

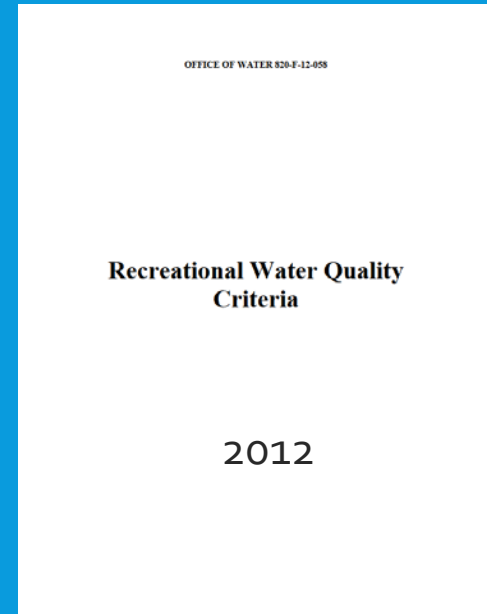
A Swimmable California: The Importance of Safe to Swim Policies and Programs



Federal and State Policies Regulations for Recreational Water Quality



The BEACH Act



CPCWQCA

means

California Porter-Cologne
Water Quality Control Act



CALIFORNIA'S 'CURRENT' BEACH WATER QUALITY STANDARDS

<u>Ocean</u>	Single Sample Max	30-Day Geo. Mean
Total Coliform	10,000	1,000
Fecal Coliform	400	200
Enterococci	104	35
Fecal/Total Ratio	0.1 (total <1,000)	

<u>Freshwater</u>		
Total Coliform	10,000	1,000
Fecal Coliform	400	200
E.Coli	235	126
Enterococci	61	33

Recreational Water Quality

- Fecal Indicator Bacteria
 - Indicate high likelihood of presence of pathogenic microorganisms
 - Historically concerned about wastewater plant impacts
- Health Risks at high fecal indicator bacteria (FIB) beaches
 - Stomach flu
 - Respiratory illness
 - Ear, nose, and throat infections
 - Skin rashes
- At risk populations
 - Children & elderly
 - Immuno-compromised and those with open wounds



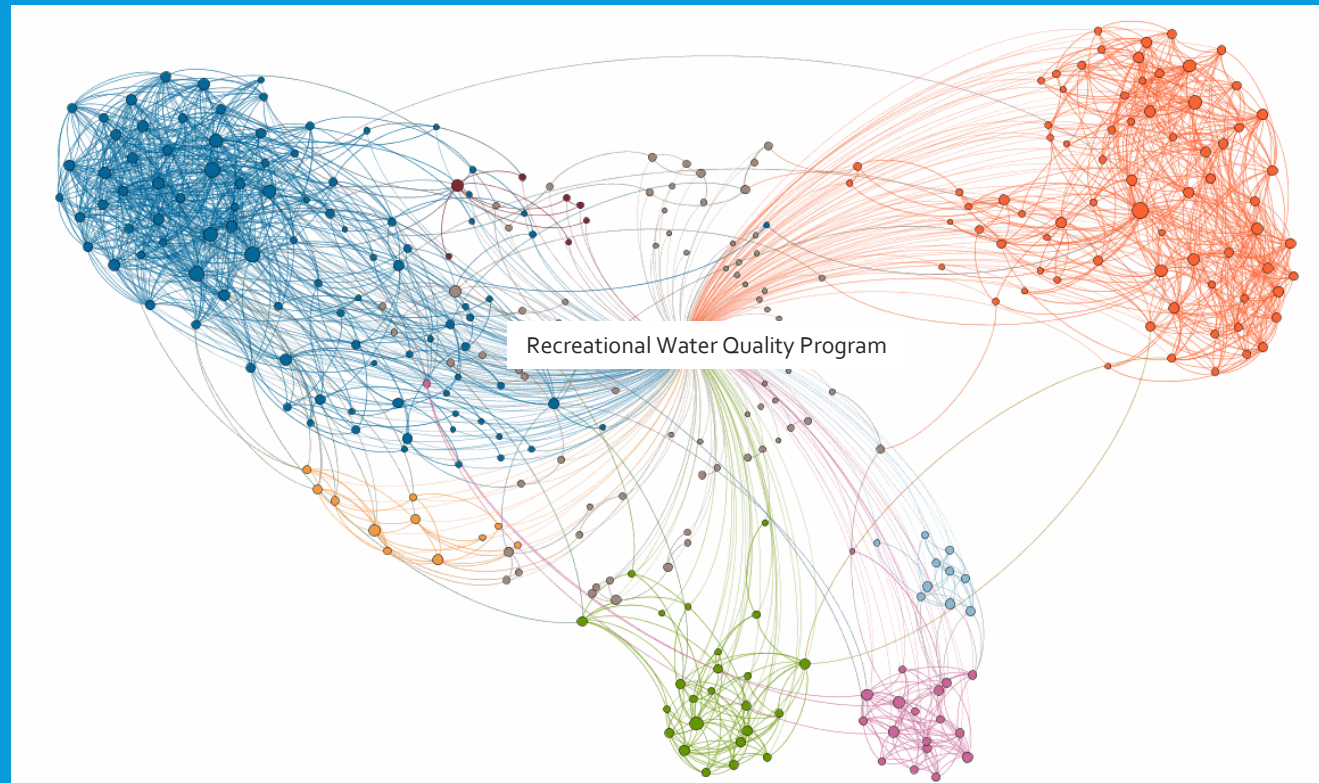
Recreational Water Quality

- Sources of fecal matter (humans and animals)
 - Storm drains carrying urban runoff
 - Leaking septic/sewer systems
 - Human encampments
 - Boat discharges of raw sewage
 - Mammal and avian populations



RECREATIONAL WATER QUALITY PROGRAM

- Monitoring
 - Source ID/Abate
 - Assessment
 - Reporting
- Best Management Practices
 - Structural
 - Non-structural
- Enforcement
- Public Notification



COMPLIANCE vs. PUBLIC HEALTH

Why Public Notification Programs are important component in Recreational Water Quality Programs

Federal Standards

Criteria Elements	Estimated Illness Rate (NGI): 36 per 1,000 primary contact recreators		OR	Estimated Illness Rate (NGI): 32 per 1,000 primary contact recreators	
	Magnitude			Magnitude	
Indicator	GM (cfu/100 mL) ^a	STV (cfu/100 mL) ^a		GM (cfu/100 mL) ^a	STV (cfu/100 mL) ^a
Enterococci – marine and fresh	35	130		30	110
OR					
<i>E. coli</i> – fresh	126	410		100	320

Federal Recommendations

Indicator	Estimated Illness Rate (NGI): 36 per 1,000 primary contact recreators		OR	Estimated Illness Rate (NGI): 32 per 1,000 primary contact recreators	
	BAV (Units per 100 mL)			BAV (Units per 100 mL)	
Enterococci – culturable (fresh and marine) ^a	70 cfu			60 cfu	
<i>E. coli</i> – culturable (fresh) ^b	235 cfu			190 cfu	
<i>Enterococcus</i> spp. – qPCR (fresh and marine) ^c	1,000 cce			640 cce	

IMPORTANCE OF A PUBLIC NOTIFICATION PROGRAM

Goals of the Program:

- Increase public awareness about water quality issues
 - Sewage spill notifications
 - Unsafe conditions
 - contributions
- A tool:
 - to identify, address, and reduce/eliminate pollution problems at beaches
 - for increased research
 - to determine funding priorities and 303(d) listed impaired waters
 - civic involvement



HEAL THE BAY'S PUBLIC NOTIFICATION PROGRAMS

- The Beach Report Card Program



- The 'Nowcast' Program—Predictive Modeling



- The River Report Card Program



BEACH REPORT CARD



- A - F grades for beach water quality
- Easy-to-understand translation of bacteria indicator data
- Data from public agencies (Environmental Health Departments and POTWs)
- Endorsed by the CA State Water Resources Control Board and Beach Water Quality Workgroup as an effective education tool
- First published in 1992

BEACH REPORT CARD

BEACH REPORT CARD



Beach Grades Historical Data

Select a State

By State ▼

Search Beach Go

Predefined Searches ▼

Sort List By ▼

State	Number of Grades
California:	486
Oregon:	94
Washington:	254

Beaches Key:

- A or B Grade
- C Grade
- D or F Grade
- Beach Closed
- ns - no sample [\[?\]](#)
- ★ Water Quality Nowcast [\[?\]](#)

Heal the Bay Beach Report Card

Welcome to the only comprehensive analysis of coastline water quality on the West Coast. Each week, over 500 beaches are graded A to F based on bacteria analysis. Check back often for the latest grades...know before you go!

[Drv: 738](#) [Web: 101](#)

[ig.com](#) [ig.com](#)

[.net](#) [.net](#)

● A or B ● C ● D or F

Last updated: 9/13/2017

BEACH REPORT CARD

BEACH REPORT CARD



Beach Grades | Historical Data | Documents | FAQ

Select Grades

[West Coast](#) | [State View](#)

Grade Type: Dry Wet [?]

San Francisco County

Search Beach

Predefined Searches

San Francisco County

Sort By Name

- [Aquatic Park Beach, 211 Station](#)
San Francisco County
A dry, ns wet
- [Aquatic Park Beach, Hyde St. Pier \(proj. of Larkin St.\)](#)
San Francisco County
A+ dry, ns wet
- [Baker Beach East, Ocean #15East](#)
San Francisco County
A+ dry, ns wet
- [Baker Beach West, Ocean #16](#)
San Francisco County
A+ drv. ns wet

Beaches Key:

- A or B Grade
- C Grade
- D or F Grade
- Beach Closed
- ns - no sample [?]
- ★ Water Quality Nowcast [?]

Overview | Facts and Resources | Multimedia | User Comments | Historical Data

Aquatic Park Beach, 211 Station

Grades based on a 30-day period ending 9/11/2017

[\[max zoom\]](#) [\[set as default\]](#) [\[close\]](#)

Dry Weather **A** | Wet Weather **ns** | No samples taken or available

Location
San Francisco
San Francisco County
CA 94133
[Get Directions](#)

Current Condition [More...](#)
Air: 63.9° F, Overcast
Wind: 0.0 MPH North
Powered by: wunderground.com

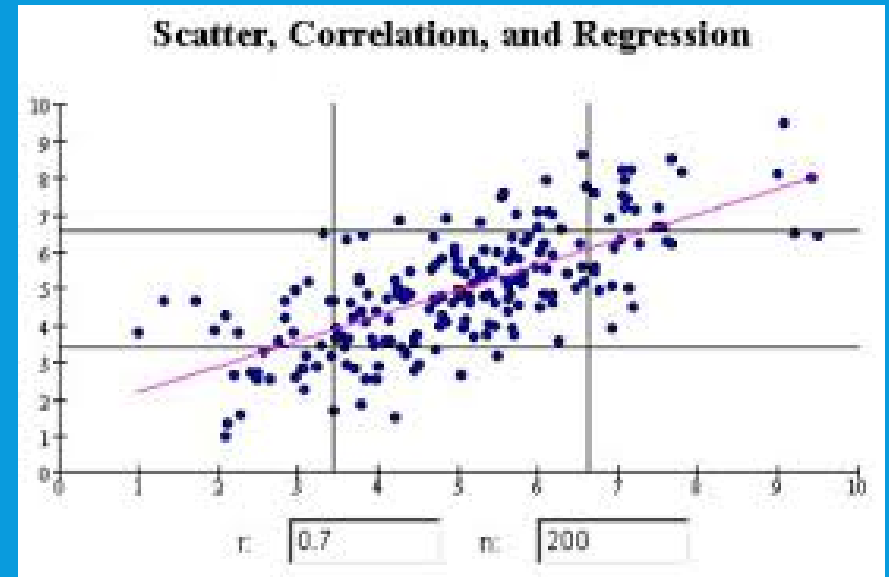
NOWCAST PROGRAM— PREDICTIVE MODELING

- Our current monitoring and public notification (M&PN) programs leave the public at risk:
 - 24-48 hours from sample to posting
 - Rapid detection methods still take hours
 - Of the ~500 beaches monitored in CA:
 - ~30 sampled 5x per week



NOWCAST PROGRAM— PREDICTIVE MODELING

A mathematical tool using years of fecal indicator bacteria (FIB) and environmental data to develop statistical models that predict public health decisions for water



NOWCAST PROGRAM— PREDICTIVE MODELING

- Great Lakes
 - Localized system with beach managers using models
 - Requires approximately 30 minutes daily per monitoring location
- Hong Kong
 - Centralized system with a third party running and maintaining models for many beaches
 - Requires very little time from local beach manager



NOWCAST PROGRAM— PREDICTIVE MODELING

- SWRCB grant to build permanent CA Beach Nowcast system:
 - Heal the Bay, Stanford, and UCLA
 - 3 year roll-out
 - 20 summer AB-411 beaches
 - 5 winter surf beaches
- Model Review via Technical Advisory Committee
- Implementation Committee
- Webpage and mobile app



NOWCAST PROGRAM— PREDICTIVE MODELING

Belmont Pier - westside

Nowcast Date	Nowcast Result
9/20/2017	POOR
9/19/2017	POOR
9/18/2017	POOR
9/17/2017	POOR
9/16/2017	POOR
9/15/2017	GOOD
9/14/2017	GOOD

Beach Grades | Historical Data | Documents | FAQ

Select Grades

[\[West Coast\]](#) [\[State View\]](#)

Grade Type: Dry Wet

By County:

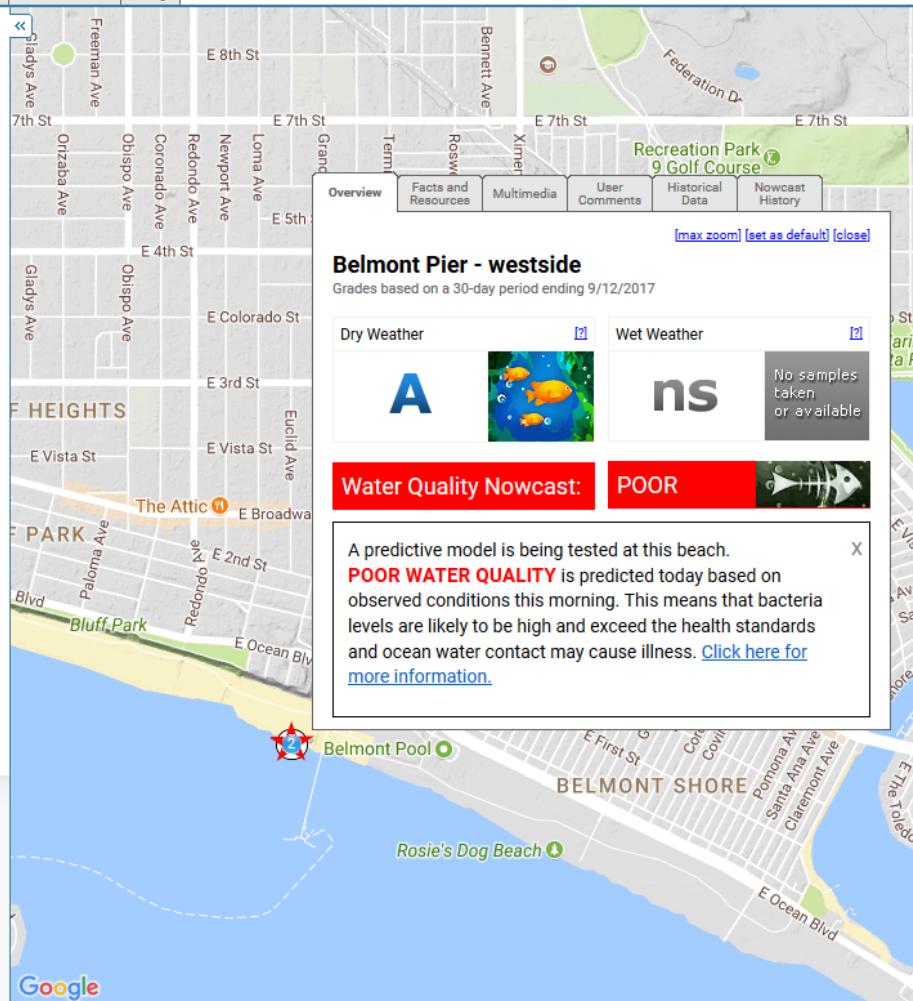
Search Beach: [Go](#)

Water Quality Nowcast:

Water Quality Nowcast: 11 results

Sort List By:

- 1** [Arroyo Burro Beach at Arroyo Burro Creek](#)
Santa Barbara County
A+ dry, A+ wet
- 2** [Belmont Pier - westside](#)
Los Angeles County
A dry, ns wet
- 3** [Cowell Beach, west of the wharf](#)
Santa Cruz County
F dry, ns wet
- 4** [Doheny State Beach - San Juan Creek Interface](#)
Orange County



Belmont Pier - westside
Grades based on a 30-day period ending 9/12/2017

Dry Weather: **A**

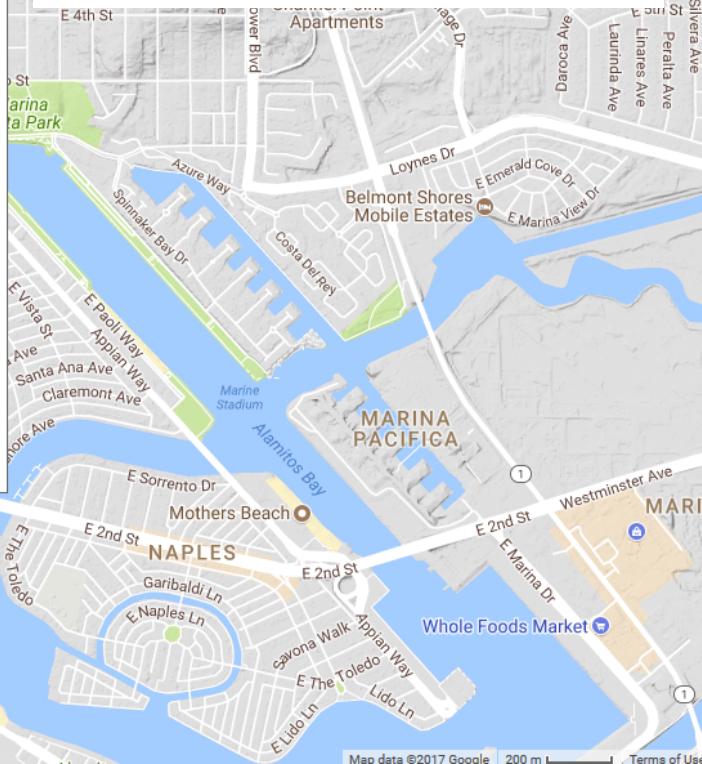
Wet Weather: **ns** No samples taken or available

Water Quality Nowcast: POOR

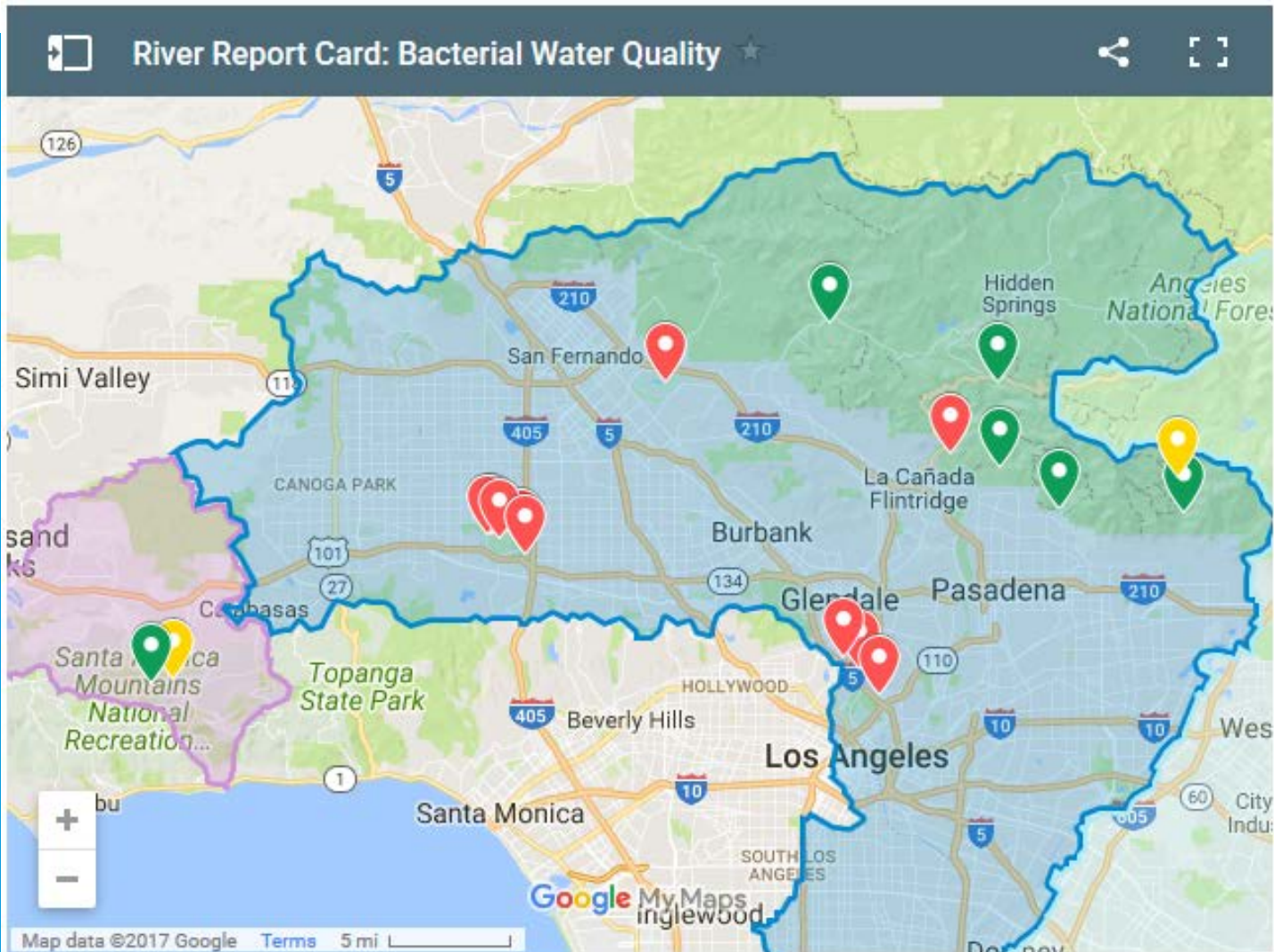
A predictive model is being tested at this beach. **POOR WATER QUALITY** is predicted today based on observed conditions this morning. This means that bacteria levels are likely to be high and exceed the health standards and ocean water contact may cause illness. [Click here for more information.](#)

Beaches Key:

- A or B Grade
- C Grade
- D or F Grade
- Beach Closed
- ns - no sample
- Water Quality Nowcast



RIVER REPORT CARD



RIVER REPORT CARD



← Steelhead Park, L.A. River →

Name

Steelhead Park, L.A. River

Description

This site is located in the Elysian Valley near Steelhead Park and is a primary exit point for many kayaks and kayak tours. It is the downstream end of the open recreation zone in Elysian Valley. Heal the Bay and the Los Angeles River Watershed Monitoring Program (LARWMP), specifically the Council for Watershed Health and Aquatic Bioassay & Consulting Laboratories, monitor at this location.

7/30/17

1/2 Exceedances (Yellow)

7/28/17

1/4 Exceedances (Yellow)

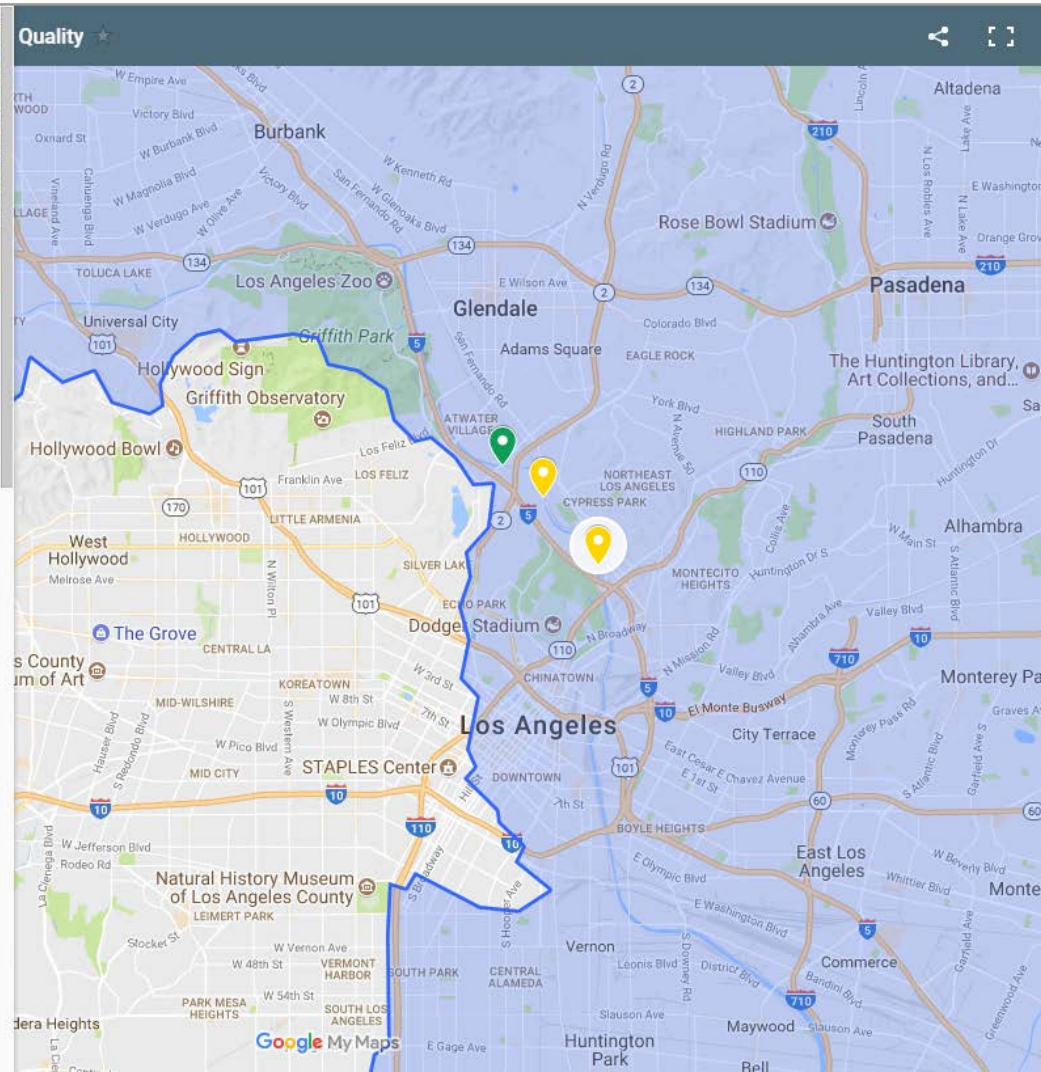
7/21/17

1/4 Exceedances (Yellow)

7/18/17

1/4 Exceedances (Yellow)

7/15/17



RIVER REPORT CARD— UNREGULATED RECREATIONAL WATERBODIES



Fresh Water Swim Areas



Related Links:

[Headline: Bay Fresh Water Information Sheet](#)

[Los Angeles County Public Works Water Shed](#)

[Los Angeles City Sanitation Water Quality](#)

[Fresh Water Swim Area List Results](#)

[Beachside Legend Test Results](#)

[Harmful Algae Blooms Information](#)

[Coastal Lake Warning](#)

Fresh Water Swim Areas

Swimming and other recreation activities in rivers and streams may seem like a good way to keep active, however, there can be risks associated with these waters. The water can be contaminated with bacteria, other harmful organisms, and unknown contaminants.

Designated Swim Areas

Los Angeles County maintains three designated swim beaches that provide restroom facilities, lifeguards, and information to reduce the risk of elevated bacteria counts and harmful algae blooms. These swim beaches are located at Puddingstone Lake, Santa Fe Dam, and Catalina Lake and are normally open for swim season from Memorial Day to Labor Day.

Pyramid Lake, in the Los Padres National Forest and part of the California State Water Project, also has swim areas. However, these are not

RESULTS

- Strong Public Notification Programs can and should inform Recreational Water Quality Programs:
 - Legislation—AB411 ,AB528, Clean Beach Initiative
 - Funding—Clean Beach Initiative, State Revolving Funds, Propositions, and SWRCB
 - Policy—303d listings, Bacterial Standards, and Model Monitoring
 - Education—informing agencies, elected, and stakeholders on health, program, policy, and fiscal decisions

THANK YOU