# NUTRIENT MANAGEMENT IN SAN FRANCISCO BAY NEXT STEPS

## BACWA 2014 Annual Members Meeting

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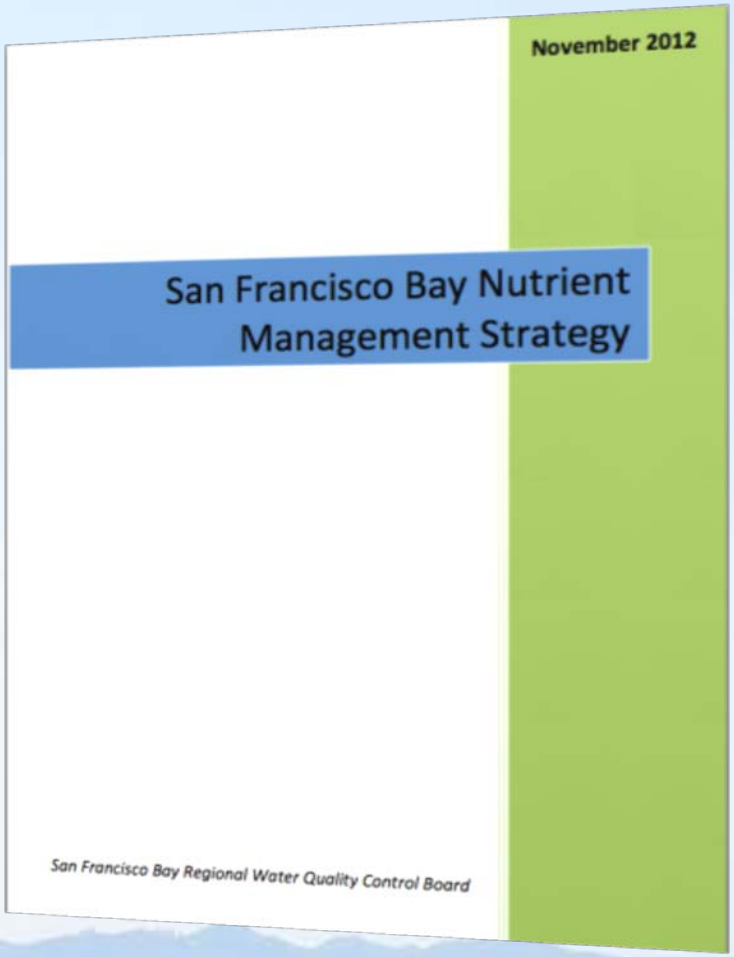
Regional Water Quality Control Board

California Water Boards

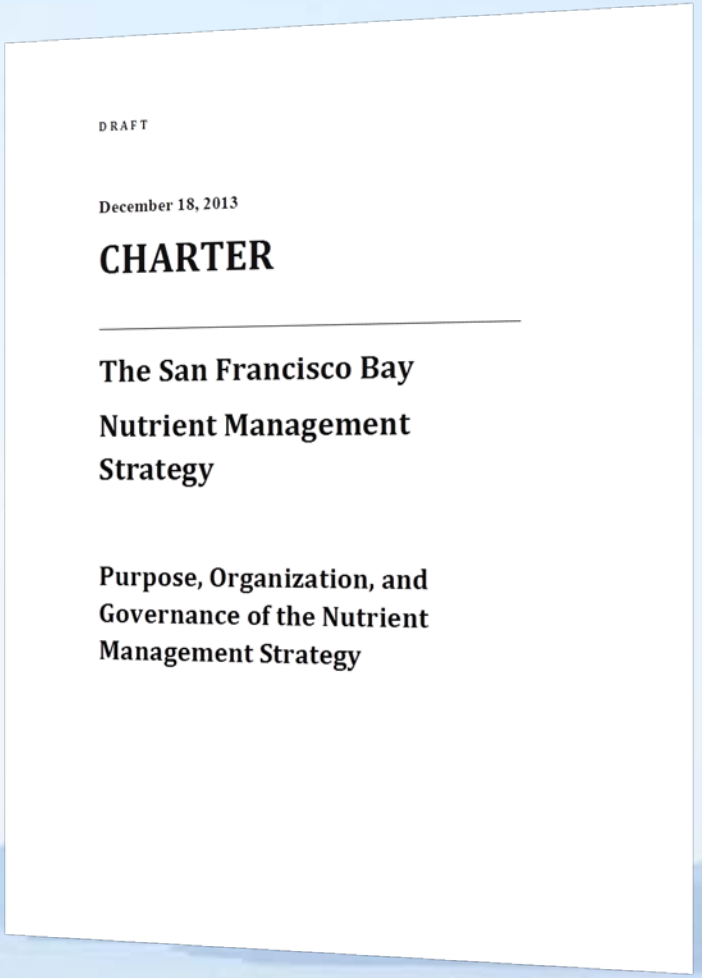
# Nutrient Strategy Implementation Next Steps

- Governance Charter ✓
- Science Plan – Priorities ✓
- Assessment Framework ✓
- Monitoring
- Develop robust model(s)
- Regulatory approaches



# Finalize Charter

- Guiding principles
- Organizational structure
- Roles and responsibilities
- Decision-making protocols
- Communication protocols
- Operating guidelines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December 18, 2013

CHARTER

The San Francisco Bay Nutrient Management Strategy

Purpose, Organization, and Governance of the Nutrient Management Strategy

# Steering Committee

- Decision-making body
- Regional Board – ultimate regulatory decision-maker
- Determine funding needs – long term funding outlook
- Prioritize science needs
- 2015 workplan

# Stakeholder Engagement

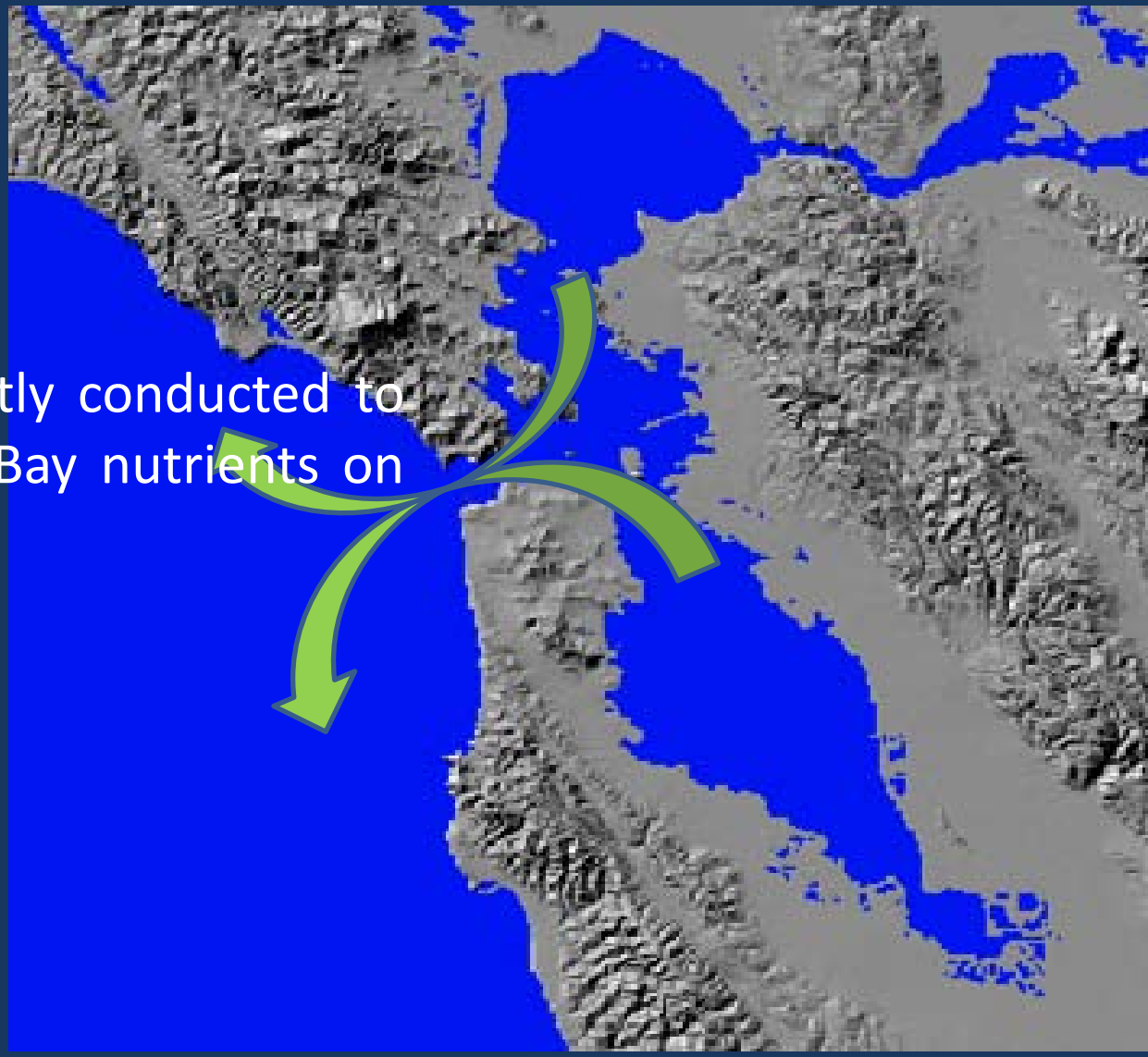
- **Future of Stakeholder Advisory Group (SAG)**
  - Communication to wider audience
  - Updates on nutrient science
  - Provide input on work products
- **Formation of Technical Workgroup (NTW)**
  - Provide technical input as work products developed
  - Provide input to NMS and RMP SCs

# Science Plan

- **Development**
  - Nutrient Technical Workgroup
  - Independent Team of Scientific Experts (science advisors)
  - NMS Steering Committee
- **Two Workshops + Peer Review**
  - Prioritize the key management questions
  - Develop initial set of scientific questions
  - Identify/prioritize scientific studies

# Other Issues: Effects of SF Bay Nutrients on Coastal Ocean

- No monitoring currently conducted to explore effects of SF Bay nutrients on coastal ocean



# Water Board High Priorities

- Nutrient Water Quality Objectives

  First Step: Assessment Framework

- Site-specific Dissolved Oxygen Objectives

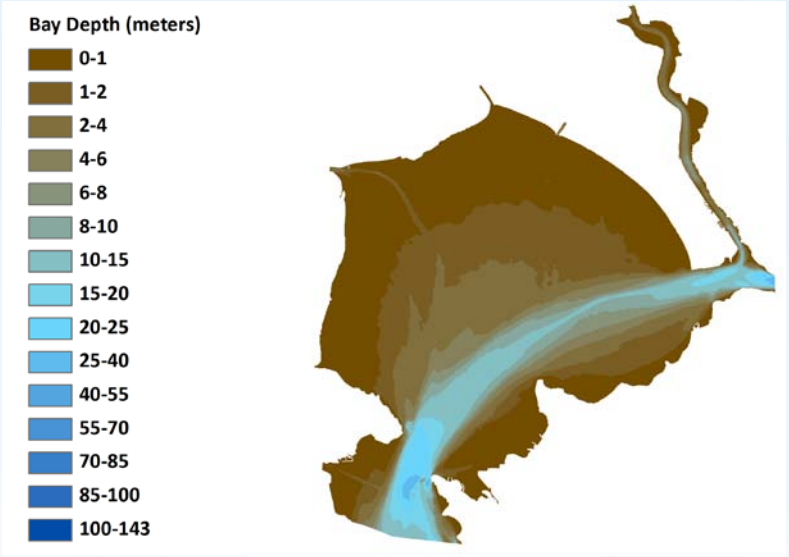
Suisun Marsh

# What is An Assessment Framework?

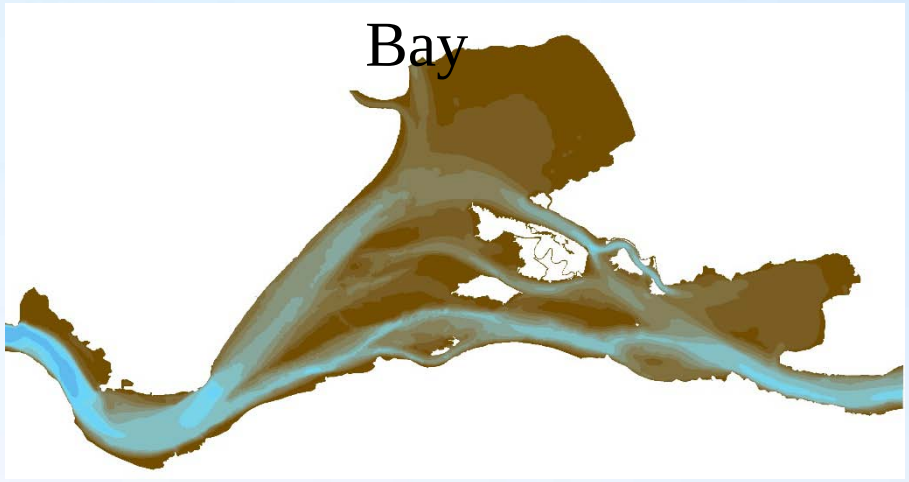
- **Decision support**
  - Transparent
  - Peer-reviewed
  - Capacity to evolve framework as science advances
  - Indicators, metrics & endpoints may differ by Bay segment or season
- **Key components**
  - Supported by SF Bay conceptual models
  - Specifies what to measure, temporal and spatial frequency in which those indicators/metrics should be measured
  - Specifies how to use data to classify the Bay (or segments of the Bay) in “risk categories”

# Focus on Subembayments

San Pablo

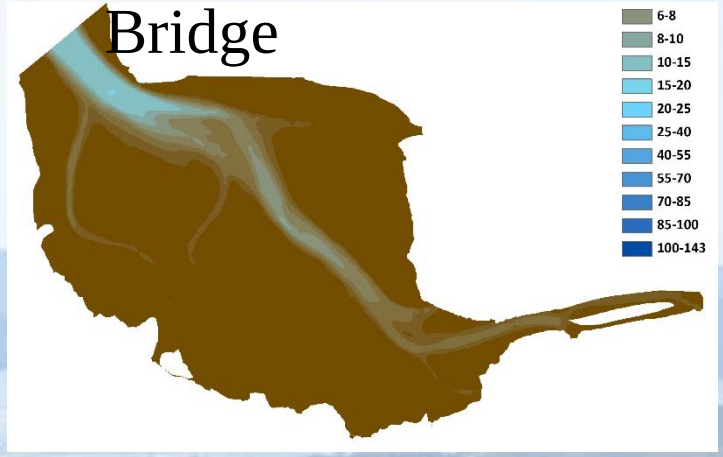



Suisun Bay



South Bay

South of Dumbarton Bridge



# What's Ahead: Three 2-Day Experts Workshops To Develop Draft Framework

- **Workshop 1 (February 2014)**
  - Confirm indicators (and metrics) of interest
  - Agree on SF Bay "segments" and targeted habitats
  - Identify temporal elements
  - Identify spatial elements
- **Workshop 2 (March- April 2014)**
  - Develop proto-monitoring program
  - Discussion of thresholds for classification scheme
- **Workshop 3 (May-June 2014)**
  - Develop classification scheme by Bay segment
  - Discuss uncertainty associated with classification scheme
- **Conference calls (Summer 2014)**
  - Comment on assessment framework document

# Assessment Framework

## Management endpoints of concern (primary indicators)

- Elevated chlorophyll a biomass and/or primary productivity
  - Increased frequency and duration of phytoplankton blooms
- Reduced chlorophyll a biomass and/or primary productivity
- Imbalanced phytoplankton community composition
  - Harmful algal species and toxin concentrations
- Low dissolved oxygen concentrations

# Then What?

- Employ as a part of a revised monitoring program for SF Bay
- Test for a few years to see how well it jives with best professional judgment and optimize integration with monitoring and modeling
- Use to inform future permit decisions… subembayment basis
- Water Board decision on whether to explicitly incorporate into regulatory policy

# Immediate Next Steps

- First Technical Workgroup meeting
  - Focus – assessment framework and modeling (February 4)

- Questions?

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