Newport Bay Fecal Coliform TMDL
Stakeholder Group Meeting

Date and Time: March 30, 2017, 10:30 a.m. – 2:30 p.m.
Location: 3535 Harbor Blvd., Suite 110, Costa Mesa, CA 92626
Southern California Coastal Water Research Project
Large Conference Room

Stakeholder Group Members Present

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<tr>
<th>Name</th>
<th>Organization</th>
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<tbody>
<tr>
<td>Amanda Carr</td>
<td>County of Orange</td>
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<td>Chris Crompton (Alternate)</td>
<td>County of Orange</td>
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<td>Garry Brown</td>
<td>Orange County Coastkeeper</td>
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<td>Thomas Lo</td>
<td>City of Irvine</td>
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<td>John Kappeler</td>
<td>City of Newport Beach</td>
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<td>Mark Grey</td>
<td>Building Industry Association of Southern California</td>
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<td>Wade Kerley</td>
<td>Newport Dunes Resort/Marina</td>
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<td>Dean Kirk</td>
<td>The Irvine Company</td>
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<td>Terri Reeder</td>
<td>Santa Ana Regional Water Quality Control Board</td>
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<td>Barbara Barry</td>
<td>Santa Ana Regional Water Quality Control Board</td>
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<td>Jason Freshwater</td>
<td>Santa Ana Regional Water Quality Control Board</td>
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<td>Ray Hiemstra</td>
<td>Sierra Club</td>
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Supporting Roles

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<th>Name</th>
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<tr>
<td>Lewis Michaelson</td>
<td>Katz &amp; Associates</td>
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<td>Bree Robertoy</td>
<td>Katz &amp; Associates</td>
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<td>Steve Weisberg</td>
<td>Southern California Coastal Water Research Project</td>
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<td>John Griffith</td>
<td>Southern California Coastal Water Research Project</td>
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<td>Jian Peng</td>
<td>County of Orange</td>
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<td>Ashli Desai</td>
<td>Larry Walker Associates</td>
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Meeting Objectives

Lewis Michaelson, facilitator, began the meeting by welcoming attendees and establishing the following meeting objectives:

- Outline possible Basin Plan Amendment changes and associated background
- Review existing attainment data analysis
- Set future meeting topics schedule

Basin Plan Amendment Update

Terri Reeder of the Santa Ana Water Quality Control Board (Regional Board) presented a brief history of the Basin Plan Amendment (BPA) and proposed changes to the BPA that will be reviewed by the Regional Board and considered for adoption on June 16, 2017. The proposed BPA changes will be open
for public comment before they are adopted. To view the presentation, visit the Regional Board’s website.

The following are Stakeholder Group questions concerning the presentation:

- Why was the proposal to remove the REC-1 Fecal Coliform TMDL from Newport Bay denied?
  - The Regional Board was not comfortable removing it until there is a regulation to replace it.
- Why was the proposal to remove REC-1 Fecal Coliform water quality objectives for bays and estuaries denied?
  - The Regional Board decided it was prudent to wait until September at which time the State Water Resources Control Board is expected to adopt a new policy and water quality objectives for bacteria based on U.S. EPA’s 2012 recommended criteria, which will supersede any bacteria objectives in the regions’ basin plans.
- Does diversion in some creeks factor into the assessment of beneficial uses?
  - Yes.
- Irvine Lake had sport fishing until recently. Is there some other basis (aside from a business decision) for not allowing sport fishing there?
  - Irvine Ranch Water District originally restricted sport fishing. It allowed sport fishing for some time but it was intended to be a temporary, reversible condition.

Stakeholder Group Document Repository Update

The online document repository was updated to include a multi-year fecal indicator bacteria source report from 2009. The Source Management Plan is also included in the repository. Stakeholder Group members can submit or request documents to be added to the document repository. To view the document repository, visit the Regional Board’s website. To date, however, it does not appear that Working Group members are using the repository much, based on a show of hands.

Impairment Assessment

Steve Weisberg, biologist for the Southern California Coastal Water Research Project, presented on design factors (i.e., indicator, threshold, season, period and geography) and their effect on impairment and attainment definitions. To view the presentation, visit the Regional Board’s website.

Below is a summary of the Stakeholder Group’s discussion on design factors and attainment in Newport Bay.

- T. Reeder: Impairment assessment will be determined by State Board policy in part. It will be important for the Stakeholder Group to consider and provide recommendations about geography, season and period design factors. The same pattern appears for both fecal coliform and enterococcus, and the State Board is adopting a new bacteria policy, so the Stakeholder Group should not focus on the indicator bacteria.
• J. Freshwater: The State Board requires an impairment assessment every two years, so that would be the intended period of data that would be evaluated. That assessment hasn’t happened because of a lack of resources.

• T. Reeder: We have more flexibility with the TMDL. We want to make sure we’re getting the gamut of effects (e.g., seasonal). TMDLs usually look at a longer period (i.e., about ten years) to assess attainment. Impairment assessment just looks at a chunk of data to determine whether impairment exists.

• R. Hiemstra: Delisting requires a certain number of samples and not having exceedances for a lengthy time period. There is a formula used by the State Board.
  ○ T. Reeder: Trends and multiple lines of evidence could also be used to delist a body of water.

Season

• J. Freshwater: If you were to consider a full year with only dry weather, the overall annual days of excursions wouldn’t be increased appreciably over all monitoring stations if you added in the days excursions occurred during wet weather; there just are not a lot of rain days in southern California.

• A. Carr: Wet weather usage in Newport Bay is different than in open coastal waters. Most wet weather usage of marine waters is for surfing. Other bacteria TMDLs for ocean waters subsequent to Newport Bay have taken into account wet and dry seasonal criteria. There are natural levels of exceedances during wet weather because bacteria naturally move through the system. There is no feasible technology to control that.
  ○ G. Brown: A year ago, I would have agreed, but I spent time at Newport Bay a year ago in December and was surprised to see a lot of seniors swimming in the winter.

• T. Reeder: Another thing that could be done is to define certain wet weather events where an excursion from the standards is accepted (e.g., three days after a wet weather event) because bacteria cannot be controlled during that time. The current TMDL is static; we need a TMDL that is flexible.
  ○ R. Hiemstra: I would be very cautious about setting that precedence. There would be argument about what is controllable.

• S. Weisberg: Whether winter recreation exists is not relevant to control mechanisms, because sources are very different. For example, diversions are a possibility in dry weather but not in wet weather. The types and number of fixes are different depending on the season.

• A. Carr: I would like to assess impairment based on 30-day geomean, enterococcus, full-year, dry-weather data. That’s what I think gives us the best snapshot of the condition of Newport Bay. Full-year, dry-weather days are the vast majority of days that happen here, especially when people are likely to be recreating. A regulator has the most ability to control inputs into the system during dry-weather. A few wet weather values are so much higher than normal dry weather levels, it ends up looking like many more days have a more significant problem than they do.

• S. Weisberg: There is a precedence for distinguishing between wet and dry weather. I don’t see how you could do anything else since the controls are so different. Other TMDLs in southern California have all done that.
R. Hiemstra: Other southern California TMDLs have some type of attainment for wet weather. Distinguishing between the two makes sense, but we don’t want to give an impression that wet weather is unregulated.

Site-Specific Objectives

- G. Brown: I would be interested in having multiple, location-based standards. I think it would be easy to identify six or seven sites where people are prone to recreation where there could be more robust standards. There would still be a robust bay-wide standard, but with an extra effort at those sites.
  - J. Kappeler: Instead of two different standards, we should have more testing and sort out natural sources. Two different numbers would be confusing to the public.
- D. Kirk: Do we have data for when and where people are recreating that could be overlaid with some of the source information to better define exposure and protect human health? I would think we would prioritize hot spots and exposure for management actions.
  - T. Reeder: Management actions would not be included in the TMDL.
  - A. Carr: No, we do not have current data for exposure (recreation data). The most recent source data are in the repository. Sources are probably reasonably consistent.
- S. Weisberg: If you can agree on what those sites are, you could develop a tiered system. You could establish a daily measure as a screen, then perform the next level of investigation if you’re exceeding limits in the daily sample.
  - J. Freshwater: The only current tiered system I’m aware of is in the Great Lakes because no one is in the water during -20 degree weather. They do make a distinction between allowances for seasonal usage.
- A. Carr: I would like to introduce human waste markers at sites. If there are human inputs, those sites would be prioritized.
  - R. Hiemstra: The EPA doesn’t distinguish based on where the bacteria comes from.
  - J. Freshwater: The risk to human health comes predominantly from human sources. EPA allows microbial source tracking to determine an enterococcus site-specific objective.
- T. Reeder: We would have to adopt site-specific objectives as part of the TMDL, but we have to see what the State Board allows.
- S. Weisberg: The cost for site-specific objectives is about $500,000 to $1 million per site.

Sampling

- T. Lo: What do the regulations state about geometric mean (geomean) sampling?
  - S. Weisberg: Because of variability, 2012 EPA guidelines recommend geomean sampling. For single-sample locations, EPA guidelines recommend composites.
  - A. Carr: The regulation states “geomean,” but doesn’t define how it is calculated. Orange County collects weekly samples. Sometimes there are only four samples in a month, and a geomean can’t be calculated.
- S. Weisberg: Both geomean and single-sample correlate with health risk. Geomean maybe correlates a tiny bit better. From a health standpoint, there would be no detriment to using a 30-day geomean.
- T. Reeder: Do auto sample methods exist?
S. Weisberg: SCCWRP is working on a prototype for something that samples continuously.
A. Carr: There is a big problem with theft and vandalism on auto samplers.
B. Barry: Processing times are also an issue.

- R. Hiemstra: I think there is a role for single samples. For instance, in priority beaches where additional sampling might be done as part of a tiered system.
  - A. Carr: That makes sense from a public health perspective. However, we would struggle to maintain that while also taking measurements at all 35 sites in the Bay.

- C. Crompton: The Health Care Agency does some of the water quality monitoring. They operate under different mandates than the TMDL and may not change their method according to the TMDL.

Variability

- S. Weisberg: There are four types of variability that have been quantified:
  - Within-lab variability is about plus or minus 30 percent with the current methods in use.
  - Across lab variability is about plus or minus 50 percent with the current methods in use.
  - Small scale spatial variability depends where you take the sample. With less inputs, there is maybe 100 to 200 percent variability. Near a storm drain, variability can be 100 to 1,000 percent.
  - Small scale temporal variability is around a factor of 200 percent, except if you’re near a storm drain where it can be 1,000 to 100,000 percent. Samples by storm drains are impacted by temperature and salinity.

- T. Reeder: If the samples vary so much, why aren’t multiple samples taken and composited?
  - J. Kappeler: Time and resources are limited.

- J. Freshwater: Variability is based on how you randomize sample locations. The better the station is selected, the less variability.
- J. Kappeler: Time of day and tides also affect samples. Higher counts occur at high tides.
  - S. Weisberg: As long as samples aren’t taken with bias and are taken consistently, it should average out.

Thresholds

- S. Weisberg: One alternative to evaluate and choose allowable exceedances is to use reference beaches. By measuring the exceedances at clean reference locations similar to Newport Bay, an acceptable threshold could be determined. There are a fair amount of data specifically to inform this discussion. The same method can be used to determine allowable exceedances for wet and dry weather.
- R. Hiemstra: I can’t imagine any appropriate reference site in southern California.
- S. Weisberg: Another option is to identify the range of embayment sites in southern California and choose the cleanest sites as the reference beaches, or perhaps the 85th percentile.
- T. Reeder: Could we look at beaches in other parts of the country?
  - S. Weisberg: California is the only place in the nation that has this type of climate and separate sewer and storm systems so comparability doesn’t really exist.

- ACTION ITEM: To assess allowable exceedances for Newport Bay, Larry Walker Associates will collect and analyze available California embayment data, categorized by wet and dry weather,
to determine the average range of geomean exceedances. They will also prepare a descriptor table of beaches.

Impairment Assessment

- T. Reeder: The first step is assessing impairment. We can do that with the data we have. Let’s look at 30-day geomean samples for enterococcus for wet and dry weather. Then, we can identify hot spots and do studies to define impairment (drilling down into single samples if needed). We need to get closure on that first to determine whether we need a TMDL.
- A. Carr: I think there is a point in between: I think we could do a geomean assessment on dry weather, but not on wet weather, since there are not enough data.

Next Steps

- The next meeting is May 25, 2017, 10:30 a.m. to 2:30 p.m. Discussion will focus on allowable exceedances and impairment assessment.