Regulatory Framework

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Newport Bay Fecal Coliform TMDL Stakeholder Group Meeting

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Recreational Water Quality Objectives/Criteria

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Water Quality Objectives for Bacteria

- Existing Objectives:
  - Basin Plan: based on Fecal Coliform
  - USEPA Promulgated Objectives (2004)
    - For marine waters: enterococcus
    - Based on 1986 USEPA recommended criteria
      - Fecal coliform not a reliable indicator of public health risk to swimmers
- Revised USEPA Recommended Criteria (2012)
  - State Water Resources Control Board developing statewide objectives to implement the criteria

2012 US EPA Recreational Water Quality Criteria

- The Beaches Environmental Assessment and Coastal Health (BEACH) Act of 2000
  - Directed EPA to conduct studies associated with pathogens and human health
  - Publish new recommendations based on studies
- 2012, new recommendations issued for protection of human health in all waters designated for recreational use (REC)
  - Not until state adoption do they have regulatory impact

2012 US EPA Recreational Water Quality Criteria

Included the latest scientific knowledge, public comments, and external peer review

- Based on indicators of fecal contamination:
  - *E. coli*
  - Enterococci
- Consists of three components:
  - Magnitude
  - Duration
  - Frequency

2012 US EPA Recreational Water Quality Criteria

CRITERIA ELEMENTS	**Recommendation 1** Estimated Illness Rate 36/1,000		**Recommendation 2** Estimated Illness Rate 32/1,000	
Indicator	GM (cfu/100 mL)	STV (cfu/100 mL)	GM (cfu/100 mL)	STV (cfu/100 mL)
Enterococci (marine & fresh)	35	130	30	110
E. coli (fresh)	126	410	100	320

GM = Geomean
STV = Statistical Threshold Value

cfu/100 mL = colony forming units per 100 milliliters

The waterbody GM should not be greater than the selected GM magnitude in any 30-day interval. There should not be greater than a 10% excursion frequency of the selected STV magnitude in the same 30-day interval.

2012 US EPA Recreational Water Quality Criteria

- Intended as guidance for States and Tribes in establishing new or revised water quality standards
- The State Water Resources Control Board is proposing a statewide control program based on the US EPA recommendations
  - Current timeline: State Board adoption Sept 2017
  - See website for more details: http://www.waterboards.ca.gov/bacterialobjectives/

2012 US EPA Recreational Water Quality Criteria

- The statewide program would be adopted as amendments to the Inland Surface Water, Enclosed Bays and Estuaries Plan
  - Expected to supercede Regional Board Basin Plan provisions
    - The amendments would apply to Newport Bay

Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List

(State Listing Policy)

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State Listing Policy

- CWA Section 303(d) requires States to identify surface waters that do not meet water quality standards (WQS)
  - WQS include WQ objectives/criteria, beneficial uses, and an antidegradation policy
  - Waters are considered 'impaired' if WQS are not being met
- States evaluate water quality using existing data
- California's Listing Policy determines how this data can be used to assess if a water is impaired *OR* meeting WQS

State Listing Policy

Table 3.2: Minimum number of measured exceedances needed to place a water segment on the section 303(d) list for conventional or other pollutants.

Null Hypothesis: Actual exceedance proportion < 10 percent.
Alternate Hypothesis: Actual proportion > 25 percent.
The minimum effect size is 15 percent.

Sample Size	List if the number of exceedances equal or is greater than
5 – 30	5*
31 – 36	6
37 – 42	7
43 – 48	8
49 – 54	9
55 – 60	10
61 – 66	11
67 – 72	12
73 – 78	13
79 – 84	14
85 – 91	15
92 – 97	16
98 – 103	17
104 – 109	18
110 – 115	19
116 – 121	20

State Listing Policy

If objectives or standards are revised, and the water meets WQS, the water segment can be removed from the 303(d) list ('delisted')

- Situation-specific weight of evidence delisting
  - Approach used to delist must be scientifically defensible and reproducible
  - Number of samples meeting WQS must meet the sample size requirements of the policy (Table 4.2), unless an alternative approach is used
  - More samples are required for delisting than listing

State Listing Policy

Table 4.2: Maximum number of measured exceedances allowed to remove a water segment from the section 303(d) list for conventional or other pollutants.

Null Hypothesis: Actual exceedance proportion > 25 percent.
Alternate Hypothesis: Actual exceedance proportion < 10 percent.
The minimum effect size is 15 percent.

Sample Size	Delist if the number of exceedances equal or is less than
26 – 30	4
31 – 36	5
37 – 42	6
43 – 48	7
49 – 54	8
55 – 60	9
61 – 66	10
67 – 72	11
73 – 78	12
79 – 84	13
85 – 91	14
92 – 97	15
98 – 103	16
104 – 109	17
110 – 115	18
116 – 121	19

Additional Information

- State Listing Policy:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2015/020315_8_amendment_clean_version.pdf

- Water quality assessment and monitoring:

http://www.swrcb.ca.gov/water_issues/programs/#wqassessment

- Addressing impaired waters:

http://www.swrcb.ca.gov/water_issues/programs/tmdl/docs/iw_policy.pdf

- State's proposed bacteria objectives and schedule:

http://www.waterboards.ca.gov/bacterialobjectives/