

BEACH WATER QUALITY

Michael G. Kellogg

Natural Resources and Lands Management Division

San Francisco Public Utilities Commission

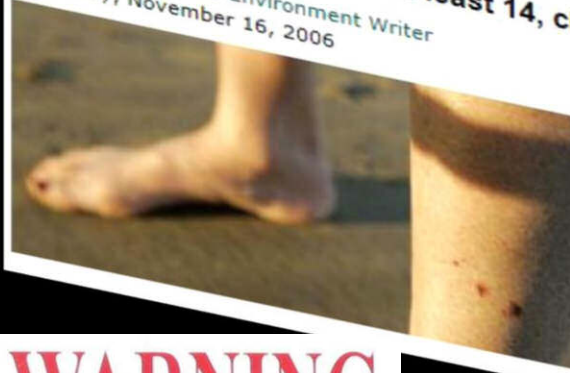
RMP Annual Meeting

October 4, 2011



Rogue sea lion in S.F. menaces swimmers Marauding mammal bites at least 14, chases 10 from Aquatic Park Lagoon

Jane Kay, Chronicle Environment Writer
Thursday, November 16, 2006



A California sea lion lurking in San Francisco's Aquatic Park Lagoon is terrorizing swimmers, biting at least 14 on the legs and chasing 10 others out of the water this week.

**OIL SPILL
AREA CLOSED
NO WATER CONTACT**

WARNING

THESE WATERS ARE CONTAMINATED
AND ARE NOT SUITABLE FOR SWIMMING
OR OTHER WATER CONTACT ACTIVITIES



SAN MATEO COUNTY
ENVIRONMENTAL HEALTH



FOR FURTHER INFORMATION, CALL 599-1266

Missing Windsurfer Rescued From San Francisco Bay

Posted: 7:07 am PDT July 19, 2011
Updated: 1:00 pm PDT July 19, 2011

SAN FRANCISCO -- A windsurfer was discovered clinging to her board in the San Francisco Bay early Tuesday, more than 12 hours after she was reported missing in the waters near Coyote Point, authorities said.

INVASIVE SPECIES

Swimmer's itch strikes Alameda beach twice

September 30, 2010 | By Kelly Zito, Chronicle Staff Writer

An invasive snail recently discovered in San Francisco Bay has brought along its own unwelcome stowaway: a parasitic worm responsible for only the second known outbreak of "swimmer's itch" along the Pacific Coast of the United States.

California minimum protective bacteriological standards for waters adjacent to public beaches and public water-contact sports areas:

Single Sample Maxima (CFU/100 mL)

Total Coliform $\leq 10,000$
or $\leq 1,000$ if total/fecal ratio > 0.1
Fecal Coliform ≤ 400
Enterococcus ≤ 104

30-Day Geometric Means (CFU/100 mL)

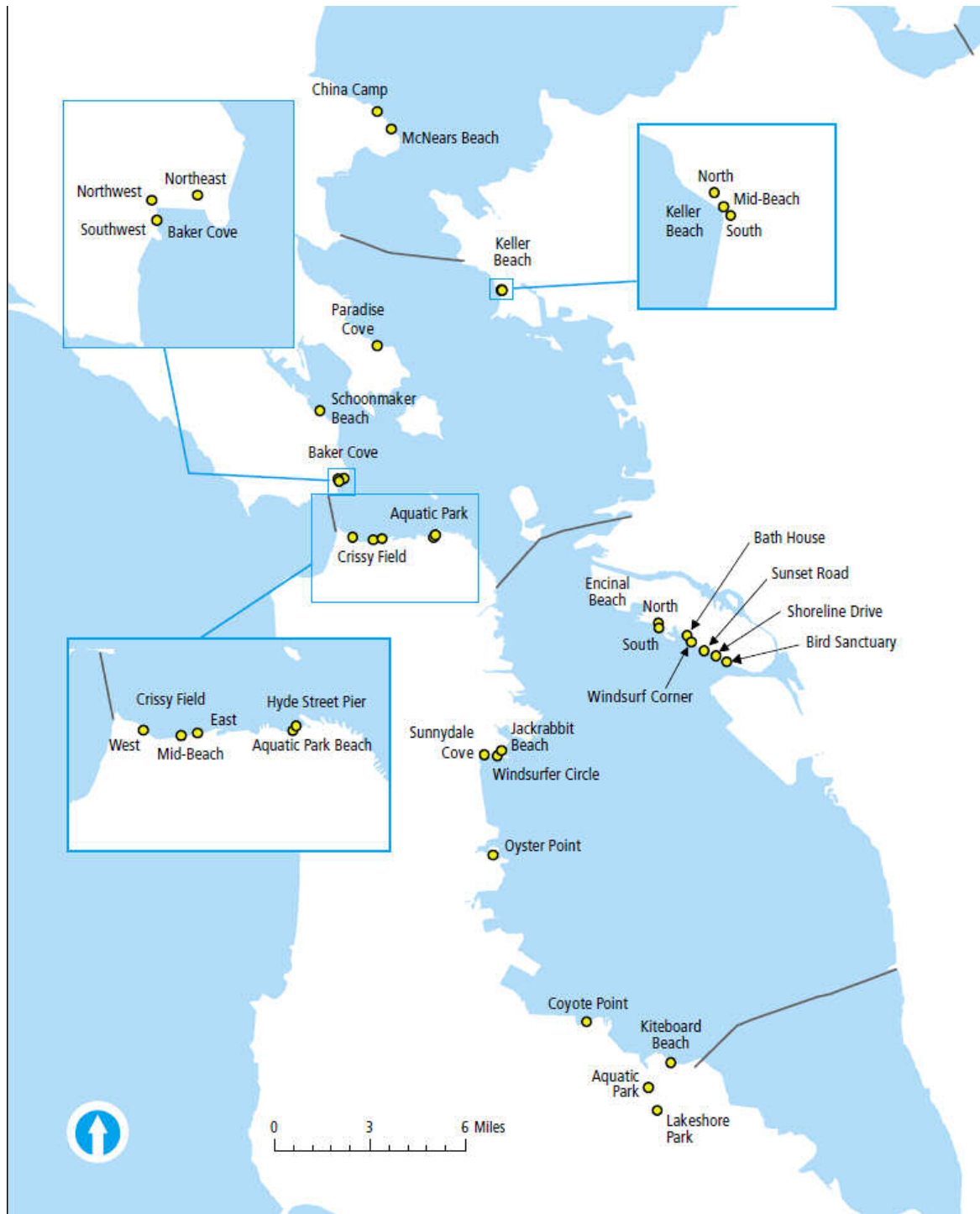
Total Coliform $\leq 1,000$
Fecal Coliform ≤ 200
Enterococcus ≤ 35



Sources of Fecal Indicator Bacteria (FIB)

- 1. Human Fecal Contamination** – leaky sewer systems, sanitary sewer overflows, storm water, combined sewer discharges during wet weather, septic tanks, illegal boat discharges, and babies and other people defecating directly at the beach
- 2. Non-Human Fecal Contamination** – dogs and other pets, wildlife including birds, seals, sea lions, deer, etc., and cattle, horses and other agrarian land uses
- 3. Environmental FIB** – beach sands, beach wrack, salt marshes, upland soils





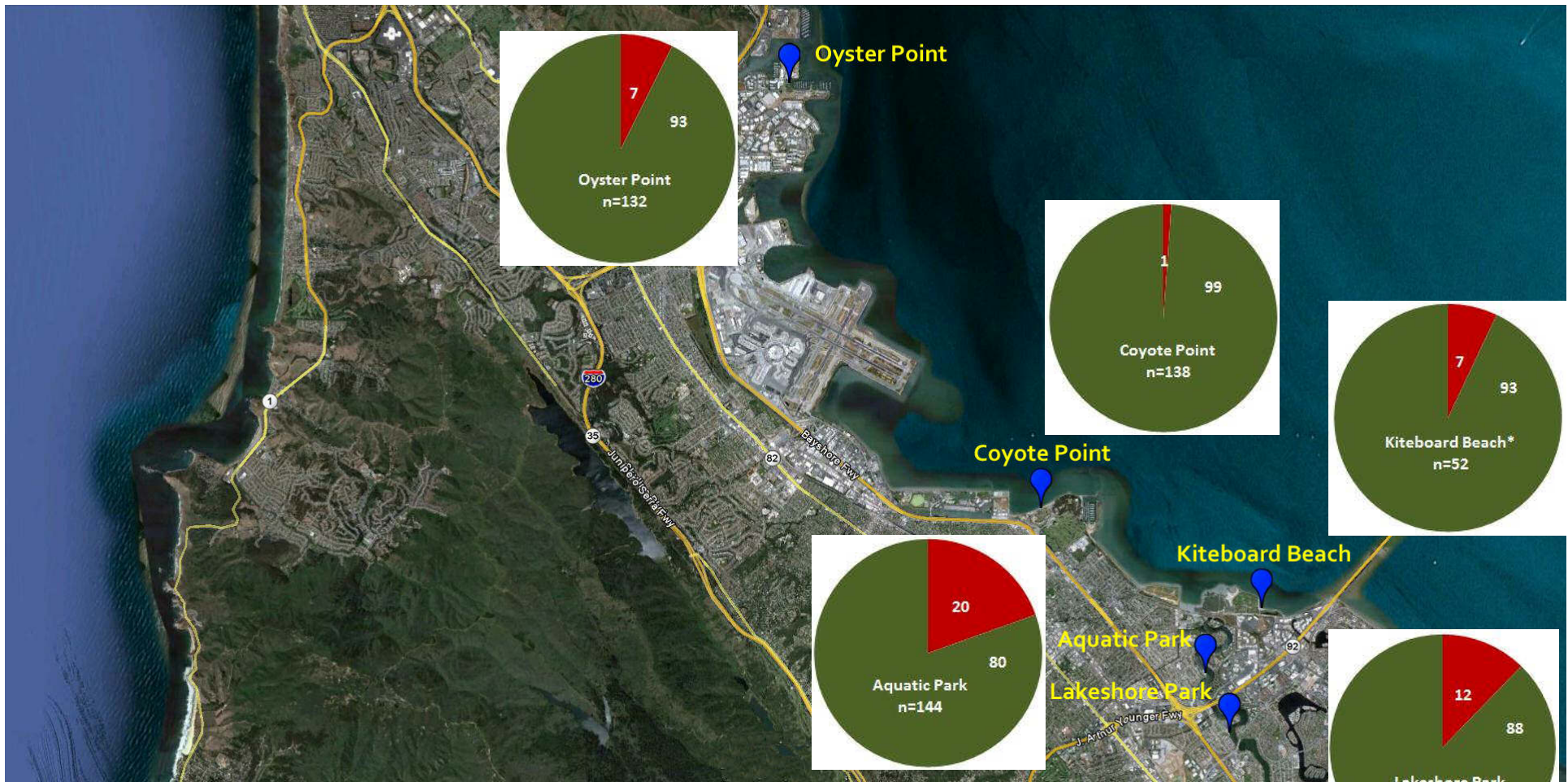
Bay beaches routinely monitored for fecal contamination by county Public Health and other agencies 2006-2010



Alameda County

Percent of days April – October that beaches were posted or not posted due to possible fecal contamination 2006 – 2010

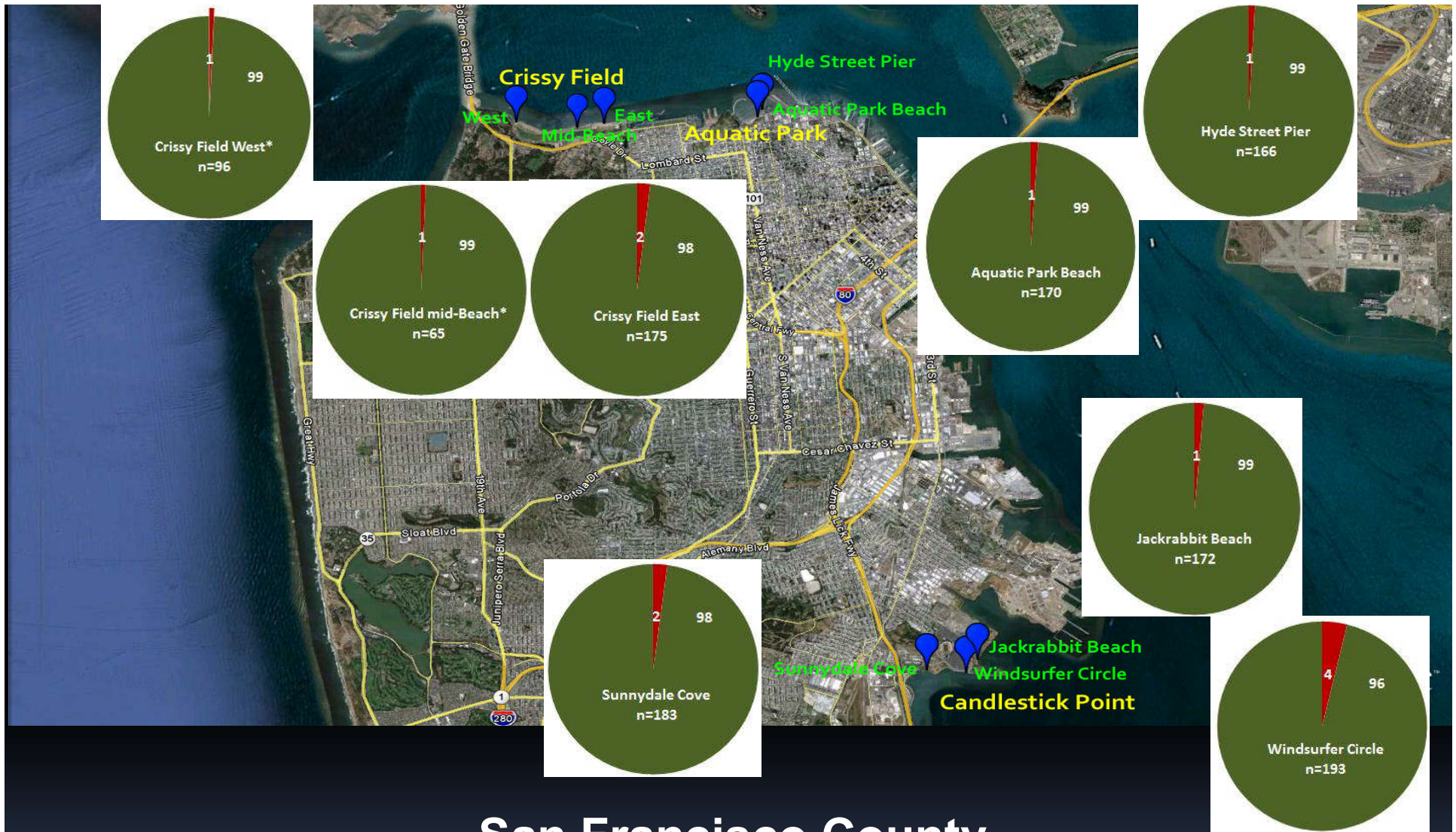
*Encinal Beach sampled 2008 - 2010



San Mateo County

Percent of days April – October that beaches were posted or not posted due to possible fecal contamination 2006 – 2010

*Kiteboard Beach sampled 2008 - 2010



San Francisco County

Percent of days April – October that beaches were posted or not posted due to possible fecal contamination 2006 – 2010

*Crissy Field Mid-Beach sampled 2006 – 2007

*Crissy Field West sampled 2008 – 2010



Marin and Contra Costa Counties

Percent of days April – October that beaches were posted or not posted due to possible fecal contamination 2006 – 2010

*McNears Beach sampled 2006 – 2008

Heal the Bay Annual Beach Report Card Grades April – October

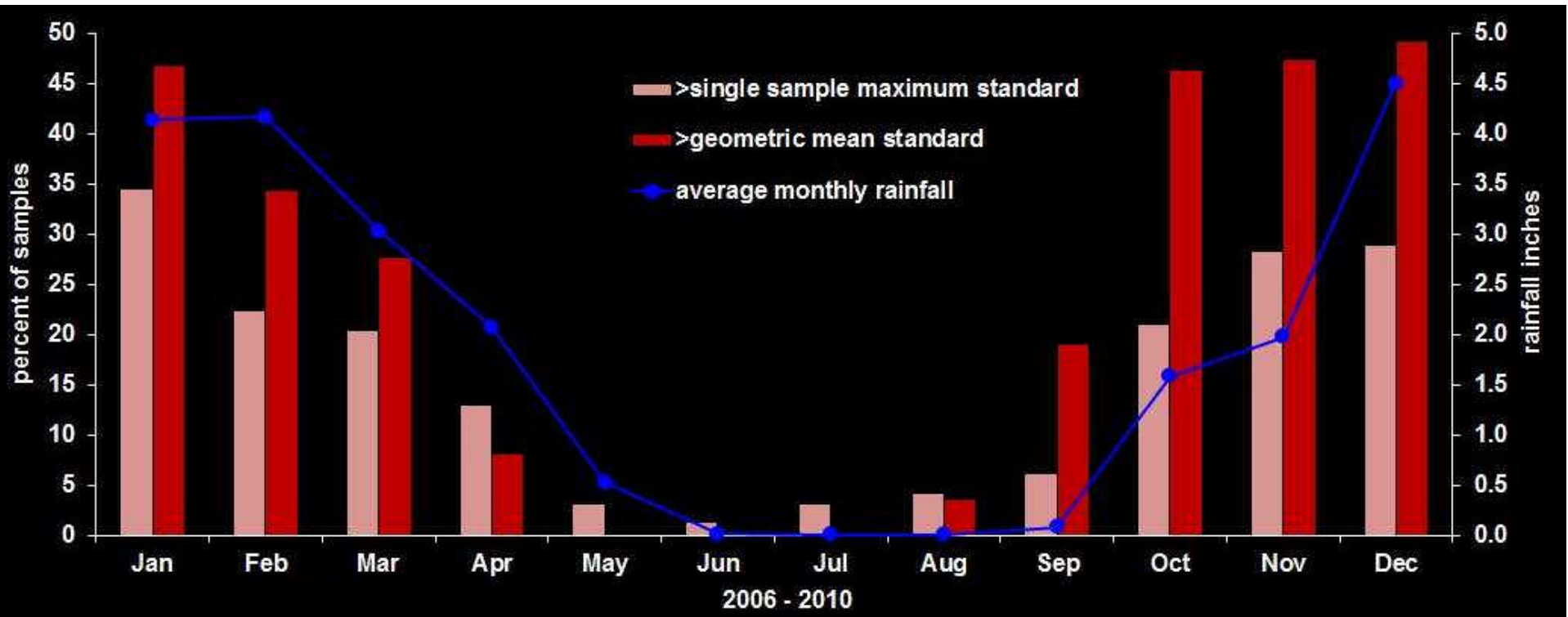
| | 2006 | 2007 | 2008 | 2009 | 2010 | | 2006 | 2007 | 2008 | 2009 | 2010 |
|-----------------------------|------|------|------|------|------|-----------------------------|------|------|------|------|------|
| San Mateo County | | | | | | San Francisco County | | | | | |
| Oyster Point | A | A | B | A | | Crissy Field West | | | A+ | A+ | A+ |
| Coyote Point | A | A+ | A+ | A+ | | Crissy Field Mid-Beach | A | A+ | | | |
| Aquatic Park | A | B | F | D | | Crissy Field East | A | A | A | A | A+ |
| Lakeshore Park | A | D | D | D | | Aquatic Park Beach | A | B | A | A | A |
| Kiteboard Beach | | | B | | | Hyde Street Pier | A | A | A | A+ | A+ |
| Alameda County | | | | | | Marin County | | | | | |
| Alameda Point North | | | A | A+ | A | Jackrabbit Beach | A | A | A | A | A |
| Alameda Point South | | | A | A | A+ | Windsurfer Circle | A | A | A | A | D |
| Crown Beach Bath House | A | A | B | A+ | | Sunnydale Cove | A | A | A | B | D |
| Crown Beach Windsurf Corner | A | A | A | A+ | | Horseshoe Cove NE | | | | | |
| Crown Beach Sunset Road | A | A+ | A | A+ | | Horseshoe Cove NW | A | B | A | A | A |
| Crown Beach Shoreline Drive | A | A | A+ | A+ | | Horseshoe Cove SW | A | A | A | A | A |
| Crown Beach Bird Sanctuary | A | A | B | A | | Schoonmaker Beach | A | A+ | A+ | A | A+ |
| Contra Costa County | | | | | | Paradise Cove | | | | | |
| Keller Beach North | B | F | D | F | | China Camp | D | A+ | A+ | A | A |
| Keller Mid-Beach | B | C | D | F | | McNears Beach | C | A | A | | |
| Keller Beach South | A | C | D | D | | | | | | | |

| average grades April - October | | | | |
|--------------------------------|------|------|------|------|
| 2006 | 2007 | 2008 | 2009 | 2010 |
| B+ | A- | B+ | B | B |

Heal the Bay Annual Beach Report Card Grades Year-Round Wet Weather April 1 – March 31

| | 2006 - 2007 | 2007 - 2008 | 2008 - 2009 | 2009 - 2010 | 2010 - 2011 | | 2006 - 2007 | 2007 - 2008 | 2008 - 2009 | 2009 - 2010 | 2010 - 2011 |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|-----------------------------|----------------|----------------|----------------|----------------|----------------|
| San Mateo County | | | | | | San Francisco County | | | | | |
| Oyster Point | C | | | F | D | Crissy Field West | | | A | C | B |
| Coyote Point | A | | | B | C | Crissy Field Mid-Beach | B | A | | | |
| Aquatic Park | F | | | F | F | Crissy Field East | D | A | B | B | C |
| Lakeshore Park | F | | | F | F | Aquatic Park Beach | B | A | C | A | B |
| Kiteboard Beach | | | | F | | Hyde Street Pier | A | A | A+ | A | A |
| Alameda County | | | | | | Marin County | | | | | |
| Alameda Point North | | | A+ | A | C | Jackrabbit Beach | A | F | D | C | B |
| Alameda Point South | | | A+ | A | A | Windsurfer Circle | F | F | F | F | F |
| Crown Beach Bath House | C | | A+ | A | A | Sunnydale Cove | F | F | F | F | F |
| Crown Beach Windsurf Corner | A | | A+ | B | B | Horseshoe Cove NE | | | | | |
| Crown Beach Sunset Road | F | | A | B | B | Horseshoe Cove NW | | | | | |
| Crown Beach Shoreline Drive | F | | A+ | C | B | Horseshoe Cove SW | | | | | |
| Crown Beach Bird Sanctuary | F | | B | D | C | Schoonmaker Beach | | | | | |
| Contra Costa County | | | | | | Paradise Cove | | | | | |
| Keller Beach North | A | | A | B | A | China Camp | | | | | |
| Keller Mid-Beach | B | | B | B | A | McNears Beach | | | | | |
| Keller Beach South | A | | B | C | B | | | | | | |

| average grades wet-weather | | | | |
|----------------------------|----------------|----------------|----------------|----------------|
| 2006 - 2007 | 2007 - 2008 | 2008 - 2009 | 2009 - 2010 | 2010 - 2011 |
| C | C | B | C | C+ |



Fecal Indicator Bacteria (FIB) are more frequently elevated in wet weather than in dry weather. n=2,285

Local Beach Water Quality Resources

Alameda County

- website: www.ebparks.org/stewardship/water
- hotline: 510-567-6706 (Crown Beach)

Contra Costa County

- website: www.ebparks.org/stewardship/water

Marin County

- website: www.co.marin.ca.us/ehs/water/beach_monitoring.cfm
- hotline: 415-473-2335

City & County of San Francisco

- website: <http://beaches.sfwater.org>
- hotline: 415-242-2214 or 1-877-SFBEACH (732-3224) toll free

San Mateo County

- website: www.smhealth.org/envirom/beaches
- hotline: 650-599-1266



Statewide Beach Water Quality Resources

Heal the Bay beach report cards

➤ www.beachreportcard.org

California Safe to Swim Web Portal

➤ www.waterboards.ca.gov/mywaterquality/safe_to_swim

California Beach Water Quality Information Page

➤ www.swrcb.ca.gov/water_issues/programs/beaches/beach_water_quality/index.shtml

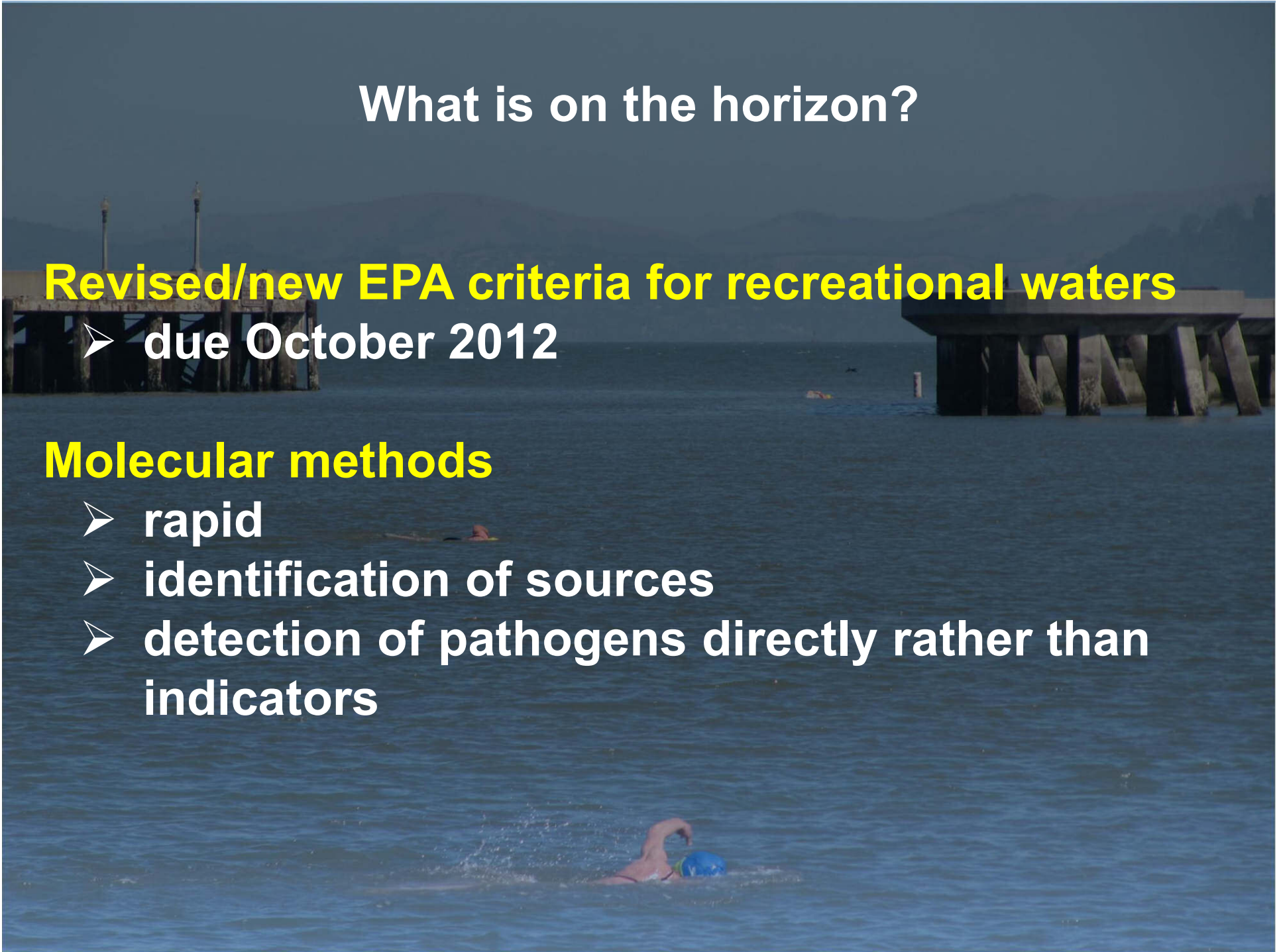
What is on the horizon?

Revised/new EPA criteria for recreational waters

- due October 2012

Molecular methods

- rapid
- identification of sources
- detection of pathogens directly rather than indicators



Summary

- Many Bay beaches are routinely monitored for fecal contamination
- Bay beaches generally have good water quality April through October, but water quality tends to degrade during wet weather
- Beach users concerned with exposure to fecal indicator bacteria and associated pathogens have many options to make informed decisions:
 - Pay attention to beach postings and closures
 - Utilize county web sites and hotlines
 - Avoid water contact during rain events and for up to 72 hours afterwards
 - Avoid water contact near flowing storm drains
 - Utilize Heal the Bay's on-line beach report card grades

Grateful Acknowledgement to:

Adam Olivieri, EOC, Inc.

Robert Cooper, BioVir Laboratories

Dean Peterson, San Mateo County Environmental Health

Alexandria Boehm, Stanford University

Larry Cooper, SCCWRP

Steve Weisberg, SCCWRP

Mark Gold, Heal the Bay

Amanda Griesbach, Heal the Bay

John S. Roddy, City & County of San Francisco

Tom Hall, EOC, Inc.

Al Hom, Alameda County Environmental Health

Cynthia Bartus Jepsen, Alameda County Environmental Health

Hal MacLean, East Bay Regional Park District

Jan Null, Golden Gate Weather Services

Richard Looker, San Francisco Bay RWQCB

and the **Northern California Beach Monitoring Workgroup**

BEACH WATER QUALITY

Michael G. Kellogg

**Natural Resources and Lands Management Division
San Francisco Public Utilities Commission**

415-242-2218

mkellogg@sfwater.org



San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission



Services of the San Francisco Public Utilities Commission
19W94 19W61 26W61