

# Discharges to Areas of Special Biological Significance

## “Update on ASBS Regulatory and Monitoring Efforts”

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Monterey, CA



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*Photo: Pacific Grove ASBS*

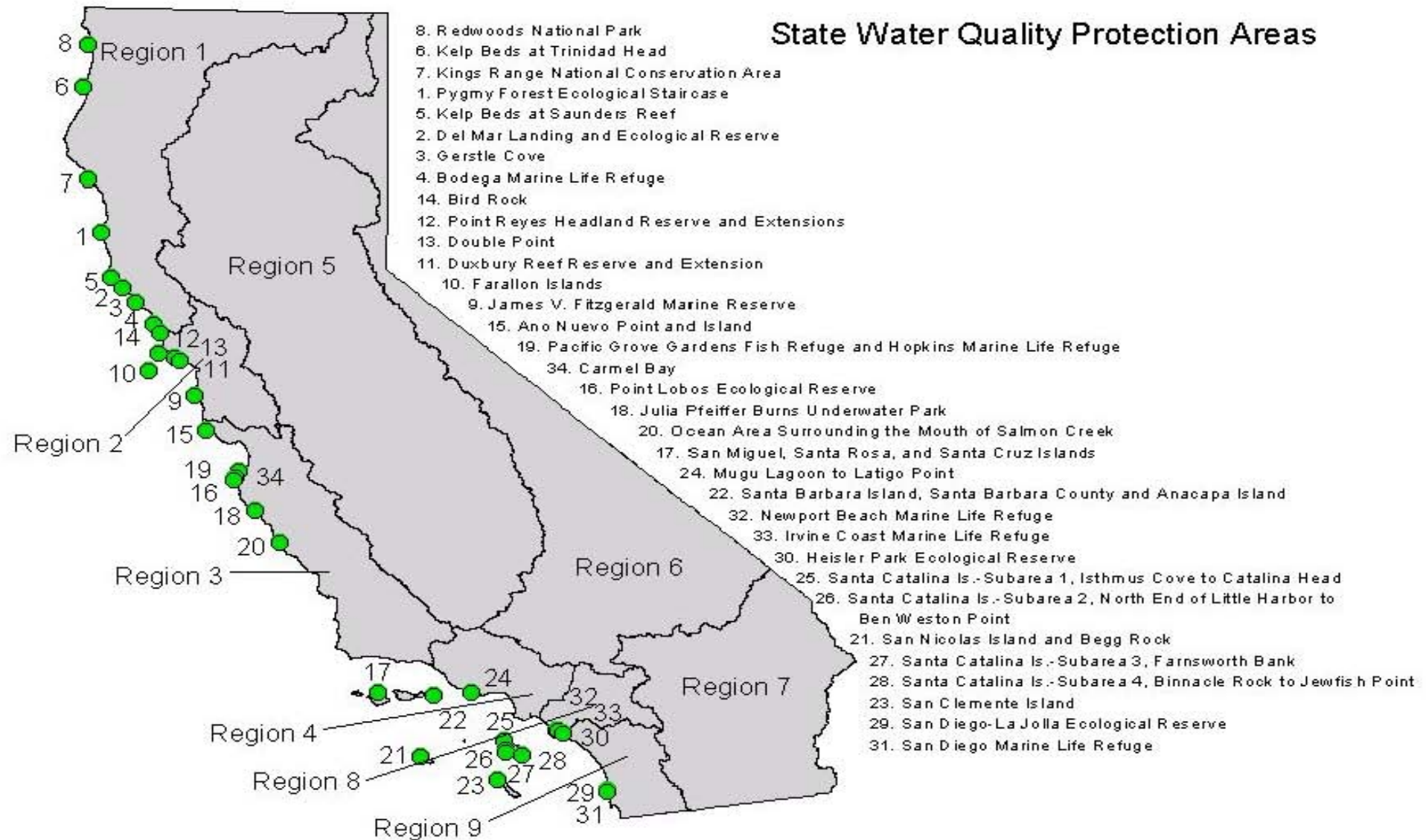
# Areas of Special Biological Significance

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- 34 ASBS designated in 1974-75
- Ocean Plan: prohibits the discharge of waste to maintain natural water quality
- Public Resources Code: special protections for marine life



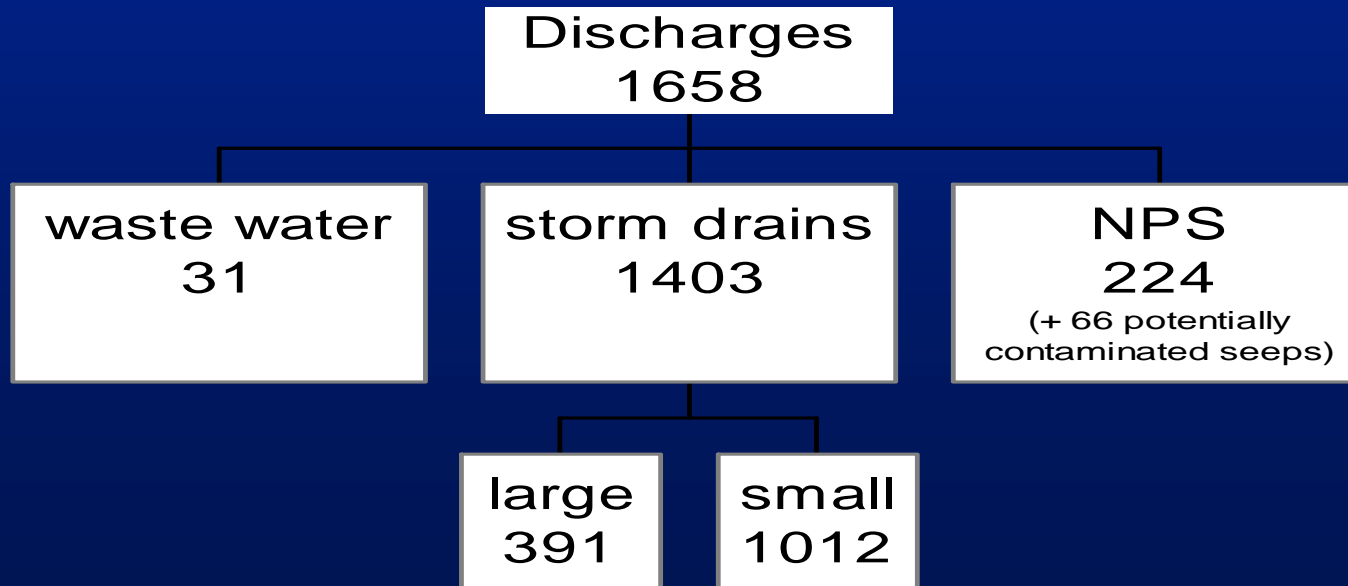
# State Water Quality Protection Areas



# Discharges of Waste Found

2003

## Statewide ASBS/SWQPA Discharges



# Draft Special Protections

# Strategy to Address Discharges into ASBS

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- Since 2004 new Ocean Plan Exceptions
- Special Protections for water quality – discharges limited by special terms and conditions
- Individual Exceptions (since 2004)
  - Marine laboratories and aquariums (3)
- General Exception
  - Permitted Storm water
  - Non-point sources

# General Exception Process

## “Draft Special Protections”

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- Exception Applications originally due May 31, 2006.
- Applications were initially received (draft data report)
- Deadline extended to Dec. 31, 2007
- Total of 27 applicants
- Staff must incorporate all this information into a Draft Environmental Document

# **Draft Special Protections**

## **- General -**

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- ◌ **Cessation of non-storm water runoff, with only certain exceptions**
  - fire fighting
  - foundation drains
  - basement pump-outs
  - hillside dewatering
- ◌ **Maintenance of natural water quality within ASBS during precipitation events**
- ◌ **Monitoring water quality and marine aquatic life in ASBS to ensure the protection of beneficial uses over time**



# Draft Special Protections Allowable Discharges

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- Permitted storm water discharges (wet weather)
- Nonpoint source discharges (wet weather)
  - Agriculture
  - Storm drains not covered by permit
  - Mooring fields/marine operations

# **Draft Special Protections Accelerated Iterative Process**

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## **•Storm Water Management Plans/Storm Water Pollution Prevention Plans**

- Inspection frequencies**
- Describe BMPs (LID included)**
- Prioritizing Discharges**
- Target for design purposes is COP Table B Instantaneous Max**
- Design Storm provisions**
- Final compliance in receiving water in four years**

## **•Provisions for Recreational Areas and Waterfront Management when applicable - Management Measures**

# Draft Special Protections Monitoring

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- ◌ **Core effluent (storm water) monitoring**
- ◌ **Receiving water, two options:**
  - Individual monitoring, or
  - Participation in a regional monitoring program
- ◌ **Comparison of ocean receiving water to reference ocean stations**
  - Ultimate compliance - Is natural ocean H<sub>2</sub>O quality altered?

**Scoping Meetings (2006)**

**Submission of  
Monitoring Data &  
Application Package**  
Original deadline in  
2006  
Extended to end of  
2007

**Release of Draft Special  
Protections (March 2008)**

**Completion of Environmental  
Doc (CEQA)**

**Public Hearings and Staff Response to  
Comments**

**Board Meeting/Vote:**  
Exception to COP ? *yes/no*

# General Exception Process

# ASBS Monitoring

# Exception Applications

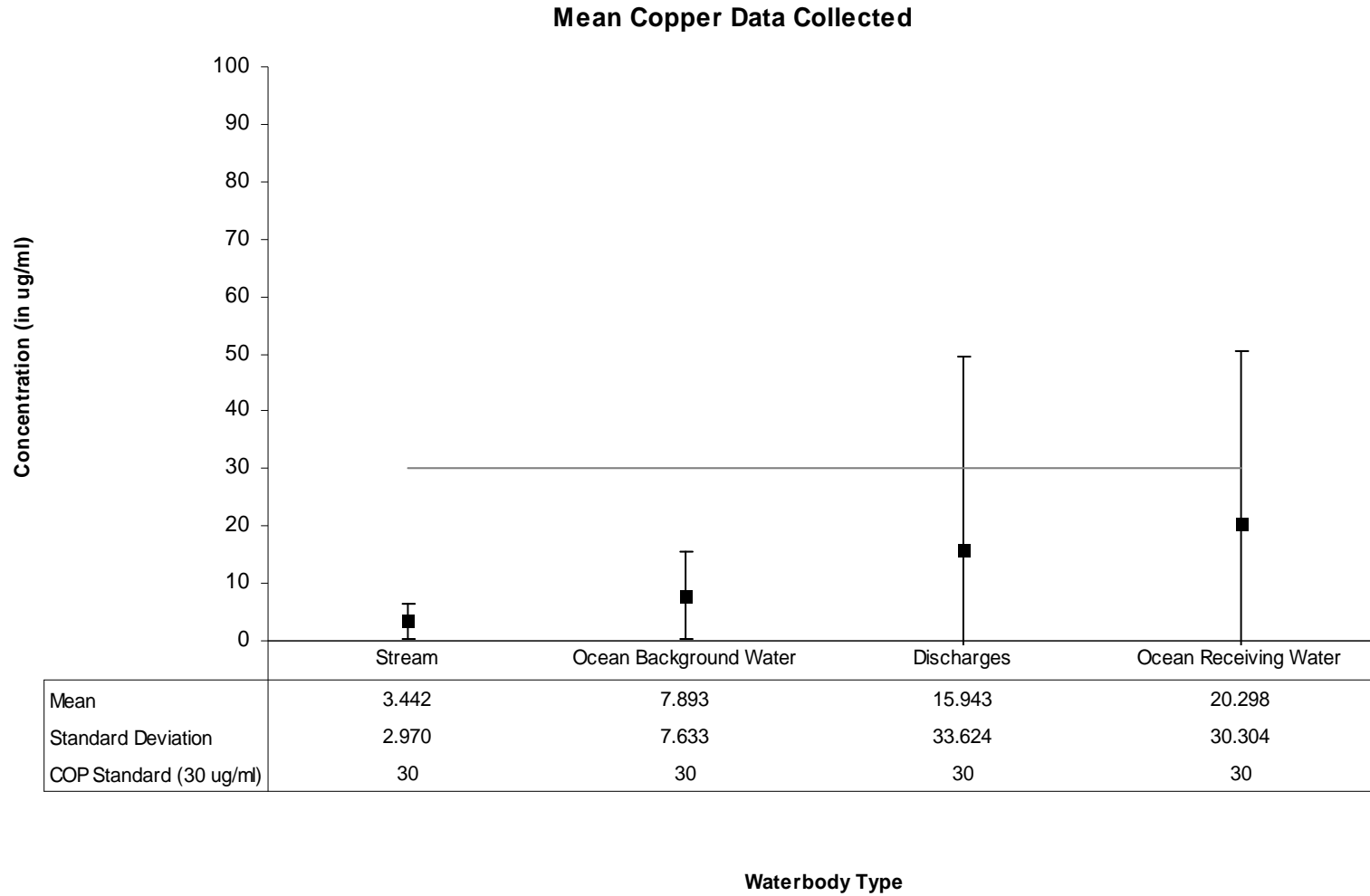
## Pre-Exception Monitoring Information

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- Are beneficial uses being protected?
- “Pre-exception” status of the ASBS
- Discharge information, water quality and biological data
- Variability in sampling methods between applications



# Monitoring Data from Exception Applications



# ASBS Regional Monitoring

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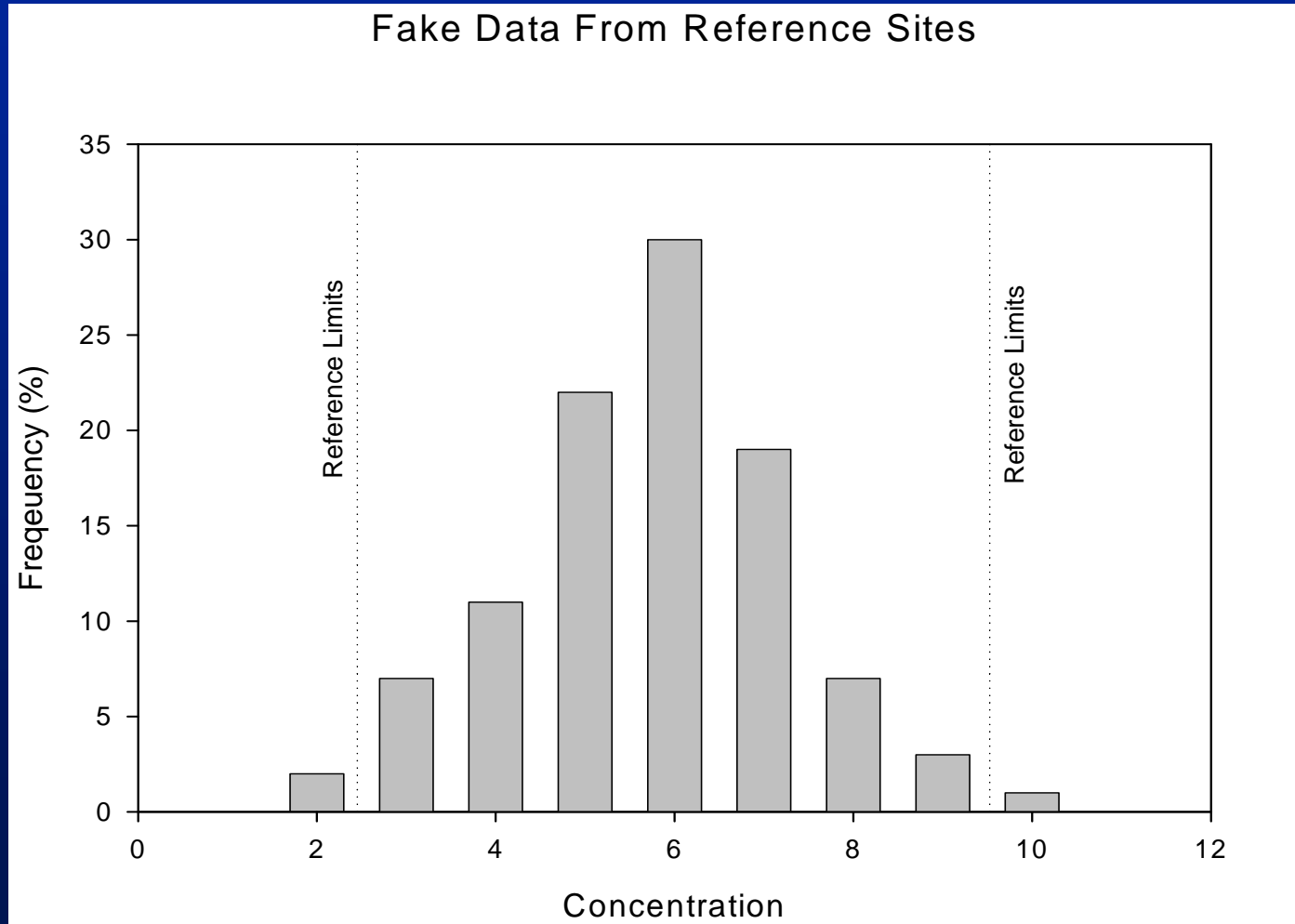
- **Stakeholder Driven Process**
  - Southern California – Bight 08
  - Central California
  - Northern California
- **Agreement to focus on ocean water quality as a compliance endpoint**
- **Reference area criteria determined**
- **Water chemistry and biological components**

# Monitoring Questions

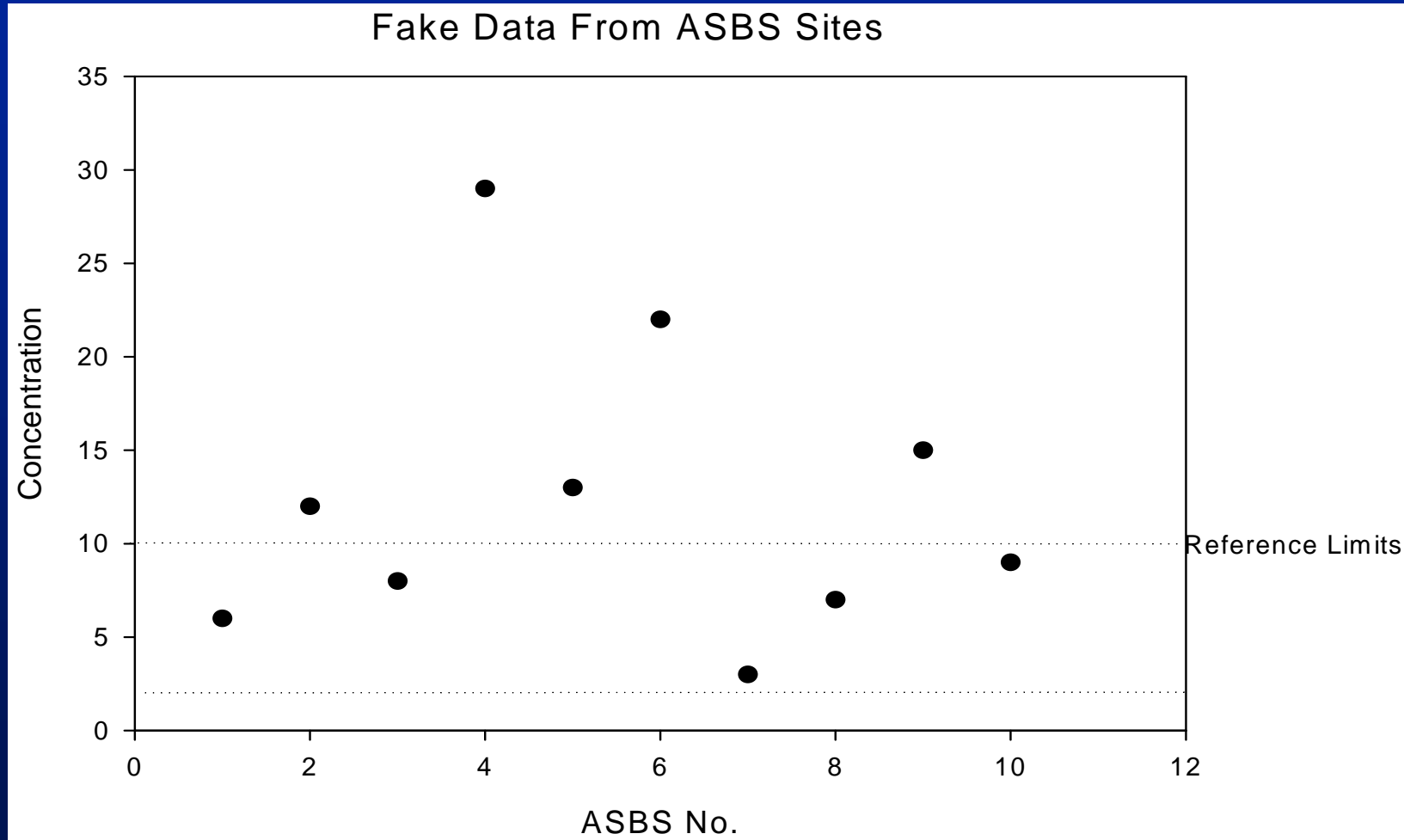
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- What is the range of natural conditions at reference intertidal locations?
- How does this range of natural water quality compare to ASBS sites during wet weather?
- What is the extent of impact at shorelines in ASBS with and without discharges?

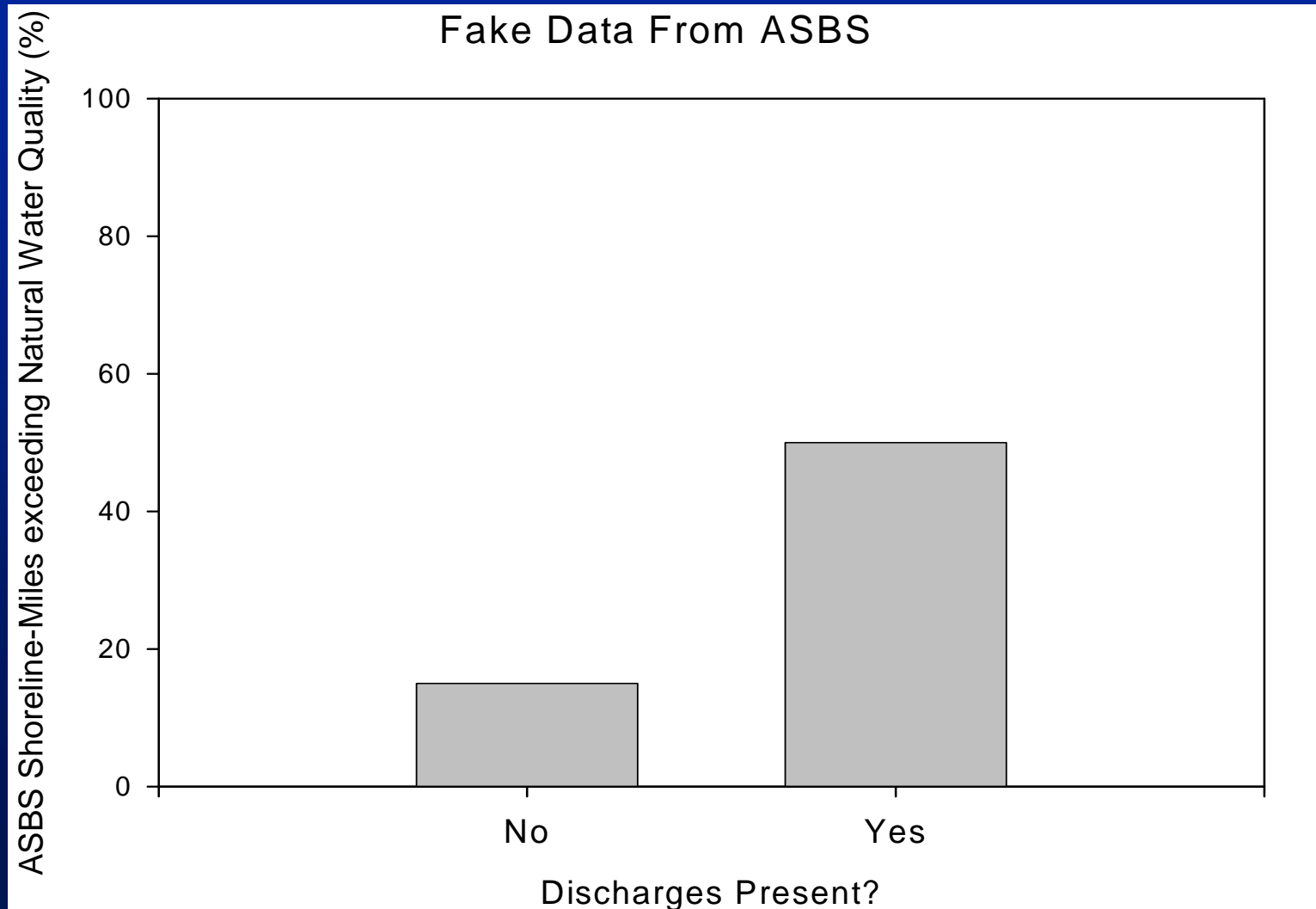
# Determining Range of Natural Water Quality



# Comparing ASBS Receiving Water to NWQ Limits

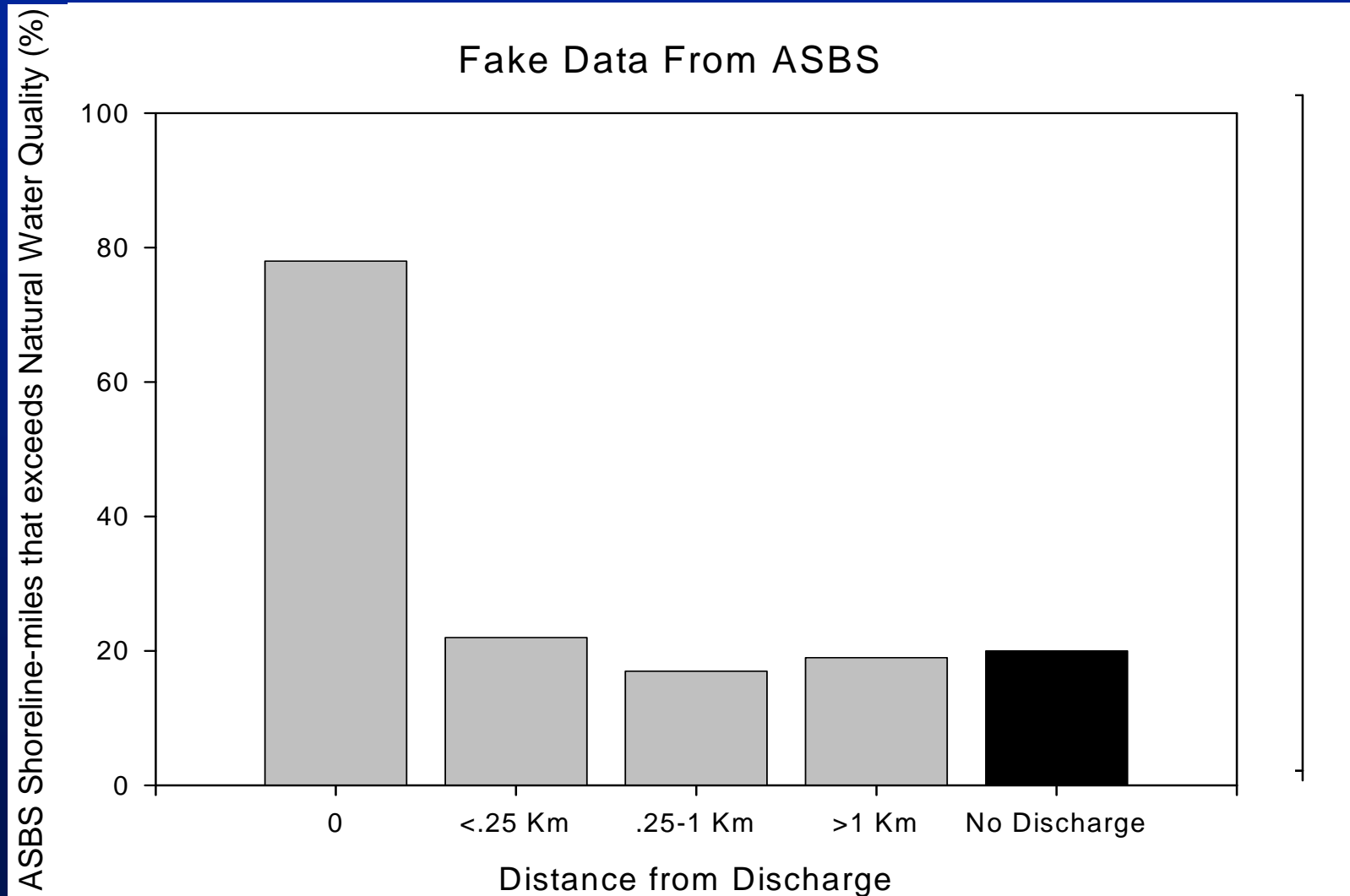


# Extent of ASBS Impacts

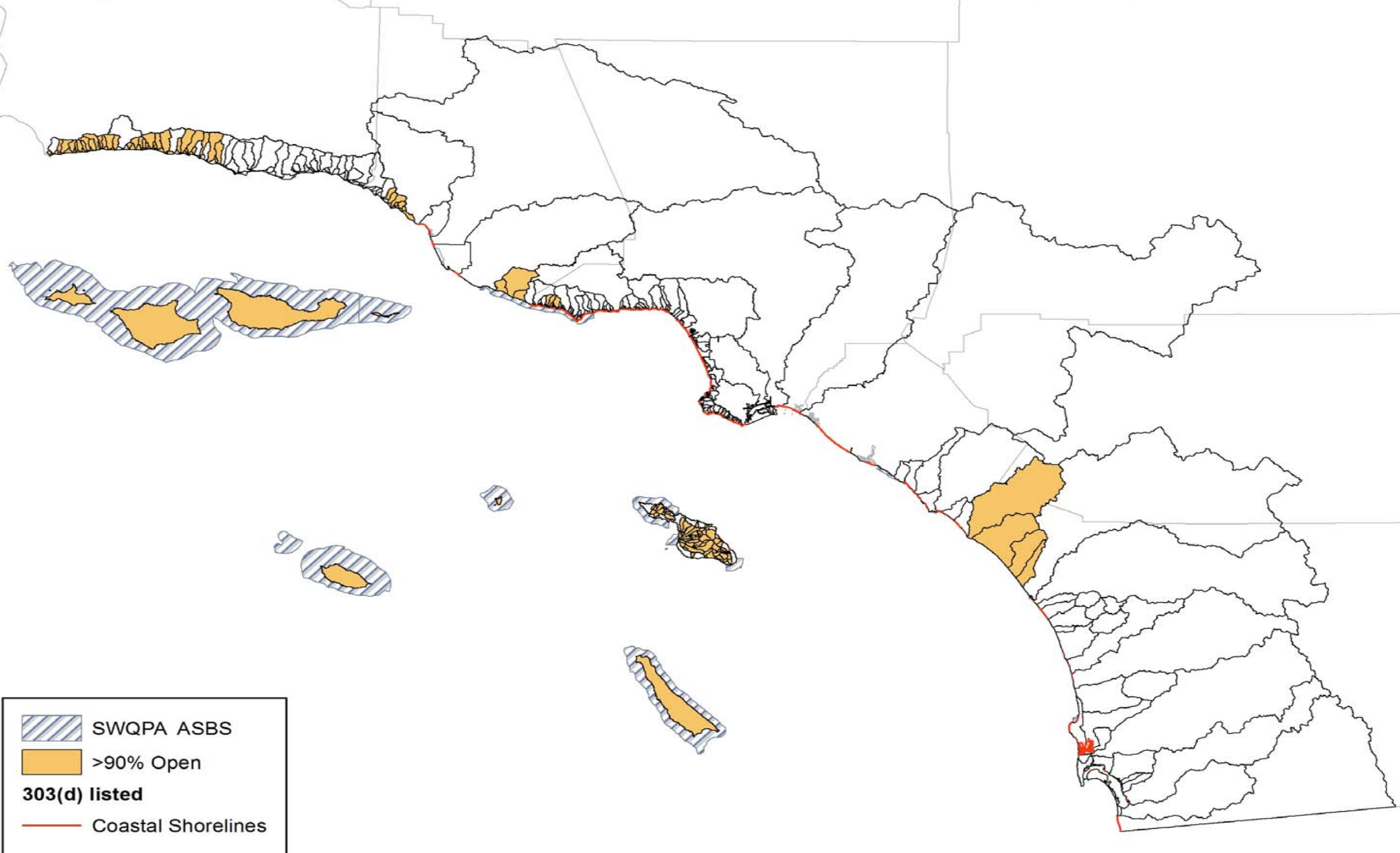




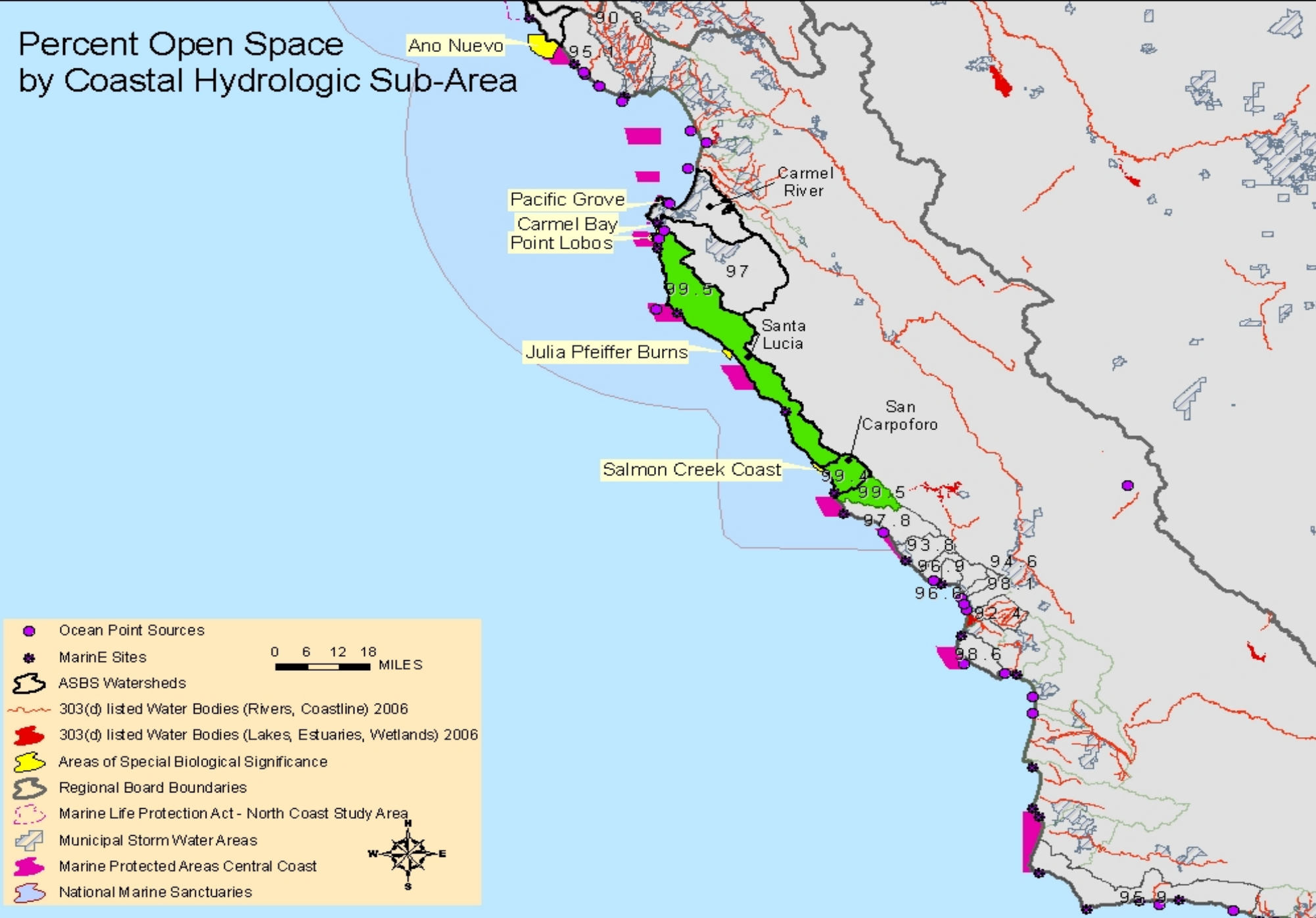
# Extent of ASBS Impacts



## Reference Watersheds: Greater than 90% Open Space



# Percent Open Space by Coastal Hydrologic Sub-Area



# 2008 Pilot Study

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- ◉ **Two primary goals**
  - Initial reference data**
  - Test field sampling protocols**
- ◉ **Eight reference sites**
  - 2 each north, central, south, and islands**
- ◉ **Long list of constituents + toxicity**

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# **Areas of Special Biological Significance: Natural Water Quality Committee**

**Year 1**

# **Creation of the Natural Water Quality Committee**

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- **The SWRCB approval mandated a technical advisory body for the first exception**
  - **Scripps Institution of Oceanography (SIO)**
- **Goal of the Committee was to help define “natural water quality”**
- **Committee sunsets in 2009**



# **Members of the Natural Water Quality Committee**

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- **Dr. Burton Jones (Univ of Southern California)**
- **Dr. Steven Murray (Cal State Univ Fullerton)**
- **Dr. Andrew Dickson (Scripps Institution of Oceanography)**
- **Richard Gossett (CRG Marine Laboratories)**
- **Kenneth Schiff (Southern Calif Coastal Water Research Project)**
- **Dominic Gregorio (State Water Resources Control Board)**
- **Bruce Posthumus (San Diego Regional  
Water Quality Control Board)**

# Definition of Natural Water Quality

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That water quality (based on selected physical chemical and biological characteristics) that is required to sustain marine ecosystems, and which is without apparent human influence, *i.e.*, an absence of significant amounts of:

- man-made constituents (e.g., DDT),
- other chemical (e.g., trace metals), physical (temperature/thermal pollution, sediment burial) and biological (e.g., bacteria) constituents at concentrations that have been elevated due to man's activities above those resulting from the naturally occurring processes that affect the area in question, and
- non-indigenous biota (e.g., invasive algal bloom species) that have been introduced either deliberately or accidentally by man

# Limitations of Natural Water Quality

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- There is a significant amount of natural variation
- Faced with the reality that most of the world's oceans are no longer “pristine”
- Natural Water Quality must satisfy these criteria:
  - definable reference areas that approximate natural conditions
  - Any detectable human influence must not hinder marine life

# The Three Questions

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- Are water quality objectives and permit limits being met?
- Are there biological impacts to species or communities?
- What would ambient water quality be if the discharges were not present?

# Q1: SIO Requirements

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- **Waste seawater**
  - Most constituents below Ocean Plan limits
- **Runoff**
  - Generally more constituents above Ocean Plan limits than waste seawater discharges
- **Receiving water**
  - Bacterial contamination not evident
  - Chronic toxicity observed on one occasion
  - Limited bioaccumulation in mussels (no organics, some metals)

# Next Steps

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- **Begin addressing next two questions**
  - **Biological impacts?**
  - **Applying the definition of natural water quality?**
- **Reviewing biological surveys**
- **Helping SWRCB develop studies to assess ASBS statewide**
  - **Integrate with large scale water quality and biological monitoring programs**





*Wrap Up and Questions?*