

Joint SAC Meeting

GFNMS / MBNMS

**Water Quality Protection
Program and the Northern
Management Area**

February 18, 2010

Bridget Hoover, Director WQPP

Lisa Emanuelson, Volunteer Coordinator



**NATIONAL MARINE
SANCTUARIES**



Presentation Overview



- What is the Water Quality Protection Program?
- Current WQPP Efforts
- What's happening in the NMA?
- Water quality monitoring programs and results



Watersheds: Linking Land & Sea



Counties that border the Sanctuary

- Marin
- Monterey
- San Mateo
- Santa Cruz
- Santa Clara
- San Benito
- San Luis Obispo

7 million people live within 25 miles of the coast



Water Quality Protection Program



GOALS:

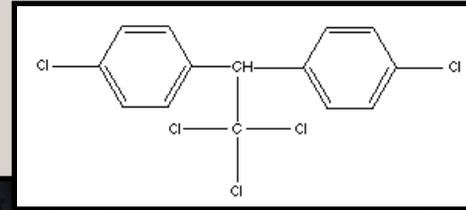
- 1) Protect the physical, chemical and biological conditions in the Sanctuary and its adjacent watersheds
- 2) Establish collaborative efforts among agencies, landowners, businesses and public for comprehensive marine and watershed protection
- 3) Coordinate and integrate existing water quality programs



Water Quality Pollutants



- Sediments
- Nutrients
- Pesticides
- Pathogens
- Metals
- Detergents





WQPP Action Plans



Implementing Solutions to Urban Runoff

Regional Monitoring, Data Access, and Interagency Coordination (SAM)



Marinas and Boating

Agriculture and Rural Lands



Beach Closures and Microbial Contamination



WQPP Outreach



- Educational Programs
 - Citizens, businesses, agencies, farmers, boaters.
- Management Activities
 - Urban runoff programs, industry-led agricultural water quality efforts.
- Monitoring
 - Site-specific to whole watershed monitoring, hundreds of volunteers, targeted source identification efforts.



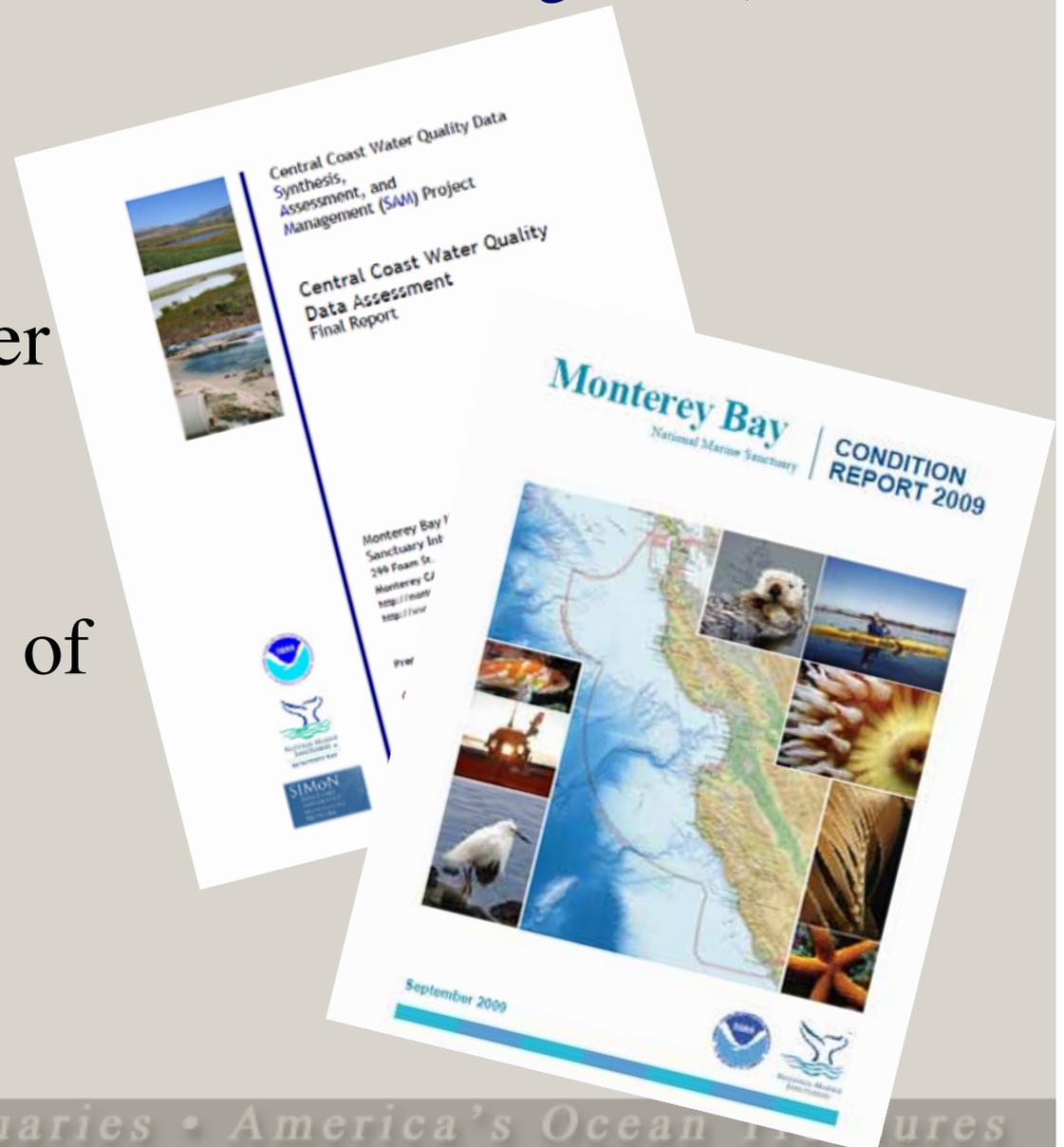


SAM Project



(Synthesis, Assessment and Management)

- Conducted preliminary assessment of water quality flowing to MBNMS.
- Statistical analysis of existing data.





Sanctuary Condition Report



- **Offshore environment**-Water quality is good to fair
 - Conditions declining due to elevated contaminants and water temperature
- **Nearshore environment**-Water quality is good to poor
 - Conditions declining due to elevated POPs, metals, pathogens, nutrients
- **Estuarine**- Water quality is fair to poor
 - Conditions declining due to pollutants from agriculture and urban sources. Waterbodies impaired due to pesticides and pathogens.

<http://sanctuaries.noaa.gov/science/condition/mbnms/>



A **SAM** with a Plan



- Objectives
- Components
 - WQ Data Integration and Access
 - WQ Monitoring Coordination
 - Regional Reporting
 - Tracking Land-use Management
- Implementation
 - Partners identified for tasks
 - Timeframes defined for priority tasks



Central Coast Water Quality Data
Synthesis,
Assessment, and
Management (SAM) Project

Strategic Plan for Central Coast
Water Quality Monitoring
Coordination and Data Synthesis

Monterey Bay National Marine Sanctuary/
Sanctuary Integrated Monitoring Network
299 Foam St.
Monterey CA, 93940
<http://montereybay.noaa.gov/>
<http://www.mbms-simon.org/>



Prepared by
Gary Conloy
Bridgot Hoover

March, 2009



WQ Viewer



http://www.sanctuariesimon.org/regional_sections/maps/wqviewer/index.php

Map Satellite Hybrid Terrain
Zoom

Site Selection Site Details
Select By
Programs Analyzed
Submit
 All Programs
 CCAMP
 CCAMP Coastal Confluence
 CCAMP Watersheds
 CMF
 CWC
 First Flush Urbanwash
 Clean Streams
 Snapshot Day
 CCWOP
 CCOWS
 ESNERW
 YAMHUE
 First Flush Urbanwash
 Snapshot Day
 MARI

Location: 309GAB001 - 309GAB-Gabilan Creek @ Independence Road and East Boranda Road - Morill...

<http://www.sanctuariesimon.org/wqviewer/streetView.php?siteTag=309GAB001>

Select	Site Tag	Station Name	Prog ID	Latitude	Longitude	Datum
Select	304APS001	304APS-Aptos Creek @ Moore Marks park road	CCAMP	-37.001383	-121.806217	WGS84
Select	304APT001	304APT-Aptos Creek @ Spreckles Drive	CCAMP	36.973667	-121.8030	WGS84
Select	304APW001	304APW-Aptos Creek @ Winfield	CCAMP	36.9721	-121.00545	WGS84

Download to Excel
RSS Feed

Dary Conroy
Water Quality Analyst



Agriculture & Rural Lands



- Agricultural Diversity
- Education and Outreach
- Management and Implementation
- Monitoring & Research

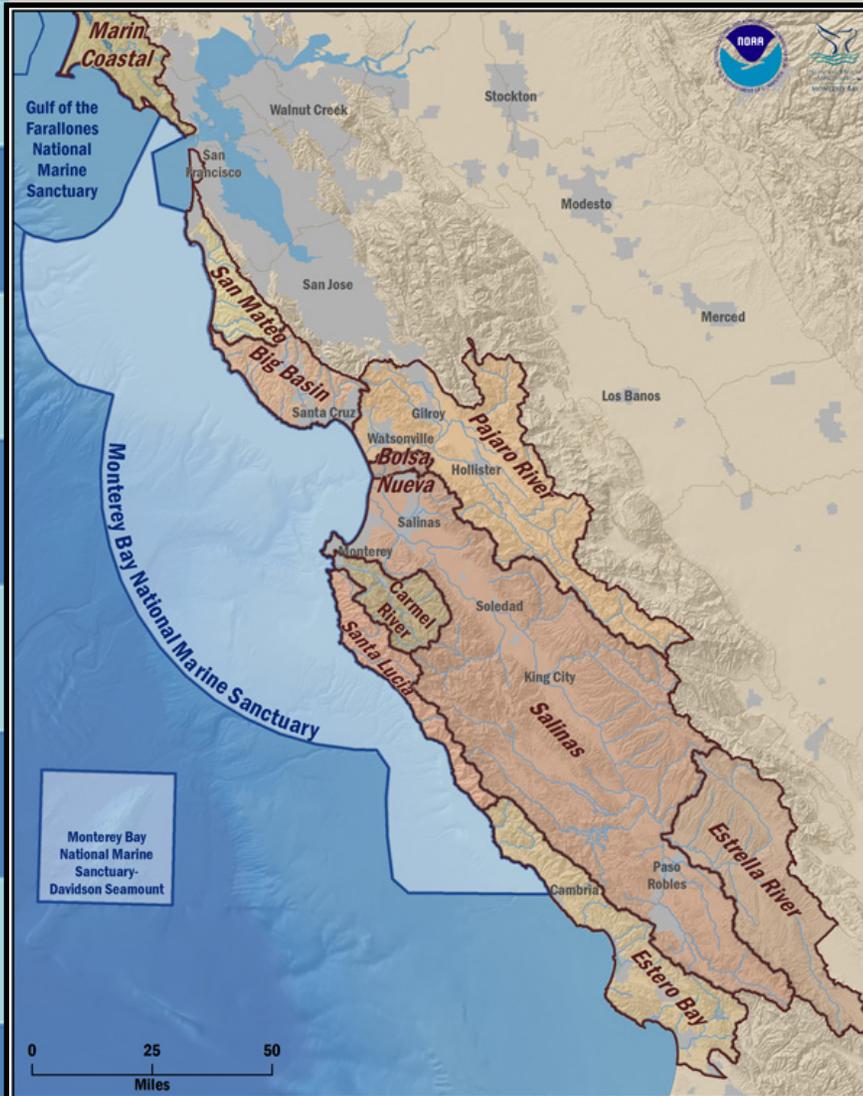




AWQA



A history of conservation through collaboration



AWQA

Agriculture Water Quality Alliance

RESOURCE CONSERVATION DISTRICT

UCCE University of California Cooperative Extension

NRCS Natural Resources Conservation Service

NATIONAL MARINE SANCTUARIES MONTEREY BAY

CENTRAL COAST AGRICULTURAL WATER QUALITY COALITION





AWQA in NMA



- Irrigation Nutrient Management Program
 - Agriculture Water Enhancement Program
 - EQUIP (San Mateo FB)
 - Prop 84 (proposed)
- RCD has stimulus funds for WQ and water conservation projects on 20 farms.
- RCD rural roads program
- April-May AWQA meeting will be in San Mateo



Other NMA Efforts



- Fitzgerald Marine Reserve Critical Coastal Area
 - Helped with development of the NPS Watershed Assessment
- Partnerships with the San Mateo RCD and the newly formed Watershed Discovery Foundation
 - Pillar Point FIB Harbor Study
 - B-WET grant to monitor 6 streams flowing to Fitzgerald Marine Reserve (Walk 'n Talk)
 - Pescadero TMDL development



First Flush

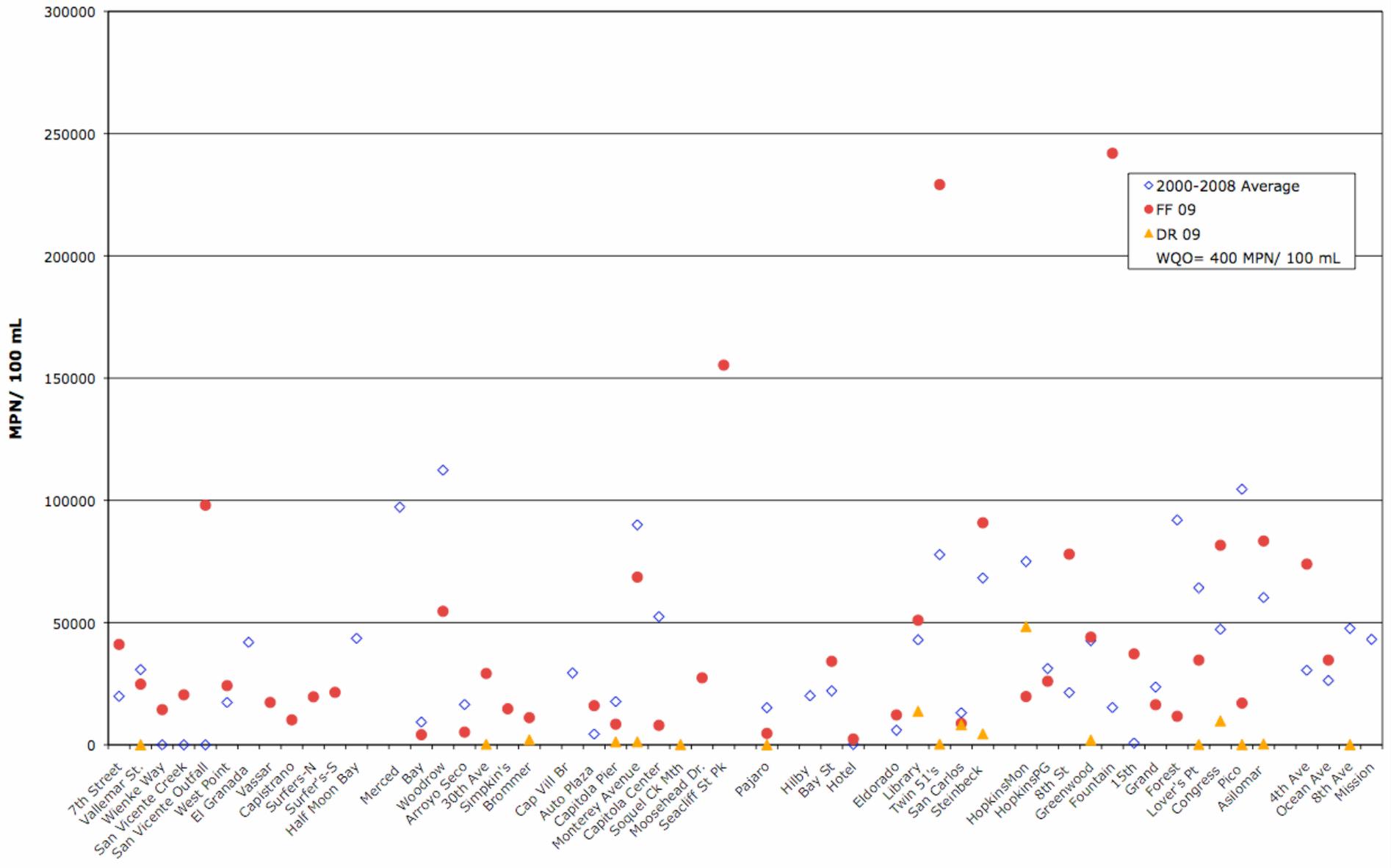


- Began in 2000
- Urban outfalls from Montara (San Mateo County) to Carmel Valley (Monterey County)
- 47 storm drain outfalls in 10 cities
- Samples are analyzed for:
 - Metals: zinc, copper, lead
 - Nutrients: nitrate, urea, phosphate
 - Bacteria: *E. coli*, enterococcus
 - Total suspended solids
 - Field measurements



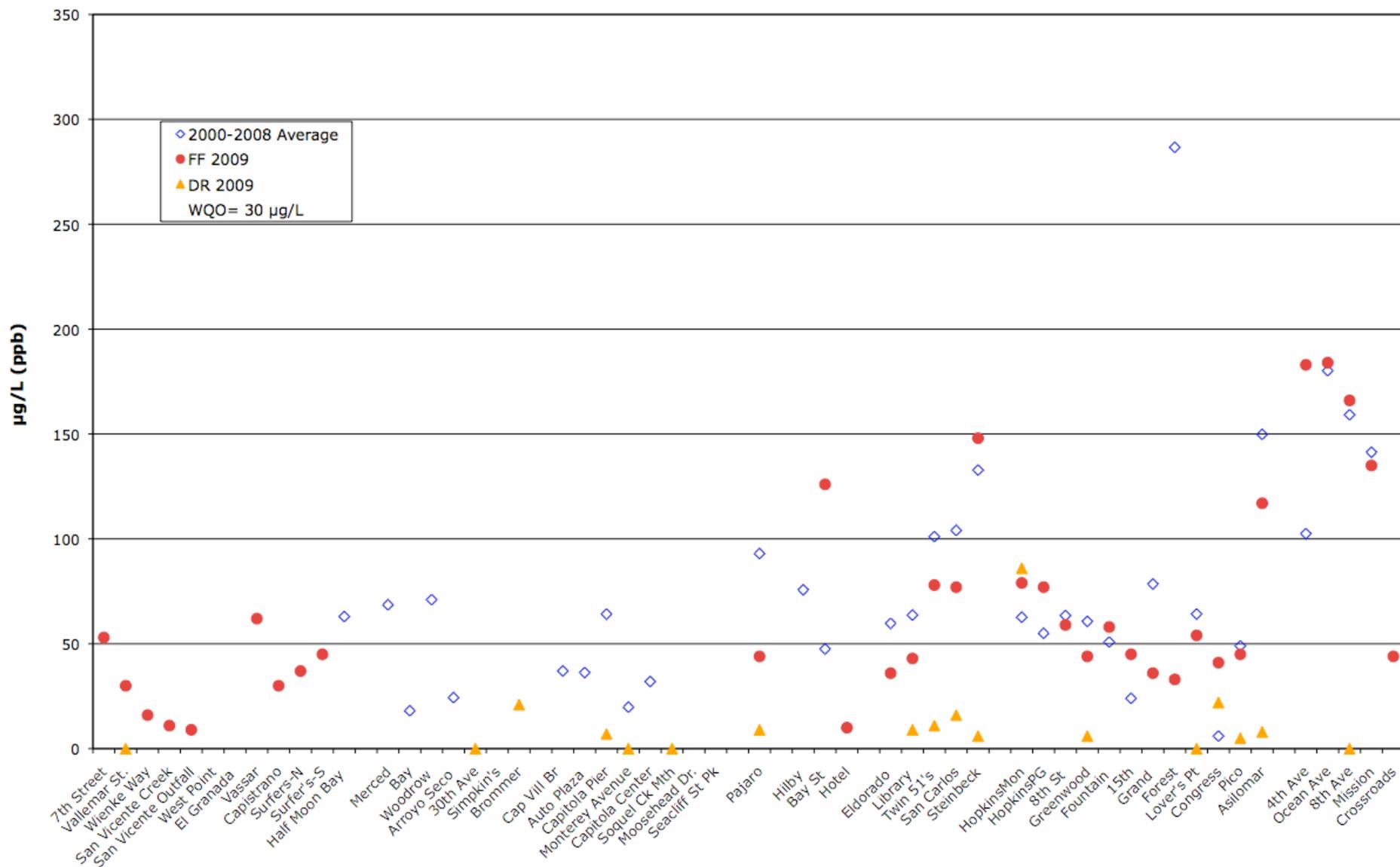


First Flush- *E. coli*



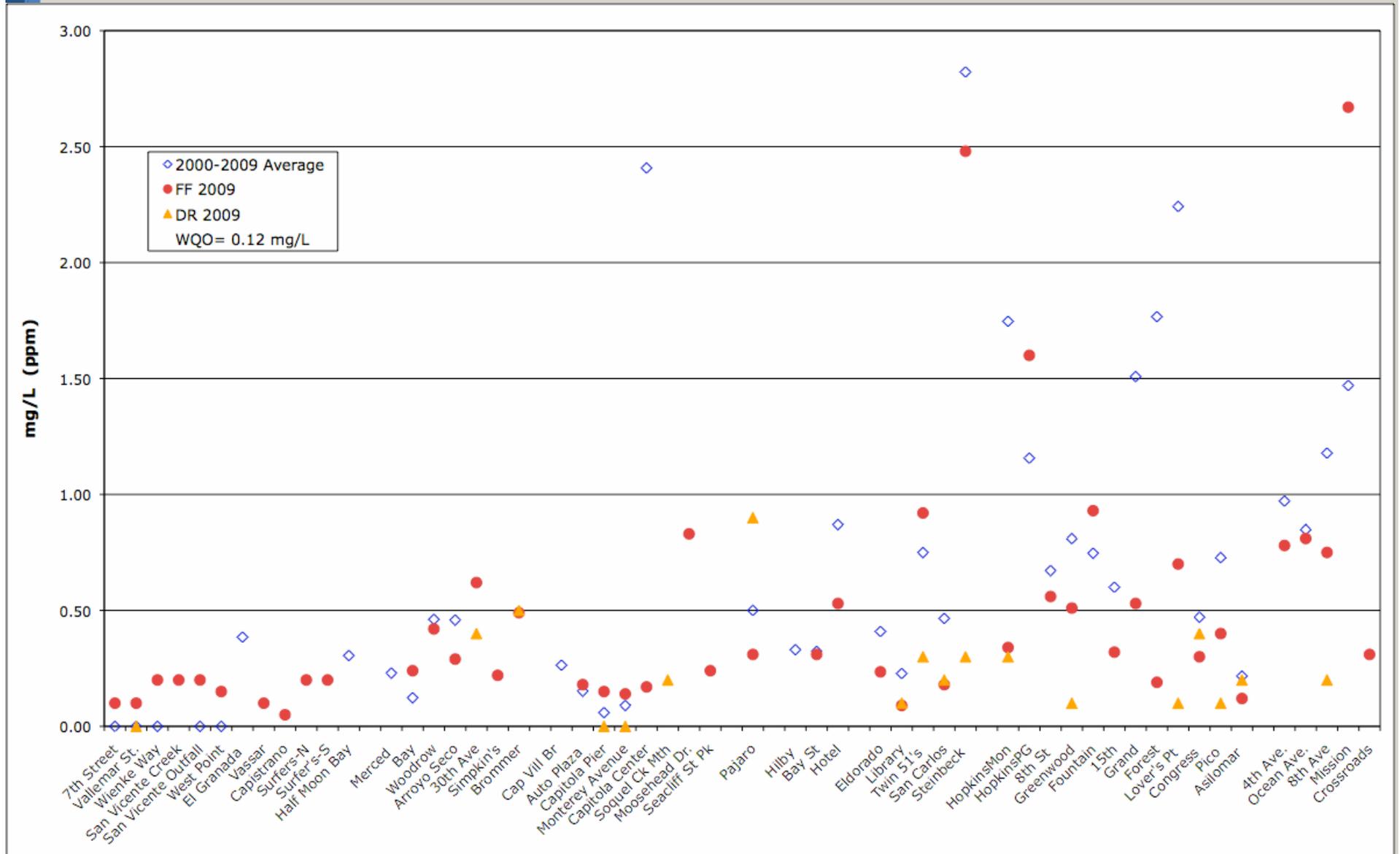


First Flush- Copper





First Flush- Orthophosphate





Snapshot Day



- Since 2001
- First Saturday in May
- Monitor 100+ streams
- Parameters
 - H₂O temperature
 - transparency/turbidity
 - conductivity
 - pH
 - dissolved oxygen
 - nitrate, orthophosphate
 - *E. coli*





Snapshot Day



E. Coli bacteria

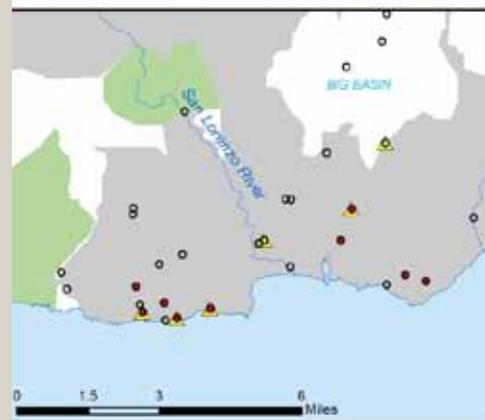
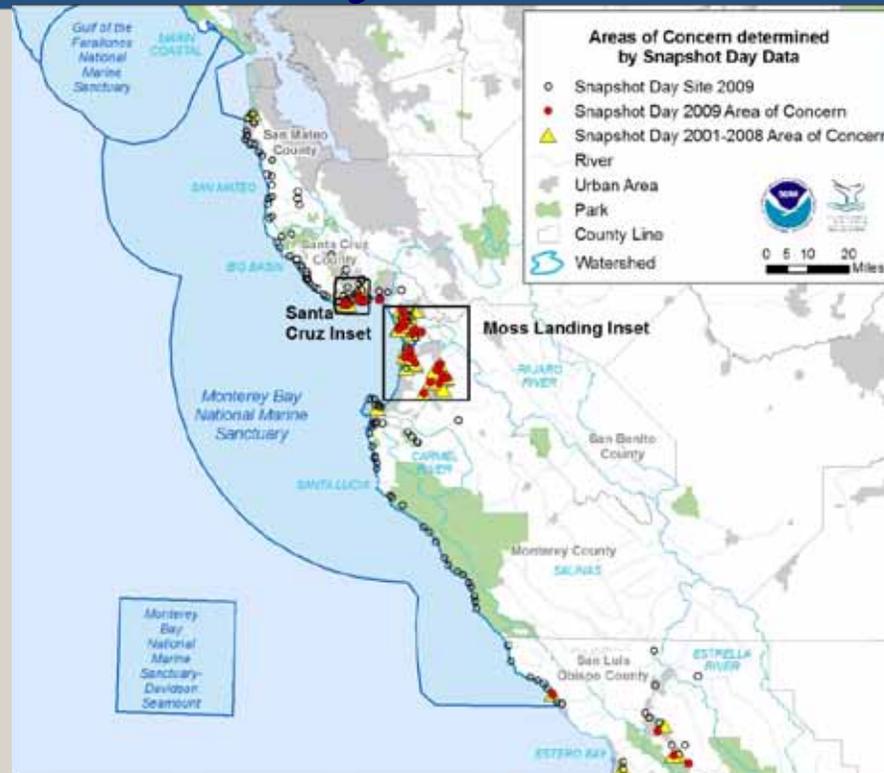




Snapshot Day



Areas of Concern-
any three parameters



Santa Cruz Inset



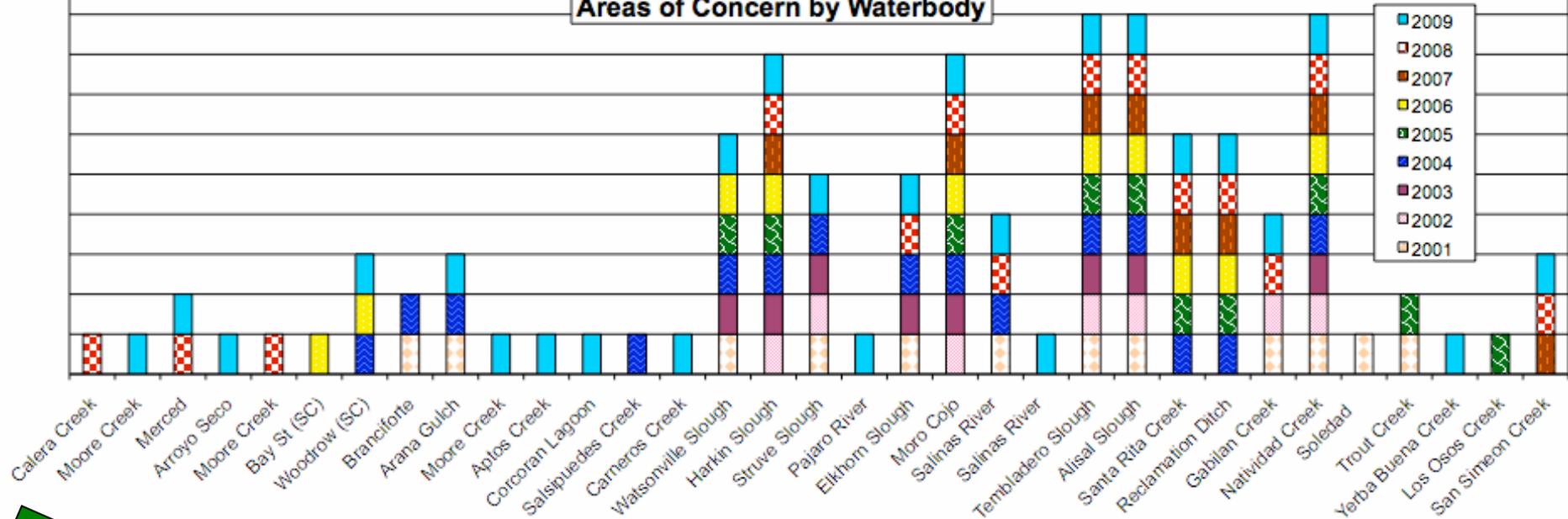
Moss Landing Inset



Snapshot Day



Areas of Concern by Waterbody



Questions?



NATIONAL MARINE
SANCTUARIES