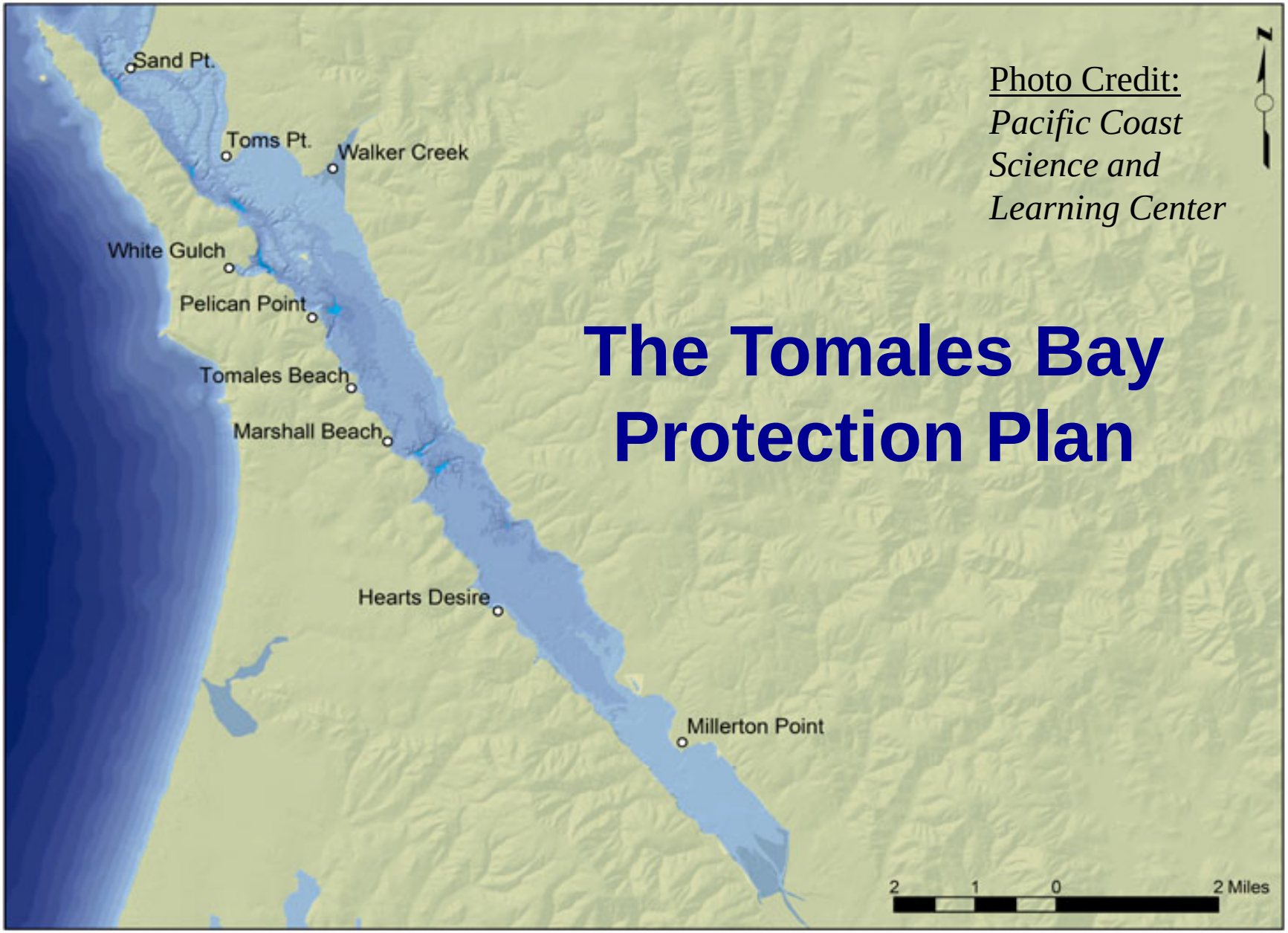


Photo Credit:
Pacific Coast Science and Learning Center

The Tomales Bay Protection Plan

Background

- State, national, and international protections and designations.

Background

- Extensive recreational uses, especially during the summer.

Background

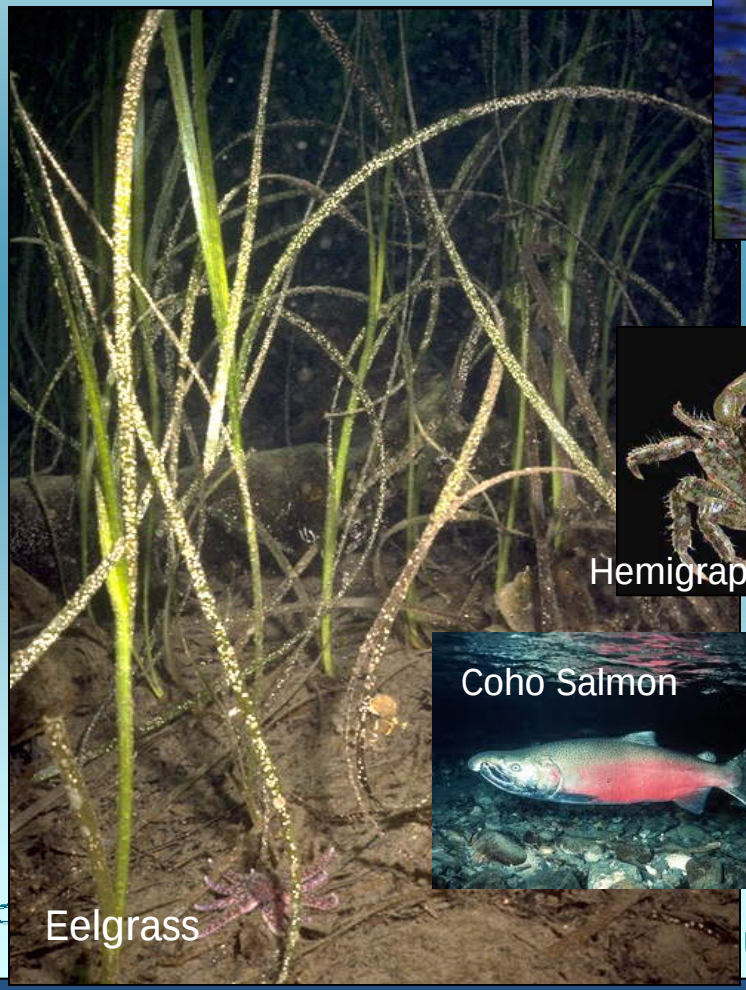
Recreational Halibut, Salmon and Clam Fishing

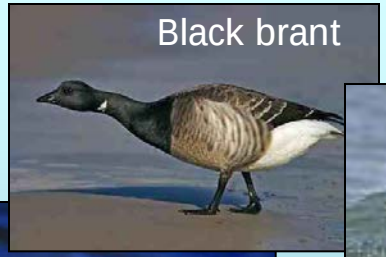
California's third largest commercial shellfish fisheries

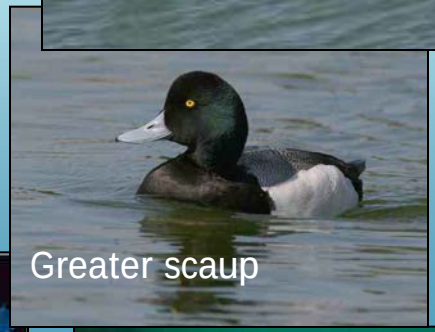
One of only two locations in California for the commercial Pacific Herring Fishery

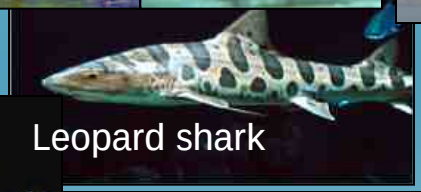
Background

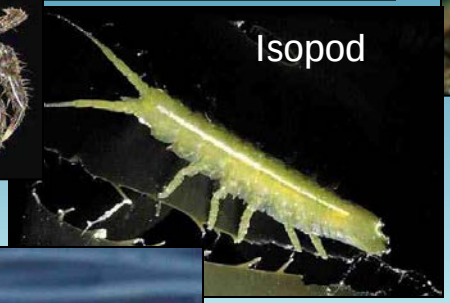
One of the most ecologically significant estuarine areas in the State of California.

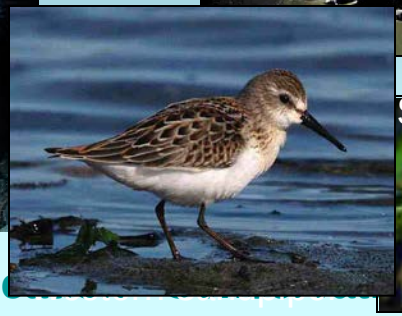




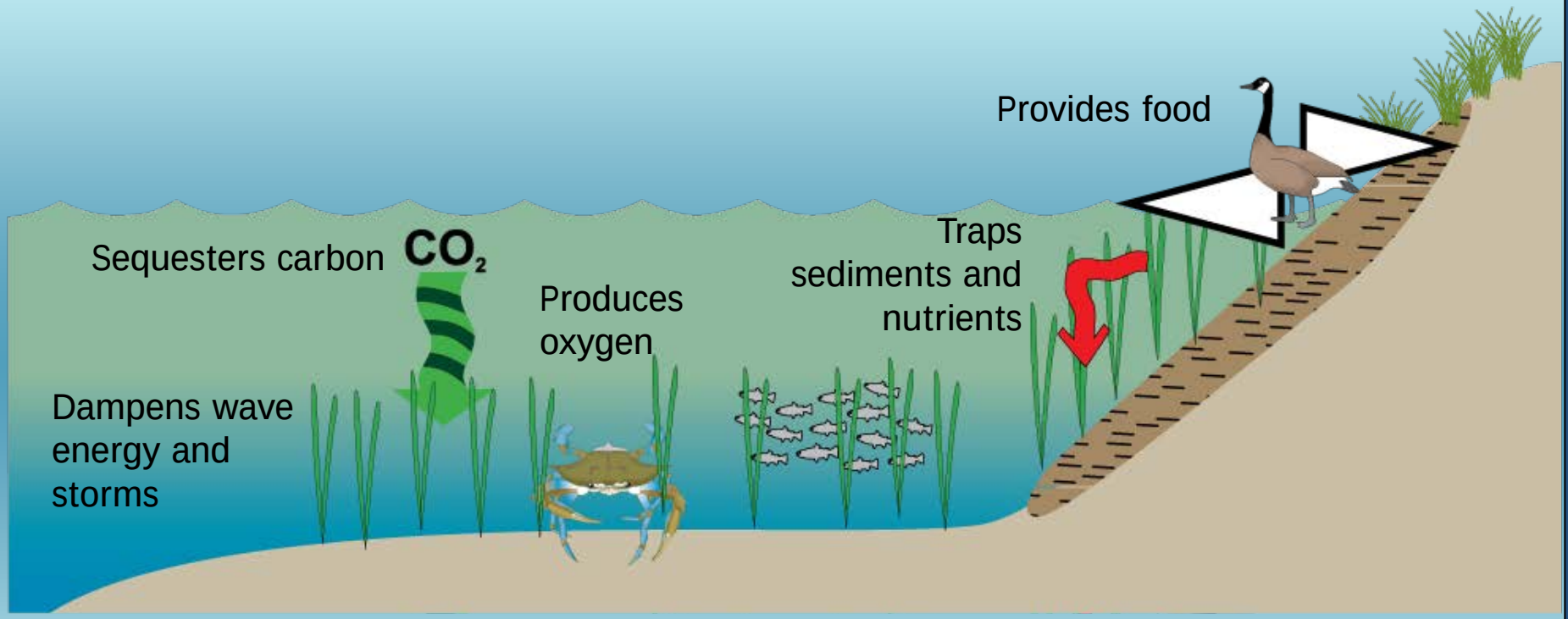








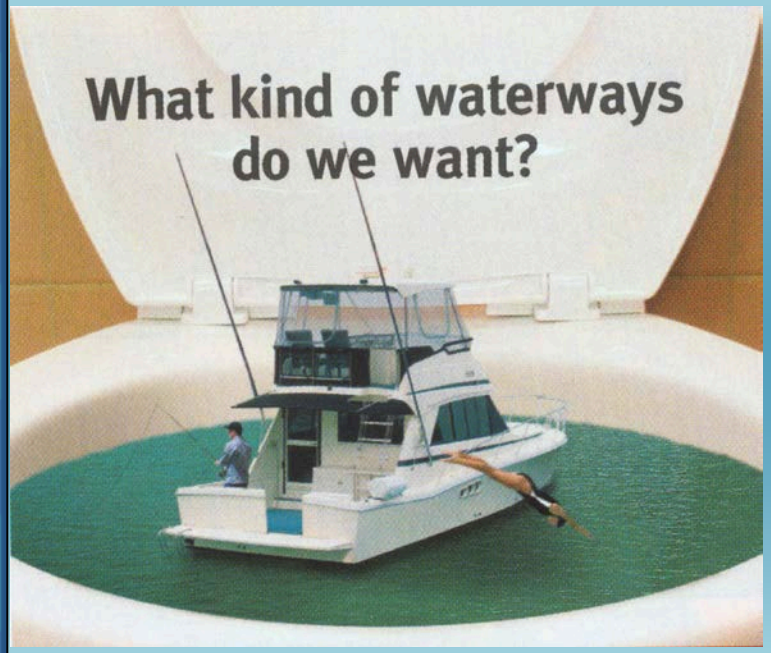
Besides food and shelter, eelgrass provides many other important ecosystem services:



Orth et al 2006

Issues of Concern

- Pathogen Impairment, Sewage discharge



- Tomales Bay is listed as impaired by pathogen contamination on the Clean Water Act's 303(d) list.
- Consequences:
  - Loss of recreation uses (swimming and fishing)
  - Commercial Shellfish Contamination

Issues of Concern

Discharges of fuel, oil and toxic materials

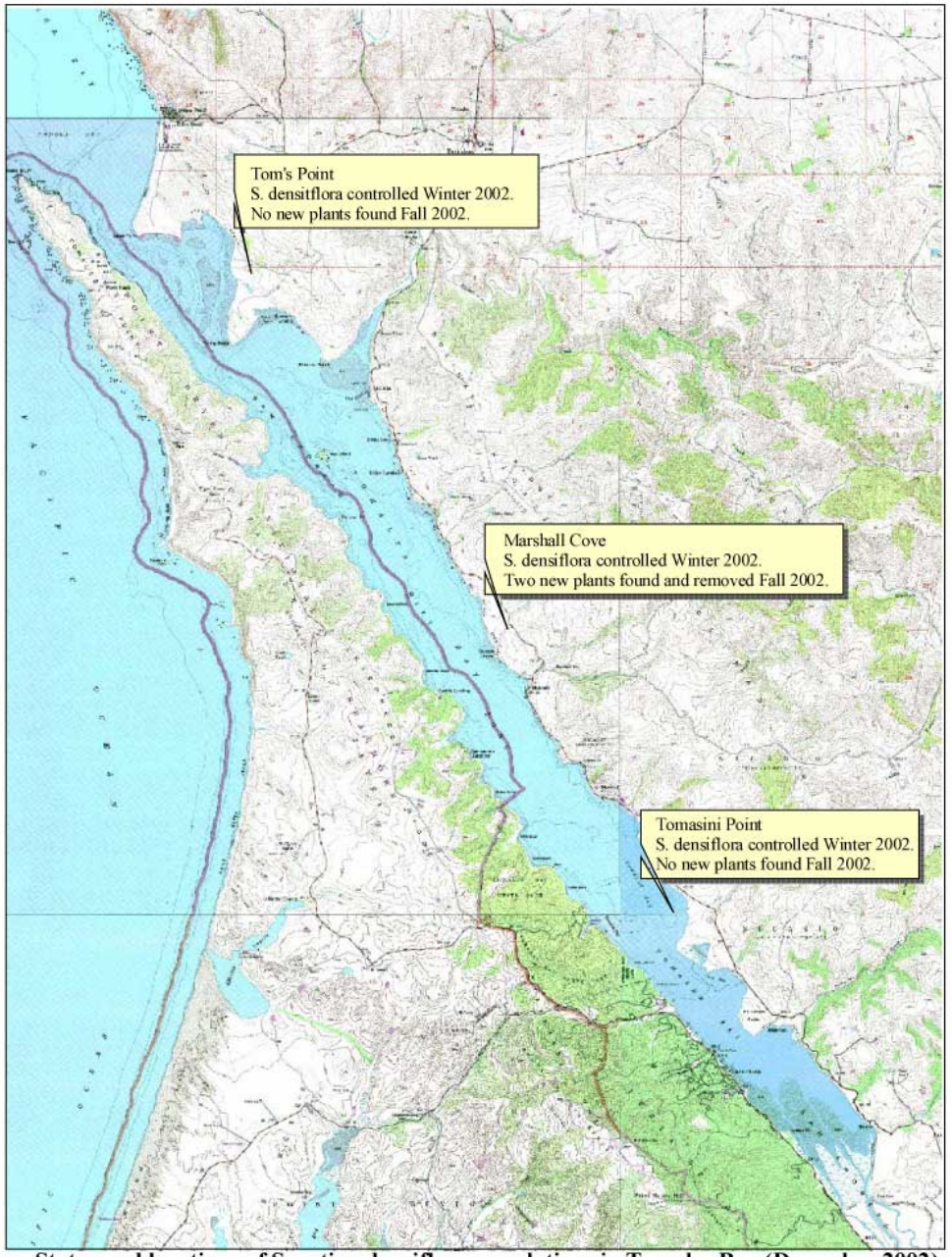
Boat Grounding and Sinking events

Issues of Concern

- Wildlife Disturbance

Issues of Concern

- Invasive Species



Status and locations of Spartina densiflora populations in Tomales Bay (December 2002)

Issues of Concern

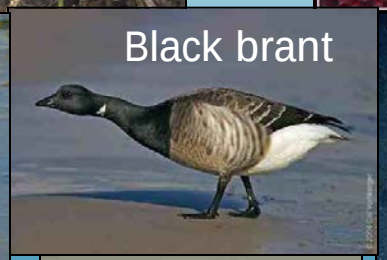
Mooring

- Improper disposal of human waste
- Threats to navigation
- Discharges of fuel, oil and toxic materials
- Habitat Damage

Moorings and Seagrass

If a mooring anchor is placed on top of seagrass it will kill seagrass within the anchor footprint

- The chain can scour the seafloor surrounding the anchor, and increase turbidity.
- The swing of the chain can create a “crop circle” which can grow over time as the seagrass root system is destroyed.
- Shading from the boats can also kill seagrass.



onservation • Stewardship

Research • Education • Conservation • Stewardship

Challenges

- 11 Agencies with Jurisdiction
- Lack of Coordinated Vision
- Several Issues of Concern
- Many Interested Parties
- Layers of Regulations

The Process

I. Tomales Bay listed impaired under CWA.

- SWQCB requested that GFNMS address the issue of vessel-caused discharges.
- Illegal moorings become an issue.

2002

II. Interagency Committee (IC) is regenerated

- Membership grows to eleven state, federal and local agencies

December 2002

III. First survey of all vessels and moorings on the Bay

- Dozens of vessels are found to be unregistered.
- Over 150 moorings are recorded.

September 2004

IV. GFNMS and SWRCB Conduct Boater Outreach

- Hosted two boater workshops to inform boaters about establishing a TMDL for the Bay.
- Encouraged boater registration

May 2005

V. IC meets to develop mooring criteria.

- Elements of a mooring program are discussed.
- IC determines that SLC and GFNMS should conduct public scoping.

2004-2007

VI. Survey of all vessels and moorings on the Bay

- More vessels are found to be registered.
- Derelict vessels are tagged.

2006

VII. Draft Scoping Document is Released

- A 90-day comment period i given to the publi

August 2007

VIII. Three Boater Workshops are held.

- The public learns about the proposed mooring criteria, sewage services, and othe elements of the scoping documen

September - October 2007

IX. SAC Work Group (WG) Provides Input

- Form WG
- 10 meetings
- 9 issues
- Recommendation s to GFNMS SAC

March 2008 - December 2009

X. Mooring Survey is conducted

- Derelict vessels and new moorings are reported to NOAA Law Enforcement

November 2008

XI. Response to Public Comment Released

- IC conducts review and signoff
- Uploaded to GFNMS website and sent to all workshop participants

December 2008

XII. Mooring Anchor Test is Performed

- A study of different types of mooring anchors is conducted.

September 2009

XIII. Final Recommendat -ions are given by Advisory Council.

- GFNMS receives all public recommendations and proceeds to developing the Vessel Management Plan.

December 2009

XIV. IC reviews all WG Recommend -ations and gives feedback

- Mooring criteria is reviewed.

January 2010 - May 2010

XV. Letter of Intent to SLC, request formal agreement

- Request to set up a a mooring lease program
- Request for CEQA compliance with Plan

March 2010

XVI. Develop Preliminary Draft VMP for SLC Review

- Draft Preferred Option selected
- Request more information from SLC.

July 2010

XVII. Release Preliminary Draft VMP for IC Review

- Request written comments
- Host final IC meeting to receive all feedback

September - October 2010

XIX. Select Preferred Tackle, lease program, finish grey papers

- GFNMS prepare elements of tackle requirements
- GFNMS and SLC determine format for lease system

October 2010

XX. Conduct NEPA/CEQA Review

- GFNMS meets with NOAA tiger team and analyzes the preferred option.
- GFNMS sends to SLC for state consistency

November 2010 – April 2011

XXII. Draft VMP is released to Public

- 30 day comment period
- At least one public hearing

May 2011

XXII. Final VMP Released

- GFNMS and SLC develop final draf for review

2011

Timeline

2002

- Two meetings, agencies only, expanded to include other agencies, began to investigate jurisdictional issues and TMDL requirements

2004-2007

- Tomales Bay is listed under the Clean Water Act as impaired for pathegons
- Interagency committee meets on a regular basis to discuss agency jurisdictions, criteria for mooring, and other ways to address the citing of Tomales Bay as an impaired body of water
- Criteria evolve, new agencies are added, scoping document is developed

Timeline

2007

- Released “Protecting Tomales Bay by Managing Vessel Usage” Informational meetings with interested stakeholders
  - Held 3 workshops- 98 participants
  - 41 written comment received

2008-2009

- Sanctuary Advisory Council establishes a Working Group
- Response to public comments published
- Working group holds seven meetings and makes recommendations

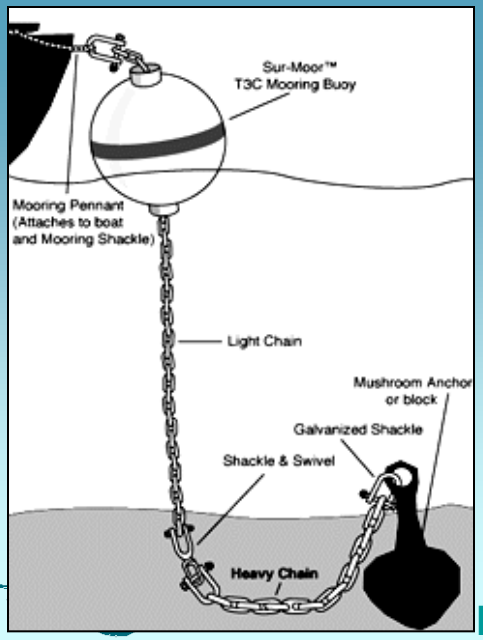
Timeline

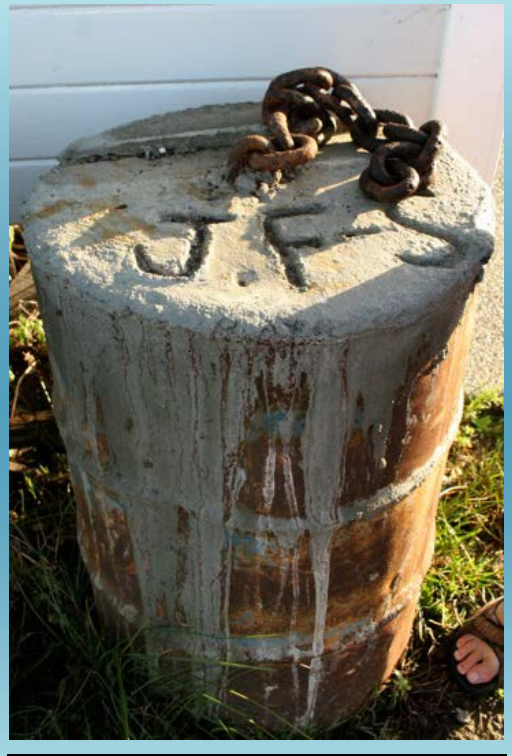
2009

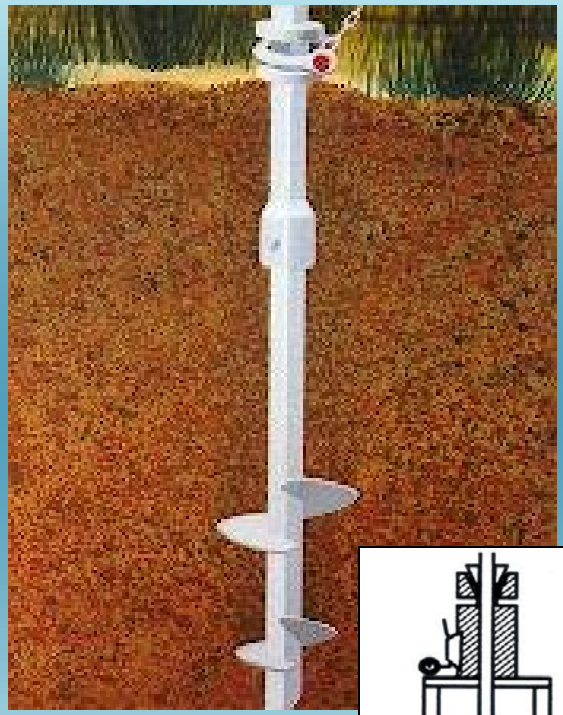
- Sanctuary Advisory Council reviews Working Group products and recommendations and makes 39 recommendations to the Sanctuary Superintendent:
  - Sewage Services
  - Oil and Bilge Services
  - Education and Outreach
  - Mooring Criteria, Zones, Tackle and Permitting
- Sanctuary staff implements the following recommendation: for a pilot test for the effectiveness of mooring and chain / rode management systems installed.

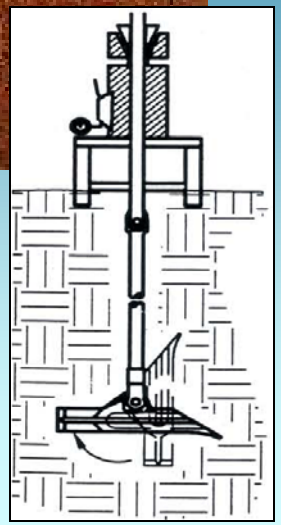
Mooring Tackle

Brief Overview of Mooring Tackle Issue:









Mooring Tackle Research

Staff collected information from worldwide sources, which resulted in grey paper with the following information:

- **An overview of common mooring systems and their suitability for use in Tomales Bay;**
- **An overview of moorings used in similar locations/habitats; and**
- **Information about the conditions relevant to installing moorings in Tomales Bay;**

In Addition to the grey paper, the Sanctuary tested three types of moorings: helix, manta ray, typical Tomales Bay "dead weight" mooring.

Mooring Tackle Testing

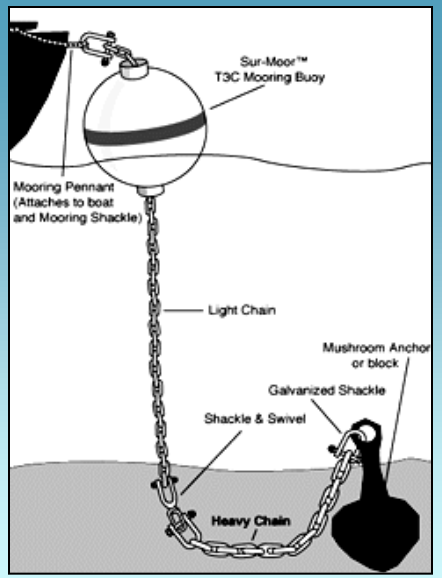
- Key findings for testing mooring tackle:
  - A “pull” test is an effective and accepted way to test the different types of anchors
  - It was unnecessary to test rodes and pendants because the information on their load limits is known from lab testing
  - Not feasible to measure environmental impacts during pull test

Mooring Tackle Research: Results

Overview of Mooring Tackle:

Mooring Rodes and Pennants:

- Rodes: Chain versus Elastomeric
- Chain scours seafloor--impacts eelgrass and benthic habitat
- Elastic rode prevents seafloor impacts
- Chain requires more maintenance
- Most mooring failures occur at pennant



Mooring Tackle Pull Test: Results

- Manta Ray should not be considered for use in Tomales Bay due to sediment types
- Helix anchors were effective during the pull tests and can be used in Tomales Bay
- Learned the holding capabilities of two types of existing “standard” Tomales Bay deadweight moorings
- Helix anchors outperformed deadweight anchors during pull tests
- Initial installation costs: Helix Moorings: $2,365 to $2,670

Timeline

2010

- The Sanctuary and Agency partners review recommendations and drafts Vessel Management Plan and accompanying environmental assessment

Feedback Loop

Interagency Committee

- CA State Lands Commission
- SF Water Quality Control Board
- National Park Service
- CA Dept. of Fish and Game
- CA Dept. of Transportation
- CA Coastal Commission
- CA Boating and Waterways
- CA State Parks
- Marin County Sheriff's Department
- CA Dept. of Health Services

- NOAA (GFNMS Superintendent)

Working Group

- Reviews and discusses options and makes recommendations to Sanctuary Advisory Council

GFNMS Advisory Council

- Reviews and discusses recommendations from the Working Group and advises Superintendent

GFNMS

- Reviews, and accepts or rejects recommendations. All rejections must be made in writing and include a rationale for rejection.

NEPA / CEQA

State Lands ↔ **ONMS**

Research • Education • Conservation • Stewardship

The Environmental Review Process

Scoping
- Publish Document - 90 day review
- 3 Public Workshops

7 Working Group Meetings in 2008-09

3 Interagency Committee Meetings in 2008, 2 in 2009

GFNMS Advisory Council discussions

Recommendations forwarded to GFNMS

GFNMS reviews recommendations, assesses feasibility under the NMSA, drafts Vessel Management Plan and coordinates with SLC to begin the Environmental Review Process

Lead Agencies Prepare Environmental Assessment

Federal Register Notice

Draft Environmental Assessment and Vessel Management Plan Released

Agency Consultations

30 day Public Review
- Public Hearing

Revise Draft and Release Final Assessment and Plan

Research • Education • Conservation • Stewardship

Timeline

May 2011

Research • Education • Conservation • Stewardship

Tomales Bay Vessel Management Plan

The first step in a comprehensive plan for Tomales Bay Vessel Management outlined in the Sanctuary Management Plan.

Research • Education • Conservation • Stewardship

Goals

- Protect public health and improve water quality
- Protect habitat and decrease threats to and disturbance of wildlife
- Ensure safe and enjoyable water-related recreation

THE PLAN

Goal 1: Protect public health and improve water quality

Issues Considered:

- Designating an EPA no-discharge zone
- Providing adequate facilities for proper sewage disposal
- Implementing an oil absorbant exchange program
- Addressing moorings near shellfish operations
- Requiring all moored vessels to have adequate marine sanitation devices.
- Educating the public

THE PLAN

Goal 2: Protect habitat and decrease threats to and disturbance of wildlife

Issues Considered:

- Preventing impacts from vessels in sensitive habitats
- Removing illegally and improperly placed moorings and grounded, derelict, and deserted vessels
- Preventing mooring in eelgrass beds
- Preventing mooring near seal haul-out areas
- Educating boaters about preventing invasive species
- Educating boaters about the Seagrass protection zones (GFNMS anchoring prohibition).

THE PLAN

Goal 3: Ensure safe and enjoyable water-related recreation

Issues Considered:

- Ensure moorings are not in areas where there is a high concentration of recreation, such as swimming beaches
- Ensure moorings are made of non-toxic, approved materials
- Prevent moorings near navigation channels
- Site mooring zones in/near areas of historic mooring including sheltered coves
- Create a streamlined process for permitting moorings and educate the public on how to go through the process.

THE TOOLBOX

The Tomales Bay Interactive Map

- Primary Driver: Resource Protection
- A comprehensive, adaptive, integrated, and transparent spatial planning tool.

- Allows compatible uses, while maintaining ecosystem services

(Consistent with the Interim Framework for Effective Coastal and Marine Spatial Planning)

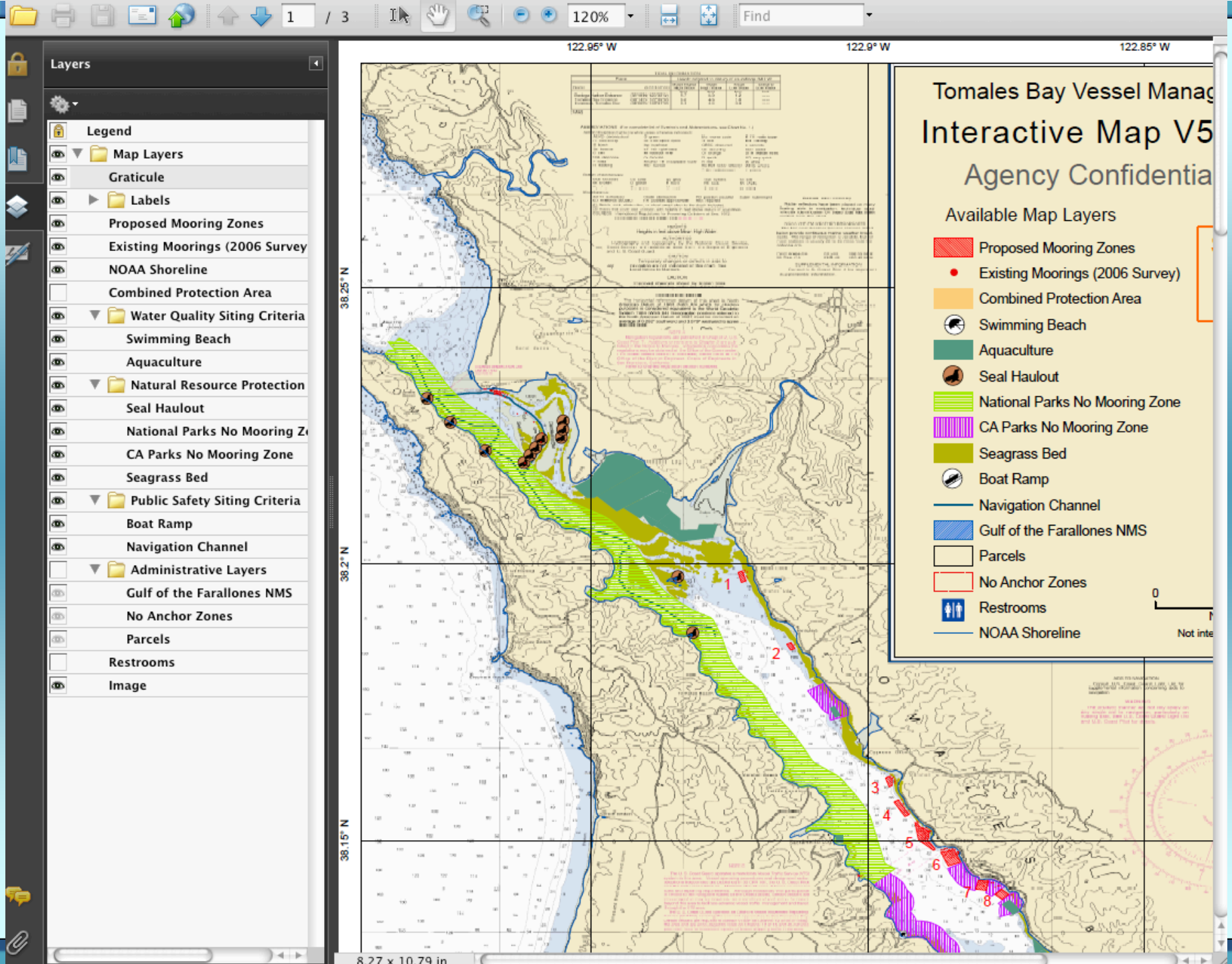
The Tomales Bay Interactive Map

WHAT DOES IT SHOW?

- Protected Areas/Sensitive Habitat areas that need to be avoided
- Current Mooring Locations
- Proposed Mooring Zones
- Jurisdictions of the Agencies

ONCE RELEASED, THE MAP WILL BE:

- Accessible to the public and agencies
- Available on the GFNMS Website
- PDF-based (only need Acrobat Reader) and once downloaded, can be used without the internet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Combined Protection Area
Water Quality Siting Criteria
Swimming Beach
Aquaculture
Natural Resource Protection
Seal Haulout
National Parks No Mooring Z
CA Parks No Mooring Zone
Seagrass Bed
Public Safety Siting Criteria
Boat Ramp
Navigation Channel
Administrative Layers
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Swimming Beach
Aquaculture
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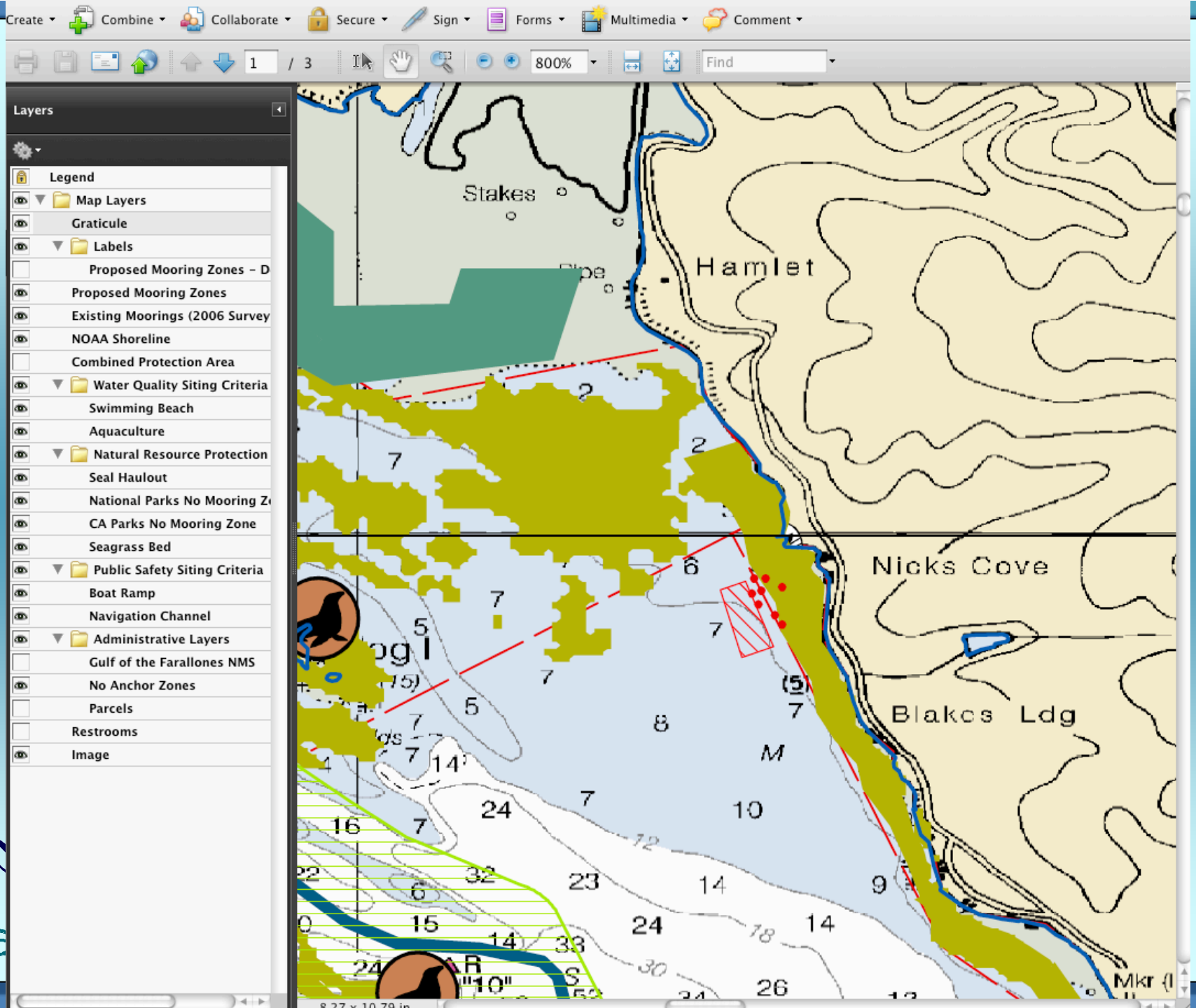
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Hamlet
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Blakes Ldg
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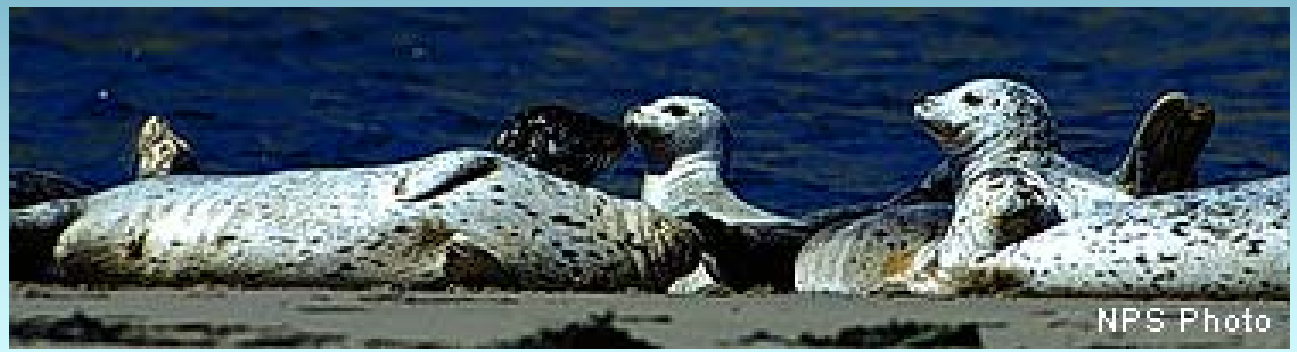
THE INTERACTIVE MAP

HOW IS/CAN IT BE USED?

- Used by agencies to determine jurisdictions, management decisions and protection areas
- Used by owners of currently moored vessels to determine where they can moor and/or anchor
- Used by other boaters to determine anchor, access the water, and access sewage services
- Used by Sanctuary permitting staff to issue a mooring permit
- Used by State Lands Commission staff to issue mooring leases
- Used by Enforcement

Timeline: Next Steps

- Release the draft Vessel Management Plan and Environmental Assessment in May 2011
- Hold 30 day public comment period
- Host Public Hearing on **June 13, 2011**



Moving Forward:
Working with State Lands Commission, and Creating an Enforcement Partnership

California State Lands Commission

- Permitting/Leasing Agency
- CEQA lead

GFNMS

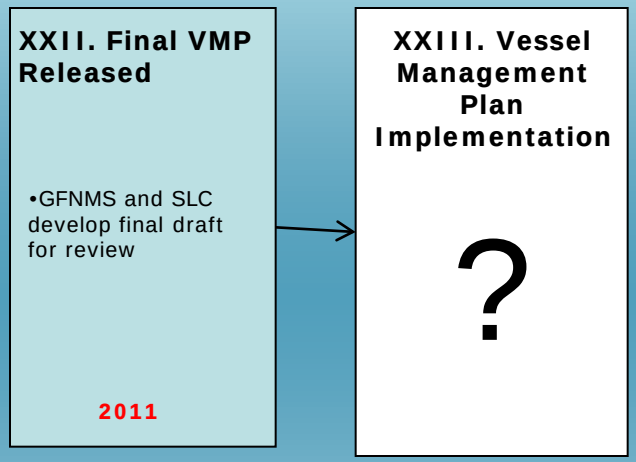
Primary agency responsible for implementation

- Developed Draft Vessel Management Plan
- Coordinated multi-agency review
- NEPA Lead

Enforcement

- Working with all agencies that have enforcement jurisdiction to promote compliance with the Plan

Implementation Challenges



- There is currently no funding for a coordinator, which will affect the timing of implementation of many of the activities identified in the Plan