment to the water body and would not serve as a timely notice for beach users. In general, we would not recommend water contact within 48 hours after the first big rain of the year.

### Various questions about the horse ranches on San Vicente Creek

The RCD has a decades-long history of working with the equestrian operations, the landowners (POST, GGNRA), the County, Surfrider, and others to implement improvements and Best Management Practices at the horse ranches. Please note that, while there are times that we see high counts of bacteria in the creek at the horse ranches, there are also times that we saw high counts of bacteria in the creek upstream of the horse ranches. Also, there have been times where we have not seen spikes in bacteria until west of Highway One. Simply stated, the horse ranches have been extensively involved in cleaning up the creek, horses are not the sole source of bacteria and often are not the primary source.

### Water Quality Webinar April 21, 2021

CARLYSLE ANN YOUNG: If a yard is flat, is there any potential for pet waste to get into the ocean? (I have a goat, but my yard is totally flat.)

Yes, wherever you are, you are in a watershed. So, even a yard is flat, pet waste in that yard can make its way to creeks or stormdrains during a storm event and that can contribute to pollution at beaches and the ocean. We would be happy to come by your and look at your yard and help you manage your property to reduce impacts to water quality downstream.

Kate Dickey: Do you have any recommendations for ways to get third graders and also middle school students involved in water quality research or work that would be valuable to the community?

We have experience with this and would be happy to help. We would welcome an invitation to help teach children in the community about water quality and watersheds.

Ellen Gartside: What are the next steps to address San Vicente Creek/FMR?

The Regional Water Quality Control Board has an action plan in place to address bacterial pollution on the creek. The plan is called a Water Quality Improvement Plan and has been in place for a few years. The County and

Golden Gate Recreational Area (who owns much of drainage area east of Etheldore Road) are working with the RCD and the equestrian operators on updating the plan with new best management practices (BMPs) to reduce bacterial pollution to the creek. One important thing to note is that bacteria in San Vicente Creek can come from a range of sources that include dogs, horses, wildlife, and humans. One part of the new plan is to review known sources of bacteria and do some more monitoring to see if we can identify any others.

Melinda MacNaughton: Is there something wrong with the soil upstream that it is not biodegrading the fecal material etc as it should? It seems that should happen naturally with wildlife at least. Is it possible the soil may need some help and restoration inland at the watershed area?

There are a number of answers to this question. Increased soil health can often help reduce overland flow that delivers pollution downstream. The RCD works tirelessly on soil health and has for over 80 years when we were originally formed as the Soil Conservation District. That said, soil health does not entirely solve all problems and some soils (serpentine, decomposed granite, etc.), may not retain water as well. Also, much of these watersheds are developed and have significant compacted or impermeable surfaces, and stormwater is often conveyed in culverts and storm drains. There can be wildlife in those drainages as well as upland throughout the watershed.

CARLYSLE ANN YOUNG: Who should I schedule with? (Regarding Goat waste run-off)

Please email Noah Katz at [noah@sanmateoRCD.org](mailto:noah@sanmateoRCD.org)

JQ Oeswein: you said that the bacteria are not toxic. then, why the signs at the harbor?

The bacteria itself is an indicator species - its presence is often a sign that more harmful pathogens are present.

MCC Questions:

1. was water quality mid-coast EVER decent in the last 70 years? Elders report sewage smells in 50's and 60's when first rains washed septic leakage to the beaches. What combination of population density and technologies allowed decent water quality, when?

We really don't have water quality data going back that far. The County has been sampling bacteria at beaches as required by AB411 since 1998 and that's about as far back as we have data for. Beyond that, we depend on records and memories to infer water quality impairments. We would love to find out more about these reports from the 50's and 60's. Water quality issues change over time as new problems arise and new solutions are found. For example, since the 60's ordinances and requirements for septic systems have been adopted and the sewer network on the coastside has been improved and expanded.

2. Why did Pillar Point Harbor bacteria study stop in 2014?

That specific study was completed as planned in 2014 but we did not stop looking at the issue and new projects and studies were subsequently carried out by the RCD and partners. This project helped us develop our current understanding of the issues and it opened up new avenues for investigation. From the 2014 study we were to determine the circulation times of water in the harbor and hence estimate residence times for bacteria, we ruled out boats in the inner harbor as a chronic source of bacteria, and determined that bacterial pollution was primarily coming from the upper watersheds rather than the beaches themselves. That study included Microbial Source Tracking or MST which allows us to do a DNA analysis of water samples to answer the question, “which animals are contributing to the system?”. This project led to the Pillar Point Harbor Watershed Pathogen Indicator Stressor/Source Identification (SSID) project which was completed 2019 and focused on the stormwater system and identified seasonal patterns of bacteria, as well as carrying out MST analysis to determine specific source of bacteria. We also did CCTV inspections of the stormwater system at Pillar Point Harbor which has informed and directed capitol projects to repair pipes and remove a large deposit of fats, oils, and grease, from a stormwater line. There are still a few unanswered questions, but we know a lot more than we did a decade ago, and we are implementing projects and pushing for solutions to address bacterial pollution.

3. Do drought years increase concentration of runoff at first flush, because they aren't being regularly washed away?

This is likely, yes, but there are many factors at play. During the dry season contaminants such as pet waste, brake dust from cars etc. build up on surfaces until the first big rain of the year we would assume that the longer the dry season, the larger the flush of contaminants. But the concentrations of contaminants in runoff during the first big rain of the year also depend on how big the first rain is, how much of each contaminant is deposited on land, and on management strategies to clean up these contaminants prior to rain, so it's not one to one.

4. Where can we get the report of all locations and measurements (lat/long) and dates? Presumably a spreadsheet or DB file?

The RCD looks at water quality data across multiple projects including the once-a-year First Flush program, as well our long-term monitoring programs looking at watersheds in the Rancho Corral de Tierra property, on San Vicente Creek, San Pedro Creek, and Pillar Point Harbor. We have not collated all of this data into one spreadsheet, but we do have annual reports and presentations on our website. We are planning on revamping our water quality webpage so that this data is more accessible. If you have any specific interests in the meantime, we would be happy to send you annual reports that summarize data we have collected and recommendations we have made. Please reach out to Noah to request reports [noah@sanmateoRCD.org](mailto:noah@sanmateoRCD.org).