Joint SAC Meeting
GFNMS / MBNMS
Water Quality Protection Program and the Northern Management Area
February 18, 2010

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Presentation Overview

• What is the Water Quality Protection Program?
• Current WQPP Efforts
• What’s happening in the NMA?
• Water quality monitoring programs and results
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
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
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.
• 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
Agriculture & Rural Lands

- Agricultural Diversity
- Education and Outreach
- Management and Implementation
- Monitoring & Research
A history of conservation through collaboration
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*

MPN/100 mL

2000-2008 Average
FF 09
DR 09
WQO=400 MPN/100 mL

National Marine Sanctuaries - America's Ocean Treasures
First Flush - Copper

- 2000-2008 Average
- FF 2009
- DR 2009
- WQO = 30 μg/L

Graph showing copper levels in various locations with data points for 2000-2008, 2009 flush, and 2009 discharge. Each location is labeled along the x-axis.
First Flush - Orthophosphate

- 2000-2009 Average
- FF 2009
- DR 2009
- WQD = 0.12 mg/L

National Marine Sanctuaries • America's Ocean Treasures
Snapshot Day

- Since 2001
- First Saturday in May
- Monitor 100+ streams
- Parameters
  - $H_2O$ temperature
  - transparency/turbidity
  - conductivity
  - pH
  - dissolved oxygen
  - nitrate, orthophosphate
  - *E. coli*
Snapshot Day

*E. Coli* bacteria
Snapshot Day

Areas of Concern—any three parameters
Questions?