
Santa Ana Regional Water Quality Control Board

TO: Vicky Whitney
Deputy Director, Division of Water Quality
State Water Resources Control Board

FROM: Kurt V. Berchtold
Executive Officer

DATE: February 12, 2013

SUBJECT: EXECUTIVE OFFICER CORRECTIONS: RECREATION STANDARDS BASIN
PLAN AMENDMENTS ADOPTED UNDER RESOLUTION NO R8-2012-0001

On June 15, 2012, the Santa Ana Regional Water Board adopted Resolution No. R8-2012-0001, approving amendments to the Basin Plan for the Santa Ana Region that revise recreation standards for freshwaters in the Region and incorporate other Basin Plan changes. The amendments are shown in two attachments to Resolution No. R8-2012-0001: Attachment 1 is the underline/strikeout version of the amendments; Attachment 2 is the “clean” version of the amendments.

In reviewing the amendments shown in Attachments 1 and 2 in preparation for State Water Board consideration of adoption, it has come to my attention that certain non-substantive corrections are required to assure clarity and consistency between the two Attachments. These corrections are shown below. In each case, both the corrections and the final text as it should appear in the Basin Plan are shown.

The final versions of the amendments, including these corrections, are shown in the corrected Attachments 1 and 2 to Resolution No. R8-2012-0001. These corrected Attachments are attached to this memo.

If there any questions concerning these corrections, please contact Joanne Schneider at 951-782-3287 or jschneider@waterboards.ca.gov.

Corrections to Attachment 2 (“clean” version of amendments) to Resolution No. R8-2012-0001:

1. p. 38 of 79: **Pathogen Indicator Bacteria, Lakes and Streams**, Modify as follows (added text is underlined):

Lakes and Streams

Waste discharges shall not cause or contribute to excessive risk of illness from microorganisms pathogenic to human beings. Pathogen indicator concentrations shall not exceed the values specified in Table 4-pio below as a result of controllable water quality factors (see also Chapter 5, Recreation Water Quality Standards, Controllable and Uncontrollable Sources of Bacteria) unless it is demonstrated to the Regional Board’s satisfaction that the elevated indicator concentrations do not result in excessive risk of illness among people recreating in or near the water. If this demonstration is made, then site-specific consideration of appropriate pathogen indicator concentrations will be necessary. In all cases, the level of water quality necessary to protect existing uses must be maintained. Where existing water quality is better than necessary to protect the designated use, the existing high level of water quality must be maintained unless it is demonstrated that existing or potential beneficial uses would be protected and that water quality consistent with maximum benefit to the people of California would be maintained, as specified in the state antidegradation policy (SWRCB Resolution No. 68-16). The Regional Board may also require recycled water discharged to freshwaters designated REC 1 or REC 2 to comply with other limitations recommended by the California Department of Public Health (CDPH).

The corrected text reads as follows:

Lakes and Streams

Waste discharges shall not cause or contribute to excessive risk of illness from microorganisms pathogenic to human beings. Pathogen indicator concentrations shall not exceed the values specified in Table 4-pio below as a result of controllable water quality factors (see also Chapter 5, Recreation Water Quality Standards, Controllable and Uncontrollable Sources of Bacteria) unless it is demonstrated to the Regional Board’s satisfaction that the elevated indicator concentrations do not result in excessive risk of illness among people recreating in or near the water. If this demonstration is made, then site-specific consideration of appropriate pathogen indicator concentrations will be necessary. In all cases, the level of water quality necessary to protect existing uses must be maintained. Where existing water quality is better than necessary to protect the designated use, the existing high level of water quality must be maintained unless it is demonstrated that existing or potential beneficial uses would be protected and that water quality consistent with maximum benefit to the people of California would be maintained, as specified in the state antidegradation policy (SWRCB Resolution No. 68-16). The Regional Board may also require recycled water discharged to freshwaters designated REC 1 or REC 2 to comply with other limitations recommended by the California Department of Public Health (CDPH).

2. p. 70 of 79: **Table 5-REC2 Only Targets – FW**: change reference to Temescal Creek, Reach 1b to Temescal Creek, Reach 1a. (deleted text in strike-out type; added text is underlined): [table notes not shown]

Table 5-REC2 Only Targets-FW¹

REC2 Only Waterbody	<i>E. coli</i> Densities (cfu/100 mL)				
	Geometric Mean	Std. Dev.	N	Max. Observed	75% UCL ³
Temescal Creek, Reach 1 <u>ba</u>	198	34	119	9,200 ²	374
Santa Ana Delhi Channel, Reach 2	448	110	63	12,590	1231

Corrected table: [table notes not shown]

3. Table 5-REC2 Only Targets-FW¹

REC2 Only Waterbody	<i>E. coli</i> Densities (cfu/100 mL)				
	Geometric Mean	Std. Dev.	N	Max. Observed	75% UCL ³
Temescal Creek, Reach 1a	198	34	119	9,200 ²	374
Santa Ana Delhi Channel, Reach 2	448	110	63	12,590	1231

3. p. 72 of 79: *High flow suspension of recreation standards*, third paragraph, modify last sentence as follows: (added text is underlined; deleted text is shown in strike-out type)

“Temporary suspensions of recreation standards do not apply to freshwater lakes, ~~or ocean beaches, or enclosed bays or estuaries.~~ or enclosed bays or estuaries.”

The corrected text reads as follows:

“Temporary suspensions of recreation standards do not apply to freshwater lakes, ocean beaches or enclosed bays or estuaries.”

4. p. 72 of 79: *High flow suspension of recreation standards*, **Definition of Unsafe Flows**, end of second paragraph, delete the parenthetical phrase: (deleted text is shown in strike-out type)

“It is recognized that, because of channel morphology, substrate type or other conditions, it may be unsafe to engage in recreational activities under lower flow conditions in stream channels. The fact that recreational standards may be suspended under some but not all flow conditions does not imply that it is safe to recreate in or near a waterbody when the high flow suspension is not in force ~~(see, for example, discussion of reaches 2 and 3 of the Santa Ana River, below).~~”

The corrected text reads as follows:

It is recognized that, because of channel morphology, substrate type or other conditions, it may be unsafe to engage in recreational activities under lower flow conditions in stream channels. The fact that recreational standards may be suspended under some but not all flow conditions does not imply that it is safe to recreate in or near a waterbody when the high flow suspension is not in force.

5. p. 73 of 79, *High flow suspension of recreation standards*, **Delineation of Engineered or Modified Channels**, end of first paragraph, add the following: (added text is underlined):

“...Any such request must be supported by substantial evidence. Appendix VIII and Appendix IX can be viewed at the Regional Board’s website:

http://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/docs/rec_standards/BPA_REC_Standards_Staff_Rpt_AttA_AppVIII.pdf, and http://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/docs/rec_standards/BPA_REC_Standards_Staff_Rpt_AttA_AppIX.zip.

The corrected text reads as follows:

“...Any such request must be supported by substantial evidence. Appendix VIII and Appendix IX can be viewed at the Regional Board’s website:

http://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/docs/rec_standards/BPA_REC_Standards_Staff_Rpt_AttA_AppVIII.pdf, and http://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/docs/rec_standards/BPA_REC_Standards_Staff_Rpt_AttA_AppIX.zip.

6. p. 73 of 79: *High flow suspension of recreation standards*, **Delineation of Engineered or Modified Channels**, first paragraph, second sentence: delete footnote 1 (deleted text is shown in strike-out type):

“Therefore, Appendix VIII provides maps of the waterbody segments that have been engineered or modified in the manner described above and that, therefore, qualify for the temporary suspension of recreational standards under specific high flow conditions.”^{+“}

~~⁺U.S. EPA. Water Quality Standards Handbook. September 15, 1993. Section 2.9: “States may also conduct generic use attainability analyses for groups of water body segments provided that the circumstances relating to the segments in question are sufficiently similar to make the results of the generic analyses reasonably applicable to each segment.” (pg. 2-9).~~

The corrected text reads as follows:

“Therefore, Appendix VIII provides maps of the waterbody segments that have been engineered or modified in the manner described above and that, therefore, qualify for the temporary suspension of recreational standards under specific high flow conditions.”

7. p. 74 of 79: *High flow suspension of recreation standards*, **Special Case: Santa Ana River – Reach 2:**
- a. Modify the second sentence as follows (added text is underlined; deleted text is shown in strike-out type):

~~“Much of t~~This segment of the ~~R~~iver has been heavily modified and re-engineered to provide greater flood control protection to the residents of Orange County.

The corrected text reads as follows:

“Much of this segment of the River has been heavily modified and re-engineered to provide greater flood control protection to the residents of Orange County.

- b. Modify footnote number 2 at the end of the third sentence to number 1 (to reflect correction identified in #6, above).

“...often exceeds the default threshold that triggers application of the high flow suspension.²¹”

²¹ Wildermuth Environmental Inc., 2008 Santa Ana River Wasteload Allocation Model Report. Prepared for the Santa Ana Watershed Project Authority's (SAWPA) Basin Monitoring Program Task Force. May, 2009 (Historical flows below Prado Dam are charted in Fig. 2-16 of the Report).

The corrected text reads as follows:

“...often exceeds the default threshold that triggers application of the high flow suspension.¹”

¹ Wildermuth Environmental Inc., 2008 Santa Ana River Wasteload Allocation Model Report. Prepared for the Santa Ana Watershed Project Authority's (SAWPA) Basin Monitoring Program Task Force. May, 2009 (Historical flows below Prado Dam are charted in Fig. 2-16 of the Report).

- c. Modify footnote number 3 at the end of the paragraph to number 2 (to reflect corrections identified in #6 and # 7.b., above).

“...in response to previous rain events as described in their Standard Operating Procedures.³²”

³² United States Army Corps of Engineers. Water Control Manual: Prado Dam and Reservoir, Santa Ana River, California. 1994.

The corrected text reads as follows:

“...in response to previous rain events as described in their Standard Operating Procedures.²”

² United States Army Corps of Engineers. Water Control Manual: Prado Dam and Reservoir, Santa Ana River, California. 1994.

8. p. 74 and 75 of 79: *High flow suspension of recreation standards, Special Case: Santa Ana River – Reach 3*: Modify as follows (added text is underlined/deleted text is shown in strike-out type) [Note that footnotes 4,5 and 6 are deleted with the deleted text]:

~~Reach 3 of the Santa Ana River extends upstream from Prado Dam to Mission Avenue in Riverside. While the upper half of this segment has been channelized with reinforced levees~~

armored by rip-rap, the lower half of Reach 3 (below Van Buren Avenue) remains largely natural. Nevertheless, the construction of Prado Dam and significant urbanization in the area tributary to Reach 3 have fundamentally altered the natural hydrology of the entire segment. Nearly all of the stormwater runoff in the developed areas of San Bernardino and Riverside counties eventually makes its way to Reach 3 of the Santa Ana River. As such, the baseflow will swell from an average of approximately 90 cfs to over 10,000 cfs during extreme wet weather conditions.⁴ The historical record contains several accounts of accidental death and injury to persons trapped by such flows in the Santa Ana River.⁵

As with Reach 2, the baseflow in Reach 3 may exceed the default high flow suspension trigger even during dry weather conditions. However, it would be inappropriate to suspend recreational uses and related pathogen objectives at such times because the ambient flow spreads out over a sufficiently wide area to minimize the force exerted on persons recreating in the water. But, it remains appropriate to apply the high flow suspension during wet weather conditions when elevated stormwater runoff in Reach 3 precludes safe recreation in or near the river. REC1 and REC2 uses will be temporarily suspended in Reach 3 when rainfall exceeds 0.5" in a 24-hour period or when flows at MWD crossing are greater than 100 cfs (measured at the USGS gauge). The 100 cfs threshold provides an objective metric to distinguish between reasonably safe dry weather flows and the more hazardous high flow conditions that arise during wet weather events.⁶

It is appropriate to take notice also of Reach 3 of the Santa Ana River, which extends from Prado Dam upstream to Mission Avenue in Riverside. Although much of Reach 3 may appear relatively natural to the casual observer, it has in fact been heavily modified and re-engineered to enhance flood protection. The upper half of the reach has been channelized with reinforced levees armored by rip-rap. Below Van Buren Boulevard, Reach 3 remains largely natural. However, numerous flood control facilities have been constructed/modified in the multiple streams tributary to this area. These changes have modified the natural stream hydrology of the Reach by re-directing and accelerating stormwater runoff from the upper Santa Ana watershed that can create exceptionally hazardous flow conditions in the Reach. The temporary suspension of recreational standards applies to this Reach.

⁴ Wildermuth Environmental Inc., 2008 Santa Ana River Wasteload Allocation Model Report. Prepared for the Santa Ana Watershed Project Authority's (SAWPA) Basin Monitoring Program Task Force. May, 2009 (Historical flows for Reach 3 are charted in Fig. 2-12 of the Report).

⁵ See the Administrative Record for the recreation standards amendments adopted pursuant to Resolution No. R8-2012-0001.

⁶ Wildermuth Environmental Inc., 2008 Santa Ana River Wasteload Allocation Model Report. Prepared for the Santa Ana Watershed Project Authority's (SAWPA) Basin Monitoring Program Task Force. May, 2009 (Historical flows for Reach 3 are charted in Fig. 2-12 of the Report).

The corrected text reads as follows:

It is appropriate to take notice also of Reach 3 of the Santa Ana River, which extends from Prado Dam upstream to Mission Avenue in Riverside. Although much of Reach 3 may appear relatively natural to the casual observer, it has in fact been heavily modified and re-engineered to enhance flood protection. The upper half of the reach has been channelized with reinforced levees armored by rip-rap. Below Van Buren Boulevard, Reach 3 remains largely natural. However, numerous flood control facilities have been constructed/modified in the multiple streams tributary to this area. These changes have modified the natural stream hydrology of the

Reach by re-directing and accelerating stormwater runoff from the upper Santa Ana watershed that can create exceptionally hazardous flow conditions in the Reach. The temporary suspension of recreational standards applies to this Reach.

9. p. 77 of 79: *Monitoring Plan for Pathogen Indicator Bacteria in Freshwaters*, modify second paragraph on page as follows (deleted text shown in strike-out type; added text is underlined):

“Where water quality monitoring data indicate significant non-compliance with the applicable pathogen indicator objective, ~~agencies~~ dischargers discharging to that waterbody must submit a plan to the Regional Board to identify the pollutant source(s) unless monitoring data show that their particular...”

The corrected text reads as follows:

Where water quality monitoring data indicate significant non-compliance with the applicable pathogen indicator objective, dischargers discharging to that waterbody must submit a plan to the Regional Board to identify the pollutant source(s) unless monitoring data show that their particular...”

Corrections to Attachment 1 (underline/strike-out version of amendments) to Resolution No. R8-2012-0001

1. p. 39,40 of 78: ***Pathogen Indicator Bacteria, Lakes and Streams***, Modify as follows (added text is shown in bold, without italics and without underline):

Lakes and Streams

Waste discharges shall not cause or contribute to excessive risk of illness from microorganisms pathogenic to human beings. Pathogen indicator concentrations shall not exceed the values specified in Table 4-pio below as a result of controllable water quality factors (see also Chapter 5, Recreation Water Quality Standards, Controllable and Uncontrollable Sources of Bacteria) unless it is demonstrated to the Regional Board's satisfaction that the elevated indicator concentrations do not result in excessive risk of illness among people recreating in or near the water. If this demonstration is made, then site-specific consideration of appropriate pathogen indicator concentrations will be necessary. In all cases, the level of water quality necessary to protect existing uses must be maintained. Where existing water quality is better than necessary to protect the designated use, the existing high level of water quality must be maintained unless it is demonstrated that existing or potential beneficial uses would be protected and that water quality consistent with maximum benefit to the people of California would be maintained, as specified in the state antidegradation policy (SWRCB Resolution No. 68-16). The Regional Board may also require recycled water discharged to freshwaters designated REC 1 or REC 2 to comply with other limitations recommended by the California Department of Public Health (CDPH).

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Waste discharges shall not cause or contribute to excessive risk of illness from microorganisms pathogenic to human beings. Pathogen indicator concentrations shall not exceed the values specified in Table 4-pio below as a result of controllable water quality factors (see also Chapter 5, Recreation Water Quality Standards, Controllable and Uncontrollable Sources of Bacteria) unless it is demonstrated to the Regional Board's satisfaction that the elevated indicator concentrations do not result in excessive risk of illness among people recreating in or near the water. If this demonstration is made, then site-specific consideration of appropriate pathogen indicator concentrations will be necessary. In all cases, the level of water quality necessary to protect existing uses must be maintained. Where existing water quality is better than necessary to protect the designated use, the existing high level of water quality must be maintained unless it is demonstrated that existing or potential beneficial uses would be protected and that water quality consistent with maximum benefit to the people of California would be maintained, as specified in the state antidegradation policy (SWRCB Resolution No. 68-16). The Regional Board may also require recycled water discharged to freshwaters designated REC 1 or REC 2 to comply with other limitations recommended by the California Department of Public Health (CDPH).

- 2. p. 69 of 78: **Table 5-REC2 Only Targets – FW**: change reference to Temescal Creek, Reach 1b to Temescal Creek, Reach 1a. (deleted text in strike-out type; added text is in bold, italics, no underline) [table notes not shown]

Table 5-REC2 Only Targets-FW¹

<u>REC2 Only Waterbody</u>	<u>E. coli Densities (cfu/100 mL)</u>				
	<u>Geometric Mean</u>	<u>Std. Dev.</u>	<u>N</u>	<u>Max. Observed</u>	<u>75% UCL</u>
<u>Temescal Creek, Reach 1b^a</u>	<u>198</u>	<u>34</u>	<u>119</u>	<u>9,200²</u>	<u>374</u>
<u>Santa Ana Delhi Channel, Reach 2</u>	<u>448</u>	<u>110</u>	<u>63</u>	<u>12,590</u>	<u>1231</u>

Corrected table: [table notes not shown]

Table 5-REC2 Only Targets-FW¹

<u>REC2 Only Waterbody</u>	<u>E. coli Densities (cfu/100 mL)</u>				
	<u>Geometric Mean</u>	<u>Std. Dev.</u>	<u>N</u>	<u>Max. Observed</u>	<u>75% UCL</u>
<u>Temescal Creek, Reach 1a</u>	<u>198</u>	<u>34</u>	<u>119</u>	<u>9,200²</u>	<u>374</u>
<u>Santa Ana Delhi Channel, Reach 2</u>	<u>448</u>	<u>110</u>	<u>63</u>	<u>12,590</u>	<u>1231</u>

3. p. 75 of 78: Monitoring Plan for Pathogen Indicator Bacteria in Freshwaters, modify last paragraph on page as follows (deleted text shown in strike-out type; added text is bold italics without underline):

“Where water quality monitoring data indicate significant non-compliance with the applicable pathogen indicator objective, ~~agencies~~ **dischargers** discharging to that waterbody must submit a plan to the Regional Board to identify the pollutant source(s) unless monitoring data show that their particular...”

The corrected text reads as follows:

Where water quality monitoring data indicate significant non-compliance with the applicable pathogen indicator objective, ~~agencies~~ **dischargers** discharging to that waterbody must submit a plan to the Regional Board to identify the pollutant source(s) unless monitoring data show that their particular...”

cc w/ att: Santa Ana Regional Board members
David Rice, OCC
Jon Bishop, Rik Rasmussen, Paul Hann, DWQ