

Presented below are water quality standards that are in effect for Clean Water Act purposes.

EPA is posting these standards as a convenience to users and has made a reasonable effort to assure their accuracy. Additionally, EPA has made a reasonable effort to identify parts of the standards that are not approved, disapproved, or are otherwise not in effect for Clean Water Act purposes.

Note that not all provisions of the attached document are water quality standards that require EPA review and approval.

Enclosure A

1. SARWQCB Resolution No. R8-2017-0014 (August 4, 2017), Attachment A2, Amendment to the Water Quality Control Plan for the Santa Ana River Basin to Incorporate Total Maximum Daily Loads for Selenium in Freshwater: Newport Bay Watershed, Orange County, California (Basin Plan Amendment, BPA)

Table of Final WLAs, Footnote 8:

Final WLAs as a Semi-Annual Arithmetic Mean¹ (for Implementation Purposes)

WLAs	Tissue-based Water Column WLAs ^{2,3,4,5,6,7,8} (Based upon Biodynamic Model) (µg Se/L)			CTR-based Water Column WLAs ^{2,8,14,16} (µg Se/L)	Conditional Mass based WLAs ^{15,16} (lbs)
	San Diego Creek Subwatershed <small>9,12,13,16</small>	Santa Ana-Delhi Channel Subwatershed <small>10,12,13,16</small>	Big Canyon Wash Subwatershed <small>11,12,13,16</small>		
MS4 Permittees	10	11	1	5	Optional. Applies when discharger meets the following conditions: a. Participates in approved Offset and Trading Program b. Offsets entirety of discharge (concentration x flow), including any specified offset ratio
Other NPDES Permittees					

- (1) Semi-annual arithmetic mean: April 1 through September 30 and October 1 through March 31.
- (2) Allocations apply year-round during non-wet weather (i.e. dry) conditions. Wet weather conditions are any day with 0.1 inches of rain or more, as measured at the Tustin-Irvine Ranch Rain Gauge Station, and the following three days (72 hours).
- (3) The tissue-based WLAs are based on probable water column concentrations derived from the biodynamic model, as detailed in the Linkage Analysis of these proposed selenium TMDLs. The biodynamic model is directly incorporated herein to these WLAs and is represented by the following equations:
 - (1) Fish tissue target of 8.1 or 5 µg Se/g dw (piscivorous fish): $C_{\text{water}} (\mu\text{g Se/L}) = [(((C_{\text{fish target}} / \text{TTF}_{\text{piscivorous fish}}) / \text{TTF}_{\text{invertivorous fish}}) / \text{TTF}_{\text{invertebrate}}) / K_d] * 1000$;
 - (2) Fish tissue target of 8.1 or 5 µg Se/g dw (invertivorous fish): $C_{\text{water}} (\mu\text{g Se/L}) = [((C_{\text{fish target}} / \text{TTF}_{\text{invertivorous fish}}) / \text{TTF}_{\text{invertebrate}}) / K_d] * 1000$;
 - (3) Fish tissue target of 8.1 or 5 µg Se/g dw (detritivorous fish): $C_{\text{water}} (\mu\text{g Se/L}) = [(C_{\text{fish target}} / \text{TTF}_{\text{detritivorous fish}}) / K_d] * 1000$;
 - (4) Bird egg target of 8.0 µg Se/g dw (piscivorous bird): $C_{\text{water}} (\mu\text{g Se/L}) = [(((C_{\text{bird target}} / \text{TTF}_{\text{bird}}) / \text{TTF}_{\text{invertivorous fish}}) / \text{TTF}_{\text{invertebrate}}) / K_d] * 1000$;
 - (5) Bird egg target of 8.0 µg Se/g dw (invertivorous bird): $C_{\text{water}} (\mu\text{g Se/L}) = [((C_{\text{bird target}} / \text{TTF}_{\text{bird}}) / \text{TTF}_{\text{invertebrate}}) / K_d] * 1000$
- (4) TTF_{bird} = trophic transfer factor from fish or invertebrates to bird egg, $\text{TTF}_{\text{piscivorous fish}}$ = trophic transfer factor from small fish to predatory fish, $\text{TTF}_{\text{invertivorous fish}}$ = trophic transfer factor from invertebrates to fish, $\text{TTF}_{\text{detritivorous fish}}$ = trophic transfer factor from particulates to fish, $\text{TTF}_{\text{invertebrate}}$ = trophic transfer factor from particulates to invertebrates, K_d = partitioning coefficient from dissolved selenium in water to particulates.
- (5) Initial values for all TTFs and K_d s are specified in the Linkage Analysis of these selenium TMDLs. TTF values may vary by specific water body. In water bodies where predatory fish are not present, the $\text{TTF}_{\text{predatory fish}}$ value should equal 1 to represent that one less step is occurring in the food chain.
- (6) During the development of the proposed selenium TMDLs, a range of probable water column concentrations was derived from the tissue-based numeric targets, based on the values assumed for the variables in the equation. The initial WLA values selected are based upon consideration of the most sensitive endpoint in the watershed and existing tissue data. During Phase I of these proposed selenium TMDLs, that endpoint has been identified as fish tissue for the protection of fish (numeric target of 8.1 µg Se/g dw) for the SDC and SADC subwatersheds and as bird egg tissue for the protection of birds (8.0 µg Se/g dw) in BCW.
- (7) During the TMDL Reconsideration and during Phase II of these proposed selenium TMDLs, the biodynamic model inputs and resulting probable water column concentrations will be reevaluated and updated as necessary and per the schedule included in Table 6.1. Se.2. Subject to review and written comment via a public participation process, if updates are determined to be appropriate, such revised values will then replace the initial values in the biodynamic model equations, resulting in revised allocations. Such revisions can be made via approval by the Executive Officer, per delegated authority by the Regional Board, unless during the public review process a request is made to bring the modification before the Regional Board for consideration.
- (8) The final allocations are to be achieved as soon as possible, but no later than 30 years from the effective date of the reconsidered TMDLs, as discussed in the Implementation Plan.
- (9) Assessed in the receiving water at San Diego Creek at Campus Drive for Regulated Parties (as defined in the Implementation Plan other

- than MS4 Permittees) that opt to implement a BMP Strategic Plan consistent with the Implementation Plan.
- (10) Assessed in the receiving water at Santa Ana-Delhi Channel at Irvine Avenue for Regulated Parties (as defined in the Implementation Plan other than MS4 Permittees) that opt to implement a BMP Strategic Plan consistent with the Implementation Plan.
 - (11) Assessed in the receiving water at Big Canyon Wash at Back Bay Drive for Regulated Parties (as defined in the Implementation Plan other than MS4 Permittees) that opt to implement a BMP Strategic Plan consistent with the Implementation Plan.
 - (12) Assessed at 'end of pipe' for Individual Action Plan point sources that elect not to pursue an offset. Compliance with allocations will be determined pursuant to the compliance options outlined under the heading "Compliance with WLAs". Such compliance options are directly incorporated herein as part of the assumptions and requirements of these WLAs.
 - (13) Assessment location for the MS4 permittees (urban runoff) is the Costa Mesa Channel. This location was selected as a surrogate urban runoff site because the subwatershed is approximately 1 square mile in area, it has predominantly urban land uses, and it is outside of the areas impacted by rising groundwater.
 - (14) The CTR-based water column WLAs will no longer apply to these proposed selenium TMDLs if and when revised objectives (e.g., SSOs) have been approved and are in effect and the current CTR chronic criterion for selenium in freshwater is de-promulgated.
 - (15) The Offset and Trading Program and any applicable offset ratios, described in the Implementation Plan is incorporated herein to these conditional mass-based WLAs.
 - (16) Compliance with allocations will be determined pursuant to the compliance options outlined under the heading "Compliance with WLAs". Such compliance options are directly incorporated herein as part of the assumptions and requirements of these WLAs.

2. SARWQCB Resolution No. R8-2017-0014 (August 4, 2017), Attachment A2, BPA, Page 2:

Table 6.1. Se.1: Total Maximum Daily Load (TMDL) Summary - Newport Bay Watershed Selenium TMDLs

Phasing of the Selenium TMDLs
<p>These selenium TMDLs are being established and implemented as phased TMDLs, consistent with USEPA guidance (USEPA, 2006b) and based upon a three-part structure:</p> <ul style="list-style-type: none"> • Phase I – Completion as soon as possible, but no later than 6 years from the effective date of the proposed selenium TMDLs¹. • TMDL Reconsideration – Completion as soon as possible, but no later than 2 years after Phase I. Reconsideration of the proposed selenium TMDLs will be no later than 8 years from the effective date of the proposed selenium TMDLs. • Phase II – Completion as soon as possible, but no later than 30 years from the effective date of the reconsidered selenium TMDLs². If reconsidered selenium TMDLs are not in effect 8 years after the effective date of the original proposed selenium TMDLs, Phase II actions will commence at this time. In this circumstance, changes in the reconsidered selenium TMDLs will be incorporated into Phase II at the time they become effective. <p>Phased TMDL Structure. Phase I and Phase II must be completed as soon as possible, but no later than, the specified timeframes</p> <p>¹ Each individual action will be scheduled as a specific number of years/months from the effective date of the proposed selenium TMDL/reconsidered selenium TMDL (as applicable). ² <i>Ibid.</i></p>

U.S. Environmental Protection Agency. 2006b. Clarifications Regarding "Phased" Total Maximum Daily Loads. USEPA memorandum dated August 2, 2006 from B. Best-Wong, Director, Assessment and Watershed Protection Division, Washington, D.C. to Water Division Directors, Regions I-X.

3. SARWQCB Resolution No. R8-2017-0014 (August 4, 2017), Attachment A2, BPA, pages 44 - 46:

Table 6.1. Se.2 Newport Bay Watershed Selenium TMDLs Implementation and Compliance Schedule

PHASE I		
Date	Action	Implemented By
3 months from TMDL effective date	Submit Phase I BMP Strategic Plan for approval by the Executive Officer; implement upon approval	MS4 Permittees; Other NPDES Permittees (existing discharges) opting to participate in a BMP Strategic Plan
3 months from TMDL effective date	Submit Regional Monitoring Program for approval by the Executive Officer; implement upon approval.	MS4 Permittees; existing Other NPDES Permittees opting to participate in a BMP Strategic Plan (in lieu of an Individual Action Plan)
3 months from TMDL effective date	Submit Offset and Trading Program for approval by the Executive Officer; implement upon approval.	MS4 Permittees; existing Other NPDES Permittees opting to participate in an Offset and Trading Program
Submit with Notice of Intent	Submit Individual Action Plan OR documentation of participation in an approved BMP Strategic Plan	Other NPDES Permittees (new discharges) ¹
1 year from approval of Phase I BMP Strategic Plan, then annually thereafter	Submit annual report to Regional Board	MS4 Permittees; Other NPDES Permittees opting to participate in a BMP Strategic Plan
As determined in the approved Individual Action Plan	Submit reports to Regional Board	Other NPDES Permittees opting to implement an Individual Action Plan in lieu of participation in a BMP Strategic Plan
To be considered during the TMDL Reconsideration - 5 years from TMDL effective date	Complete any special studies and submit final report on study to Regional Board	MS4 Permittees; Other NPDES Permittees opting to implement a Special Study
Within 5 years from TMDL effective date	Complete development of selenium SSO	Regional Board with support from MS4 Permittees and Other NPDES Permittees
6 years from TMDL effective date	Complete implementation of Phase I BMP Strategic Plans	MS4 Permittees; Other NPDES Permittees opting to participate in a BMP Strategic Plan (in lieu of an Individual Action Plan)
TMDL RECONSIDERATION		
As soon as possible after the completion of Phase I, but no later than 8 years from the TMDL effective date	Reconsider TMDL -the entirety, or selected sections, of the selenium TMDLs and supporting documentation may be modified during the TMDL Reconsideration	Regional Board
Throughout TMDL Reconsideration Period	Continue to implement Phase I BMP Strategic Plan	MS4 Permittees; Other NPDES Permittees (existing discharges) opting to participate in the BMP Strategic Plan

PHASE II		
Date	Action	Implemented By
6 months from Reconsidered TMDL effective date	Submit Phase II BMP Strategic Plan ² for approval by the Executive Officer; implement upon approval	MS4 Permittees; Other NPDES Permittees (existing discharges) opting to participate in a BMP Strategic Plan
6 months from Reconsidered TMDL effective date	Submit Regional Monitoring Program for approval by the Executive Officer; implement upon approval	MS4 Permittees; existing Other NPDES Permittees opting to participate in a BMP Strategic Plan
Submit with Notice of Intent	Submit Individual Action Plan OR documentation of participation in an approved BMP Strategic Plan	Other NPDES Permittees (new discharges) ¹ opting to implement an Individual Action plan in lieu of participation in the BMP Strategic Plan and Other NPDES Permittees opting to participate in a BMP Strategic Plan
1 year from approval of Phase II BMP Strategic Plan, then annually thereafter	Submit annual report to Regional Board	MS4 Permittees; Other NPDES Permittees opting to participate in a BMP Strategic Plan
As determined in the approved Individual Action Plan	Submit reports to Regional Board	Other NPDES Permittees (new discharges) opting to implement an Individual Action Plan in lieu of participation in the BMP Strategic Plan
9 years from Reconsidered TMDL Effective Date	Evaluate WLAs/LAs and submit report with recommendations to the Regional Board ³	MS4 Permittees; Other NPDES Permittees opting to participate in the BMP Strategic Plan
10 years from Reconsidered TMDL effective date	TMDL Reopener	Regional Board
19 years from Reconsidered TMDL effective date	Evaluate WLAs/LAs and submit report with recommendations to the Regional Board ³	MS4 Permittees; Other NPDES Permittees opting to participate in the BMP Strategic Plan
20 years from Reconsidered TMDL effective date	TMDL Reopener	Regional Board
As soon as possible but no later than 30 years from Reconsidered TMDL effective date	Complete implementation of Phase II BMP Strategic Plans	MS4 Permittees; Other NPDES Permittees opting to participate in the BMP Strategic Plan
As soon as possible but no later than 30 years from Reconsidered TMDL effective date	Attain Final WLAs ⁴	MS4 Permittees and Other NPDES Permittees opting to participate in a BMP Strategic Plan AND Other NPDES Permittees (new discharges) opting to implement an Individual Action Plan in lieu of participation in the BMP Strategic Plan
	Attain Final WLAs ⁴	Non-Point Source dischargers

¹ = The TMDL considers that there may be new dischargers after the TMDL becomes effective (e.g., a short-term groundwater discharger that was not discharging at the time the TMDL became effective).

² = The schedule in the approved Phase II BMP Strategic Plan will include periodic updates and revisions, anticipated to be every 5 years throughout Phase II of these proposed selenium TMDLs. The schedule is subject to approval by the Executive Officer.

³ = As the models are directly incorporated into the assumptions and requirements of the WLAs and LAs, the Regional Board can re-evaluate the allocations at any time and, through a public review process, modify the allocations. The discrete tasks here reflect the minimum frequency for re-evaluation of the allocations. Any additional reviews beyond those specified in the implementation schedule would be at the discretion of the Regional Board or at the request of Regulated Parties.

⁴ = While the tissue-based WLAs and LAs are expected to result in attainment of the tissue-based numeric targets, bioaccumulation in the various foodwebs in the watershed may be different than what was modeled with the biodynamic model as part of the Linkage Analysis. Therefore, where tissue-based numeric targets are attained, the corresponding WLAs/LAs will also be deemed to be attained, regardless of the actual measured water column concentration.