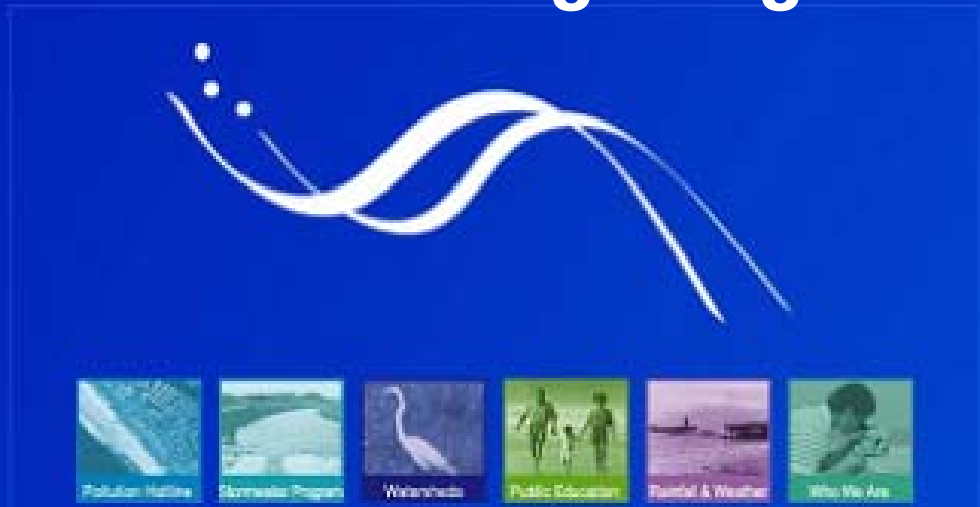
WATERSHED & COASTAL RESOURCES DIVISION

Public Facilities and Resources Department

Total Maximum Daily Loads for Indicator Bacteria Project I – Beaches and Creeks in the San Diego Region

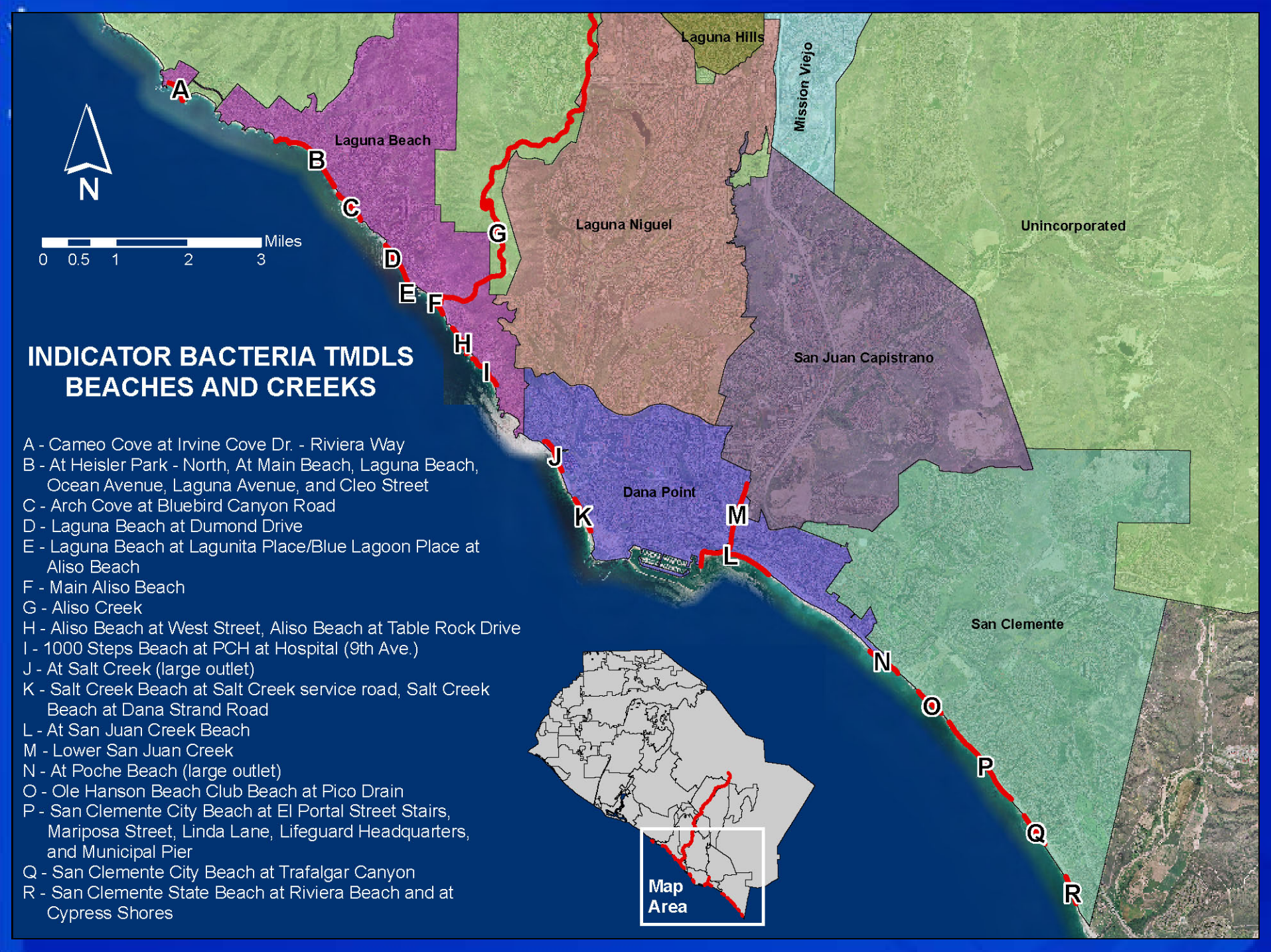


Amanda Carr, Water Quality Planning

February 28, 2008

Beaches and Creeks TMDL

- Approved by the San Diego Regional Board on December 12, 2007
- Addresses Water Contact Recreation (REC-1) Beneficial Use
- Applies to Fecal Coliform, Total Coliform and Enterococci water quality standards
- Regional TMDL – addresses 4 Creeks and multiple beach segments in OC and SD counties



INDICATOR BACTERIA TMDLS BEACHES AND CREEKS

A - Cameo Cove at Irvine Cove Dr. - Riviera Way
B - At Heisler Park - North, At Main Beach, Laguna Beach, Ocean Avenue, Laguna Avenue, and Cleo Street
C - Arch Cove at Bluebird Canyon Road
D - Laguna Beach at Dumond Drive
E - Laguna Beach at Lagunita Place/Blue Lagoon Place at Aliso Beach
F - Main Aliso Beach
G - Aliso Creek
H - Aliso Beach at West Street, Aliso Beach at Table Rock Drive
I - 1000 Steps Beach at PCH at Hospital (9th Ave.)
J - At Salt Creek (large outlet)
K - Salt Creek Beach at Salt Creek service road, Salt Creek Beach at Dana Strand Road
L - At San Juan Creek Beach
M - Lower San Juan Creek
N - At Poche Beach (large outlet)
O - Ole Hanson Beach Club Beach at Pico Drain
P - San Clemente City Beach at El Portal Street Stairs, Mariposa Street, Linda Lane, Lifeguard Headquarters, and Municipal Pier
Q - San Clemente City Beach at Trafalgar Canyon
R - San Clemente State Beach at Riviera Beach and at Cypress Shores

Load Calculation Approach

- Dry Weather and Wet Weather conditions addressed separately
- Dry Weather load calculation based on 30-day geometric mean water quality standard
- Wet Weather load calculation based on single sample water quality standard
- Wet Weather loads include interim and final phases

Required MS4 Load Reductions

- Final Dry Weather Reductions:
  - Fecal coliform 74.2-96.9%
  - Total coliform 73-97%
  - Enterococcus 94.9-99.4%

Required MS4 Load Reductions

- Interim Wet Weather Reductions:
  - Fecal coliform 12.9-52.2%
  - Total coliform 13.2-47%
  - Enterococcus 15.2-51.4%
- Final Wet Weather Reductions:
  - Fecal coliform 100%
  - Total coliform 100%
  - Enterococcus 100%

Approaches to Address Natural Sources

- Reference System and Antidegradation Approach (RSAA)
  - Reference System = undeveloped watershed
  - Establishes an allowable exceedence frequency of the water quality standard
  - Utilized in the Santa Monica Bay TMDL
  - Currently applied to develop the interim wet weather reductions

Approaches to Address Natural Sources

- Natural Sources Exclusion Approach (NSEA)
  - Requires all anthropogenic sources of indicator bacteria be controlled
  - Demonstrate that remaining indicator bacteria densities do not indicate an elevated health risk
  - Residual indicator bacteria loads are attributed to uncontrollable sources
  - Can apply to both dry and wet weather

Approaches to Address Natural Sources

- RSAA and NSEA approaches being developed by San Diego Regional Board Staff
- Basin Plan Amendment required Spring/Summer 2008
- Final adoption of the Beaches & Creeks TMDL is contingent upon San Diego Water Board's consideration of that Basin Plan amendment
- Final wet weather load reductions and compliance schedule will be revised when the RSAA/NSEA Basin Plan amendment is adopted

Dry Weather Compliance Schedule

Year After OAL Approval	Required Wasteload Reduction		
	Priority 1	Priority 2	Priority 3
5	50%		
6		50%	
7			50%
10	100%	100%	100%

Wet Weather Compliance Schedule

Year After OAL Approval	Required Wasteload Reduction		
	Priority 1	Priority 2	Priority 3
5	50% (Interim)		
6		50% (Interim)	
7			50% (Interim)
10	100% (Interim)	100% (Interim)	100% (Interim)
20	100% (Final)	100% (Final)	100% (Final)

Estimated Costs of Compliance

- Non-structural BMPs: $0-$211,000
- Structural BMPs for Treating 10% of a watershed: $50,000-$973,000,000
- Yearly O&M: $10,000 - $68,000,000
- Regional Board cost of compliance estimates did not consider reduction effectiveness of BMPs.

County-led Next Steps

- Funding Agreements for affected watersheds
- MOU with Regional Board to conduct special studies
  - Validation/Update of Aliso Creek dry weather modeling with full data set
  - Recreational Use Survey Needs Assessment
- Development of Bacterial Load Reduction Plans

Questions?

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