



# SAN BERNARDINO COUNTY STORMWATER PROGRAM

A Consortium of Local Agencies

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Member Agencies

City of Big Bear Lake

City of Chino

City of Chino Hills

City of Colton

City of Fontana

City of Grand Terrace

City of Highland

City of Loma Linda

City of Montclair

City of Ontario

City of Rancho Cucamonga

City of Redlands

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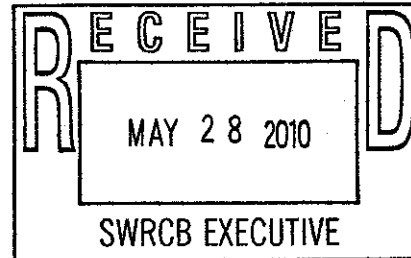
City of Yucaipa

County of San Bernardino

San Bernardino County  
Flood Control District

May 27, 2010

Jeanine Townsend, Clerk of the Board  
State Water Resources Control Board  
1001 I St.  
Sacramento, CA 95814



10(NPD)-1.03

**RE: Comments on the 2010 Integrated Report / Section 303(d) List: Bacteria**

*Dear Ms. Townsend and Members of the State Board:*

Please accept the comments, below, regarding the subject 2010 Integrated Report. These comments were prepared by Mr. Tim Moore of Risk Sciences on behalf of the stakeholders in the Santa Ana Region. To demonstrate our full support for these comments, we are submitting them independently, as the Principal Permittee, on behalf of the Co-Permittees under the recently renewed Municipal Stormwater NPDES Permit for San Bernardino County within the Santa Ana River Watershed. The Co-Permittees include the County of San Bernardino and the Cities of Big Bear Lake, Chino, Chino Hills, Colton, Fontana, Grand Terrace, Highland, Loma Linda, Montclair, Ontario, Rancho Cucamonga, Redlands, Rialto, San Bernardino, Upland, and Yucaipa.

We strongly object to these new listings and request that you reconsider all of the referenced information and revise the 2010 list to remove them from it.

**Comments**

In the 2010 Integrated Report, State Water Board staff proposed to add the following waterbodies to the 303(d) list because they "exceeded the current U.S. EPA freshwater standard for bacteria:"

- |                                       |                             |
|---------------------------------------|-----------------------------|
| 1. Bolsa Chica Channel                | 7. Santa Ana River Reach 2  |
| 2. Borrego Creek (Irvine to Barranca) | 8. Temescal Creek Reach 6   |
| 3. Buck Gully Creek                   | 9. Morning Canyon Creek     |
| 4. Goldenstar                         | 10. San Diego Creek Reach 1 |
| 5. Peters Canyon Channel              | 11. San Diego Creek Reach 2 |
| 6. Santa Ana Delhi Channel            | 12. Serrano Creek           |

However, with the sole exception of the Great Lakes, U.S. EPA ("EPA") has never adopted water quality standards for bacteria in freshwater. And, EPA explicitly stated that the Great Lakes rule should not be considered binding on other inland freshwaters.<sup>1</sup> EPA has published recommended water quality criteria for pathogen indicator bacteria pursuant

<sup>1</sup> U.S. EPA. 69 Fed. Reg. 220, 67222 (Nov. 16, 2004)



to Section 304(a) of the Clean Water Act.<sup>2</sup> However, according to EPA, these "non-regulatory" criteria are merely advisory until states formally act to adopt them as water quality standards.

EPA's recommended criteria for *E. coli* should not be used to determine whether ambient water quality met the standard for protecting REC-1 uses in the Santa Ana watershed because the Regional Water Quality Control Board has only authorized the use of fecal coliform as a water quality standard for bacteria in freshwaters.<sup>3</sup>

It is true that the Regional Board is considering an amendment to the Basin Plan that would replace the fecal coliform standard with a new water quality objective based on *E. coli*. However, as State Board staff notes in the 2010 Integrated Report, the listing process must be based on the water quality standards currently identified in the Basin Plan and may not consider proposed changes that may occur at some future date. Doing so violates the State Board's published listing policy:

*"In the absence of a site-specific exceedance frequency, a water segment shall be placed on the section 303(d) list if bacteria water quality standards in California Code of Regulations, Basin Plans or statewide plans are exceeded using the binomial distribution as described in section 3.2"<sup>4</sup> (emphasis added)*

*"Applicable bacteria standards are contained in the Ocean Plan, California Code of Regulations (adopted pursuant AB 411), and Basin Plans."<sup>5</sup> (emphasis added)*

*"Water contact-related water quality objectives should be implemented as stated in the Basin Plans."<sup>6</sup> (emphasis added)*

*"...the Policy has been revised to acknowledge and to require that water quality objectives be implemented as adopted."<sup>7</sup> (emphasis added)*

In addition, State Board staff's decision to rely on an unadopted *E. coli* criteria contradicts other statements in the 2010 Integrated Report wherein they objected to the Santa Ana Regional Board's use of an "unapproved" metals translator. And, there are several other reasons why EPA's recommended *E. coli* criteria should not be used to evaluate attainment of the REC-1 standard before the Regional Board amends the Basin Plan.

<sup>2</sup> U.S. EPA. Ambient Water Quality Criteria for Bacteria – 1986. EPA440/5-84-002 (Jan., 1986) pg. iii

<sup>3</sup> California Regional Water Quality Control Board – Santa Ana Region (8). Water Quality Control Plan Santa Ana River Basin (8). Jan. 24, 1995 (updated February, 2008); pg. 4-9.

<sup>4</sup> State Water Resources Control Board. Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List. Sept., 2004; pg. 4

<sup>5</sup> State Water Resources Control Board. Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List – Functional Equivalent Document; Appendix B: Responses to Comments; Sept., 2004; pg. B-88 (responding to comment #53.12).

<sup>6</sup> Ibid; pg. B-87 (responding to comments #29.6 and 61.13).

<sup>7</sup> Ibid; pg. B-87 (responding to comments #40.22 and 40.102).

First, State Board staff assumed that the surrogate *E. coli* criteria should be applied as a geometric mean of 126 cfu /100 mL. Federal guidance advises States that EPA considers any geometric mean value between 126 and 206 cfu / 100 mL to provide a level of protection functionally-equivalent to the current fecal coliform standard.<sup>8</sup> By selecting the lower end of the allowable range, the State is acting on its own discretion to impose new bacteria standards that are more stringent than required by federal law. This decision effects all subsequent calculations and estimates used by State Board staff to support the proposed listings.

It appears there was insufficient *E. coli* data to assess attainment based on 30-day geometric means. Therefore, State Board staff elected to evaluate compliance using estimated Single Sample Maximum (SSM) values. However, this decision goes beyond what federal regulations require. According to EPA:

*"States retain the discretion to determine whether and how to use the SSM in other Clean Water Act programs...The SSM may, but need not, also play a role in implementing other Clean Water Act programs. Except in the beach notification and closure context, EPA expects that States will determine whether and how to use the SSM criteria in the context of their other programs implementing the Clean Water Act."<sup>9</sup> (emphasis added)*

*"EPA intends that States and Territories covered by the BEACH Act rule retain the discretion to use SSM values as they deem appropriate in the context of Clean Water Act implementation programs other than beach notification and closure, consistent with the Clean Water Act and its implementing regulations... Of course, states are always free to establish water quality criteria more protective of human health and aquatic ecosystems than those required or recommended by EPA."<sup>10</sup>*

The BEACH Act applies only to the Great Lakes and not to any other inland freshwaters. Therefore, by electing to use the Single Sample Maximum values as surrogate estimates of compliance with an unadopted *E. coli* criteria, staff is recommending that the State Board impose requirements that are more restrictive than necessary under federal law. As such, all costs incurred as a result of this decision will likely be deemed unfunded state mandates. This is especially true where State Board staff relied on generic default assumptions in lieu of site-specific data for key elements of the water quality analysis.

In addition to assuming that the underlying geometric mean should be 126 cfu/100 ml, staff also assumed that the log standard of deviation was only 0.4 rather than calculating a true value from the actual data as EPA guidance recommends. Numerous studies throughout the Santa Ana watershed indicate that the log standard of deviation is varies between 0.8 and 1.2 for both

<sup>8</sup> U.S. EPA. 69 Fed. Reg. 220 (Nov. 16, 2004). See also U.S. EPA. Implementation Guidance for Ambient Water Quality Criteria for Bacteria. EPA-823-B-04-002 (March, 2004).

<sup>9</sup> U.S. EPA. Water Quality Standards for Coastal Recreation Waters: Using Single Sample Maximum Values in State Water Quality Standards. EPA-823-F-06-013. August, 2006; pg. 1 & 2.

<sup>10</sup> Ibid; pg. 3 & 4.

*E. coli* and fecal coliform.<sup>11</sup> Consequently, the estimated Single Sample Maximum value should be 200% to 400% higher than represented in the 2010 Integrated Report (see Table 1). Even if one must presume the hypothetical pre-existence of an *E. coli* objective in the Santa Ana Basin Plan, there is no legal or scientific justification to assume that the standard deviation is 50-75% lower than shown by the actual data used to support the listing. If local water quality monitoring data are available, federal guidance indicates that a site-specific estimate of statistical variability should be preferred over using a generic default value.

**Table 1: Estimated Single Sample Maximum Values for *E. Coli* Using Site-Specific Estimates of Data Variability Using EPA's Recommended Equation.**

Log Std. Dev.	SSM Value <sup>12</sup>
0.1	147 organisms/100 mL
0.2	172 organisms/100 mL
0.3	202 organisms/100 mL
0.4	236 organisms/100 mL
0.5	276 organisms/100 mL
0.6	322 organisms/100 mL
0.7	377 organisms/100 mL
0.8	441 organisms/100 mL
0.9	516 organisms/100 mL
1.0	603 organisms/100 mL
1.1	705 organisms/100 mL
1.2	825 organisms/100 mL

It is important to note that the SSM values shown in Table 1 are calculated using a 75% statistical confidence factor (SCF). EPA recommends that a 75% SCF be applied to "designated bathing beach waters that, during the recreational season, are heavily-used (based upon an evaluation of use within the State) and may have: a lifeguard, bathhouse facilities, or public parking for beach access."<sup>13</sup> State Board staff prepared no evaluation to indicate that any of the waterbodies proposed for 303(d) listing are "heavily-used." However, Regional Board staff did perform such an analysis and concluded that all of the aforementioned waterbodies were never or very rarely used for recreational activities. The ready availability site-specific survey data eliminates any need to rely on worst-case assumptions.

EPA guidance recommends that the appropriate statistical confidence factor for waters that are only rarely or occasionally used is 95% not 75%. Table 2 shows what the estimated SSM values should be when using the SCF suggested by EPA.

<sup>11</sup> Camp, Dresser & McKee. Middle Santa Ana River Bacterial Indicator TMDL Data Analysis Report. March 19, 2009.

<sup>12</sup> Tabular values were calculated based on the assumption that the underlying *E. coli* standard was only 126 rather than 206 and using the same 75% confidence level previously applied by the State Board staff.

<sup>13</sup> U.S. EPA. 69 Fed. Reg. 220, 27242 (Nov. 16, 2004).

Table 2: Estimated Single Sample Maximum Values for *E. Coli* for Locations Where Primary Contact Recreation Only Occurs Rarely or Occasionally.

Log Std. Dev.	SSM Value <sup>14</sup>
0.1	184 organisms/100 mL
0.2	269 organisms/100 mL
0.3	394 organisms/100 mL
0.4	576 organisms/100 mL
0.5	842 organisms/100 mL
0.6	1,231 organisms/100 mL
0.7	1,800 organisms/100 mL
0.8	2,633 organisms/100 mL
0.9	3,849 organisms/100 mL
1.0	5,628 organisms/100 mL
1.1	8,229 organisms/100 mL
1.2	12,033 organisms/100 mL

At a minimum, assuming the log standard deviation is only 0.4, the surrogate *E. coli* criteria should have been more than double the value estimated by State Board staff (576 organisms per 100 mL rather than 236 organisms per 100 mL). And, if a true measure of variability was calculated from the local stream monitoring data as EPA guidance recommends, then the Single Sample Maximum would have been at least ten times higher (2,633 organisms per 100 mL) than shown in the 2010 Integrated Report.

Finally, it should be noted that other representatives on State Board's staff have previously instructed the Regional Board that SSMs cannot be used in the Santa Ana region until first subjected to formal peer review. We are informed that this is required by state law and the fact that the SSMs are derived from EPA's 304(a) criteria document does not waive this mandatory obligation. Therefore, the SSMs should not be used as part of the State's 303(d) listing process until the necessary peer review has been completed.

In conclusion, EPA expects States to adopt appropriate water quality standards for pathogen-indicator bacteria. EPA expects States to determine the most appropriate statistical confidence factor based on surveys of actual recreational use.<sup>15</sup> And, EPA expects States to calculate the Single Sample Maximum value using local water quality data to estimate the site-specific standard deviation whenever such data are available.<sup>16</sup> Because these expectations have not been met, it is premature to rely on hypothetical *E. coli* objectives, that are based more on generic assumptions than true local conditions, to support the proposed 303(d) listings.

<sup>14</sup> Table 2 was calculated based on the assumption that the underlying *E. coli* standard was only 126 rather than 206; so, the resulting values are still somewhat more conservative than federal law allows.

<sup>15</sup> U.S. EPA. 69 Fed. Reg. 220, 67226 (Nov. 16, 2004)

<sup>16</sup> U.S. EPA. 69 Fed. Reg. 220, 67227 (Nov. 16, 2004)

The Santa Ana Regional Water Quality Control Board and its staff have invested seven years (and more than \$2 million) working with a large group of stakeholders to gather the scientific data needed to ensure that EPA's proposed water quality criteria for bacteria are properly applied.<sup>17</sup> All of the issues described in this comment letter were carefully considered by the Regional Board prior to making a final determination as to which waterbodies should be added to the 303(d) list.

For many years, the State Board has pointed to the collaborative stakeholder process developed by the Santa Ana Regional Board as a model for modern regulatory management. The Little Hoover Commission came to a similar conclusion.<sup>18</sup> Overruling the Regional Board's recommendations undermines their authority and credibility. It is also contrary to the State Board's own policy regarding "Stakeholder Involvement" as described in California's Impaired Waters Guidance.<sup>19</sup>

After several years of hard work, the Santa Ana Regional Water Quality Control Board is now scheduled to consider adoption of new water quality objectives for *E. coli* bacteria before the end of this year. Surely, the State Board can allow this standards development process to reach a proper conclusion rather than "deeming the amendment passed" and proceeding to list based on unfounded suppositions. Given its long record of previous success with similar stakeholder processes, the Santa Ana Regional Water Quality Control Board deserves this small measure of trust and deference.

Sincerely,



*for*  
MATT A. YEAGER, D. Env, Stormwater Program Manager  
San Bernardino County Flood Control District

MAY:nh/Comments\_State Water Res Ctrl Bd\_2010 Integrated Report-303d Bacteria

Cc: Gerard J. Thibeault, CRWQCB – Santa Ana Region  
Michael Adackapara, CRWQCB – Santa Ana Region  
Jason Uhley, Riverside County Flood Control and Water Conservation District, via e-mail  
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Naresh Varma, EMD  
GMB/ARI Reading File

<sup>17</sup> Many of the technical reports and other supporting documents prepared by the Storm Water Quality Standards Task Force may be downloaded from [http://www.sawpa.org/roundtable-SWQTF\\_IV.html](http://www.sawpa.org/roundtable-SWQTF_IV.html)

<sup>18</sup> Little Hoover Commission. Clearer Structure, Cleaner Water: Improving Performance and Outcomes at the State Water Boards. January, 2009; pgs. xi, xiv, 75 & 76.

<sup>19</sup> SWRCB. California Impaired Waters Guidance; Appendix F: Stakeholder Involvement. June, 2005