



RAMONA MUNICIPAL WATER DISTRICT

ENGINEERING DEPARTMENT
105 Earlham Street
Ramona, CA 92065-1599

Telephone: 760-789-1330
Facsimile: 760-788-2202

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VIA EMAIL [[San Diego@waterboards.ca.gov](mailto:San_Diego@waterboards.ca.gov)]

David Gibson
San Diego Water Resources Control Board
2375 Northside Drive, Suite 100
San Diego, CA 92108

Attn: *Roger Mitchell*

Subject: *Written Response to Tentative Investigative Order No. R9-2018-0021*

Dear Mr. Mitchell:

The following information is provided by the Ramona Municipal Water District (District) in response to the California Regional Water Quality Control Board, San Diego Region's (San Diego Water Board) Tentative Investigative Order No. R9-2018-0021 (Tentative Order). The Tentative Order proposes to direct various agencies, including the Cities of San Diego, Santee, El Cajon, La Mesa, the County of San Diego, San Diego County Sanitation District, Padre Dam Municipal Water District, Ramona Municipal Water District, San Diego State University, Metropolitan Transit System, and California Department of Transportation, to submit technical/monitoring reports identifying and quantifying the sources and transport pathways of human fecal material to the San Diego River Watershed.

For informational purposes, the District was formed in 1956, as a municipal water district organized under the Municipal Water District Law of 1911, Water Code Section 71000. The District provides water, sewer, recycled water, fire protection, emergency medical services and park services. The District boundaries encompass approximately 45,800 acres (75 square miles) in the unincorporated area of San Diego County, located approximately 35 miles east of the coast. The District provides services to approximately 7,000 urban parcels and 3,000 rural parcels, with an approximate population of 40,000 people. The District service area encompasses elevations ranging from 1,300 feet to 2,100 feet mean sea level (msl). Although the service area is large, the District is primarily funded by a combination of service fees and parcel assessments, and these funds are required to go toward the service provided. The District has no large general fund or other funding mechanism for discretionary purposes.

BACKGROUND ON TENTATIVE ORDER

Our District Engineer attended a meeting on April 24, 2018, established by the Tentative Investigative Order Advisory Group (Advisory Group) to discuss the Tentative Order and the primary focus of the study relating to alleged exfiltration from public wastewater systems. At that meeting, Mr. Ken Schiff, representing the Southern California Coastal Water Research Project (SCCWRP) and the Advisory Group led the meeting with the following discussion items:

- Background and rationale for the project
- Charge to the Advisory Group
- Agreement on project goal(s)
- General approach
- Detailed approach
- Agreement on scope
- Next steps and next meeting

From this meeting and your emails, we understand that the purpose of the Tentative Order is to:

1. Identify and quantify relative contributions of suspected sources of human fecal material in discharges to the San Diego River;
2. Determine the transport pathways of such discharges; and
3. Determine how the information will be used, by each discharger, to assess the effectiveness of current management measures in preventing discharges of human fecal material into the San Diego River, its tributaries, and the downstream beach coastal waters.

Furthermore, we understand that the San Diego Regional Board predicated issuance of this Tentative Order on the study prepared by SCCWRP titled "*The Surfer Health Study*," SCCWRP Technical Report 943, completed in September 2016. Similarly, the SCCWRP study relies on recommendations from the United States Environmental Protection Agency (USEPA) Water Quality Guidelines for recreational waters, which references the National Epidemiological and Environmental Assessment of Recreational Water.

DISCUSSION

We appreciate the opportunity to comment on the Tentative Order, and the following discussion provides our comments relative to the Tentative Order. It shows that there is insufficient evidence to link the District to the problem at issue in the Tentative Order. Therefore, the District respectfully requests that the San Diego Water Board remove it from the Tentative Order.

I. Gastrointestinal (GI) Illness Threshold.

The SCCWRP Surfer Health Study evaluated potential increased rate illness prior to and after significant rainfall events (dry versus wet weather). The study identifies a baseline (average) GI illness rate of 18 cases per 1,000 surfers (surfer illnesses unassociated with rainfall or runoff). From the study, an average increase of 12 GI illnesses per 1,000 surfers was identified. Therefore, the average GI illnesses total is 30 illnesses per 1,000 surfers.

The Surfer Health Study references the USEPA Water Quality Guidelines for recreational beaches from 2012 as recommending no more than an average of 32 to 36 cases of GI illness per 1,000 swimmers. We reviewed the 2012 USEPA Water Quality Guidelines and determined the basis of those guidelines to be based on the National Epidemiological and Environmental Assessment of Recreational Water (NEEAR) recommendations, comprised of data from 2004, 2004, 2005, 2007 and 2009, and well as the 1986 standards that were based on use of Highly Credible Gastrointestinal Illnesses (HCGI) studies. These studies, spanning a study period of approximately 26 years, establish an acceptable average GI illnesses rate of between 32 and 36 illnesses per 1,000 contact reactors. As the current estimate of average GI illnesses is 30 cases per 1,000 surfers, there does not seem to be a basis for imposing the Tentative Order, as the number of illnesses has not surpassed the established USEPA guideline for recreational waters. This conclusion is particularly relevant as the Surfer Health Study states that it uses the USEPA guidelines to define the illness constraints.

Additionally, the Surfer Health Study has significant limitations. The predecessor studies, identified above, clearly based their conclusions on “credible” GI illnesses within their individual sampling groups. The Surfer Health Study (Section V, Paragraph B) identifies four main limitations of the study. The first limitation identified in the study is the use of self-reported symptoms, stating this *“could bias the association between ocean exposure and illness away from the null if surfers artificially over-reported illness following exposure.”* The survey text discussed measures taken to control this limitation, however stated that these measures *“would not control for systematic bias.”* Therefore, as the study relied on self-reporting techniques, the resulting conclusions have inherent bias that clearly clouds the credibility of the conclusions.

The Surfer Health Study identifies other study limitations. These limitations include limitations associated with limited ability to measure incident outcomes to within three days of seawater exposure, allowing illnesses caused by pathogens with longer incubation periods to be misclassified, which could bias results. The majority of the participants were enrolled online and could not be physically verified to be surfing at study region beaches. Furthermore, two study winters took place during a drought in Southern California, which meant that there were just 10 rainstorms during the study period, with the study identifying *“a more balanced distribution between dry and wet weather exposure would have improved the precision of our wet weather exposure associations.”*

In summary, the Surfer Health Study has no evidence to link the District with the issue to be studied and therefore the District should be removed from the Tentative Order.

II. Fate and Distance Considerations.

During the Advisory Group meeting in April 2018, it was identified that the Human DNA Marker (HF183) could not exist for extended periods within the natural environment, because the material was a high profile food source for naturally occurring bacteria. As such, the attendees questioned the use of HF183 as a determining marker showing where possible beach contamination originated. It is clear that the fate characteristics of the HF183 marker supports the conclusion that waters originating in the extreme eastern portions of the San Diego River watershed (i.e. Ramona MWD, Padre Dam MWD, Santee, El Cajon, and other service areas) could not be detected at the beach, some 15 to 35 miles away. We do not dispute the apparent increased incidence of GI illnesses rates following ocean exposure after major rain or storm events. However, given the proximity of more likely contamination sources to the beach (i.e. bird nesting areas, known homeless encampments, human exposure along beach areas, and other wildlife or domestic animals), it is not likely that GI illnesses are associated with inland communities and more likely that they are associated with these local contamination sources. Furthermore, the Surfer Health Study clearly states that the quantities of human pathogens are unknown at this time, as the correlation between HF183 and human pathogens is not fully defined.

Specific to Ramona Municipal Water District, the remote nature of the District service area indicates that any human pathogens, from our service area, could not possibly be transported to the beach. Therefore, the District cannot contribute to the increased GI illnesses referenced by the Tentative Order. Information provided at the Advisory Group meeting showed little or no HF183 detection at the eastern most sampling location within the San Diego River watershed. As such, there is no evidence to support including the District as a participating agency in the Tentative Order.

III. Focus on Alleged Sewer Exfiltration.

During the Advisory Group meeting, several known sources of potential beach contamination were identified. Alleged sewer exfiltration was selected as the primary focus of the Tentative Order, citing cost effectiveness as a major decision factor. In fact, study of alleged sewer exfiltration was identified to be the highest cost source to investigate, by an extreme margin, ignoring other more likely

contamination sources in closer proximity to the beaches (i.e. homeless encampments, private sewer laterals, illicit or illegal sewer lateral to MS4 connections, wildlife, others). Sources other than alleged sewer exfiltration have a much higher likelihood of contributing to beach GI illnesses, which the Surfer Health Study identified to exist.

As stated in the Surfer Health Study and the Tentative Order, increased surfer GI illnesses correspond to surfer exposure following rain or storm events, primarily during winter months. The Surfer Health Study shows that dry weather illnesses were essentially constant. Alleged sewer exfiltration is a dry weather event, not a wet weather event. During and after rain events, local groundwater levels rise and water may infiltrate into the sewer system if significant pipe defects exist. This potential infiltration extends well beyond the duration of the rain/storm event, up to weeks or months later. Thus, alleged sewer exfiltration, being a dry weather phenomenon (only where significant defects may exist), is essentially proven, by the Surfer Health Study itself, not to contribute to beach contamination.

Wastewater Engineering by Metcalf and Eddy, a standard engineering design book for the wastewater industry, provides treatment performance information for on-site treatment systems (Table 14-7). Similar to alleged sewer exfiltration, septic systems release water below the ground surface. From the textbook, fecal coliform and viruses are non-existent within three feet below the bottom of a septic tank leach field. Similarly, alleged sewer exfiltration would be non-existent within a few feet of such an alleged discharge point. Alleged exfiltration would be a localized, below-grade condition and as a result, would not be transported during a subsequent rainfall event.

IV. Proportionality.

The Tentative Order places a burden on the District in various ways, including identification of alleged sewer exfiltration location, bypassing of wastewater flows for undetermined durations for alleged exfiltration testing, and others costs. Based on the short duration of notification for the Tentative Order and the source of District funding, the District has had no ability to incorporate these cost items into its annual budgeting process. Furthermore, participation in the Tentative Order should be proportional and tailored to the agency's actual contribution to beach contamination as shown by sufficient evidence. The District is located over 35 miles from the beach and there is no evidence to show that the District is contributing to any beach contamination, therefore the District should be removed from the Tentative Order.

V. Recycled Water.

Finding 49 of the Tentative Investigative Order states:

The Ramona Municipal Water District is regulated under Order No. R9-2009-0005 (as amended), Master Reclamation Permit for Ramona Municipal Water District San Vicente Wastewater Treatment Plant, adopted by the San Diego Water Board on March 11, 2009. Order No. R9-2009-0005 establishes requirements for the treatment and distribution of recycled water from the San Vicente Water Reclamation Facility (San Vicente WRF). Recycled water produced from the San Vicente WRF is used for landscape irrigation at the San Vicente Golf Course and for irrigation of groves at Spangler Peak Ranch. The San Vicente Golf Course and Spangler Peak Ranch are located in the Gower Hydrologic Subarea, 907.23 that is in the San Diego River Watershed. Disinfected tertiary recycled water is used for landscape irrigation at the San Vicente Golf Course. Disinfected tertiary recycled water is typically used for irrigation of groves at Spangler Peak Ranch, however, pursuant to Order No. R9-2009-0005 disinfected secondary-2.2 recycled water can be used for irrigation at the Spangler Peak Ranch. Ramona Municipal Water District reported that about 425 acre-feet of recycled water was used for irrigation at San Vicente Golf Course and Spangler Peak Ranch in 2015.

The cited information in Finding 49 is correct in that disinfected secondary-2.2 recycled water may be used for irrigation of Spangler Peak Ranch. However, the District **does not** provide disinfected secondary-2.2 water to Spangler Peak Ranch. Disinfected tertiary recycled water, including three-stage reverse osmosis treatment, is provided to both the San Vicente Golf Course and Spangler Peak Ranch. Disinfected tertiary recycled water will continue to be provided to both parties in the future. Therefore, the District should be removed from the Tentative Investigative Order on this basis.

Finding 51 of the Tentative Investigative Order states:

Recycled water produced and distributed by Padre Dam, the Ramona Municipal Water District, and the City of San Diego is typically in compliance with discharge specifications for total coliform bacteria specified in Master Recycling Permits and treatment criteria for total coliform bacteria specified in title 22. Disinfection and filtration requirements specified in Title 22 are intended to ensure treatment, removal, and inactivation of bacteria and other pathogens to levels protective of human health. Recycled water, including residual levels of bacteria or pathogens, is primarily intended for landscape irrigation and is prohibited from being discharged to surface waters, including the San Diego River.

The cited information in Finding 51 is correct. The District is, by permit, required to meet defined recycled water treatment standards, and to avoid discharge to surface waters. The District meets its permit requirements, and recycled water served to District customers maintains levels protective of human health. The statement above cites that the District maintains compliance with required discharge specifications. As the San Vicente Water Reclamation Facility incorporates additional treatment with three-pass reverse osmosis, discharges are typically below that required by discharge permit. Therefore, the District should be removed from the Tentative Investigative Order on this basis.

Finding 53 of the Tentative Investigative Order states:

Disinfection and treatment to tertiary standards, as required by the Master Recycling Permits, results in the removal and inactivation of bacteria and pathogens to levels protective of human health, as measured by the presence or absence of total coliform. However, the effluent is not measured for the presence of the HF183 human genetic marker. Therefore, the degree to which effluent from these facilities may be causing or contributing to measurable levels of HF183 in the San Diego River or its tributaries is unknown.

As presented above, it is clear that the location of the District within the San Diego River watershed results in no practical means by which the District might be contributing to coastal beach contamination. Maintaining compliance with established discharge standards results in discharges that are protective of human health. No definitive correlation between the HP183 marker and pathogens has been established.

Finding 60 of the Tentative Investigative Order states:

The Dischargers shall continue to take all steps necessary to reduce, eliminate or prevent the unauthorized discharges described in this Investigative Order within their jurisdiction through compliance with applicable WDRs and NPDES permits, including the full use of their separate legal authorities, statutes (sic), ordinances, permits, contracts or similar means to require compliance.

The District, regardless of the Tentative Order, is required to maintain compliance with all WDRs and/or other permits associated with the San Vicente Water Reclamation Facility. As such, the District does not contribute to increased GI illnesses at the San Diego River watershed confluence, over 35 miles away.

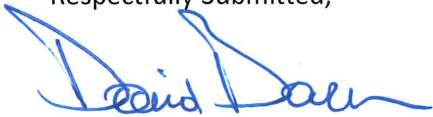
SUMMARY

The District acknowledges that Water Code section 13267 allows the San Diego Water Board to require the District to furnish technical and monitoring program reports. However, as stated in Section 13267, "the burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports." Additionally, there must be evidence to link the District's activities to the issue that the Tentative Order is seeking to remedy. See *In the Matter of the Petition of Chevron Products Company*, Order WQO 2004-0005, SWRCB/OCC File A-1343 (May 20, 2004).

Here, the Tentative Order's sole reference to the District is that the District uses recycled water to irrigate a golf course and groves located 35 miles away from the coastline. The permit allowing the District's use of recycled water prohibits discharge to surface waters including into the San Diego River or its tributaries. The District also provides its recycled water at a heightened disinfection process (tertiary). There is no evidence provided that District recycled water activities bear any relationship to the problem to be solved. The burden of the costs of complex and resource-intensive studies is substantial in that the District does not have a large general fund to pay for said investigation and reporting. Therefore, the cost would be borne by the ratepayers and must be legally justified as necessary to pay for the service provided. Given the information in this letter, the burden on the District is unreasonable and far outweighs any benefits. Also, the standards of *Chevron* have not been met.

The District supports the goal of the Tentative Order to identify the sources and pathways of and reduce human fecal material in the San Diego River and its tributaries. The District also supports the overall intent to establish a collaborative approach to addressing this important water quality issue. However, as there is no evidentiary link to the District and there are no benefits to be derived from including the District in the Tentative Order, the District's ratepayers should not bear the burden of such studies contemplated by the Tentative Order. The District respectfully requests that it be removed as a participating agency in the Tentative Order. If you have any questions, please let me know.

Respectfully Submitted,



David Barnum, General Manager
Ramona Municipal Water District

Cc: Jennifer Lyon, District Legal Counsel
Mike Metts, PE, District Engineer