



# SS CAPE MOHICAN

## SAN FRANCISCO DRYDOCK OIL SPILL



# SPILL FACTS

*When:* October 28, 1996

*Who:* *SS Cape Mohican*, Maritime Administration  
San Francisco Drydock, Inc.

*Where:* San Francisco Dry Dock, Pier 70

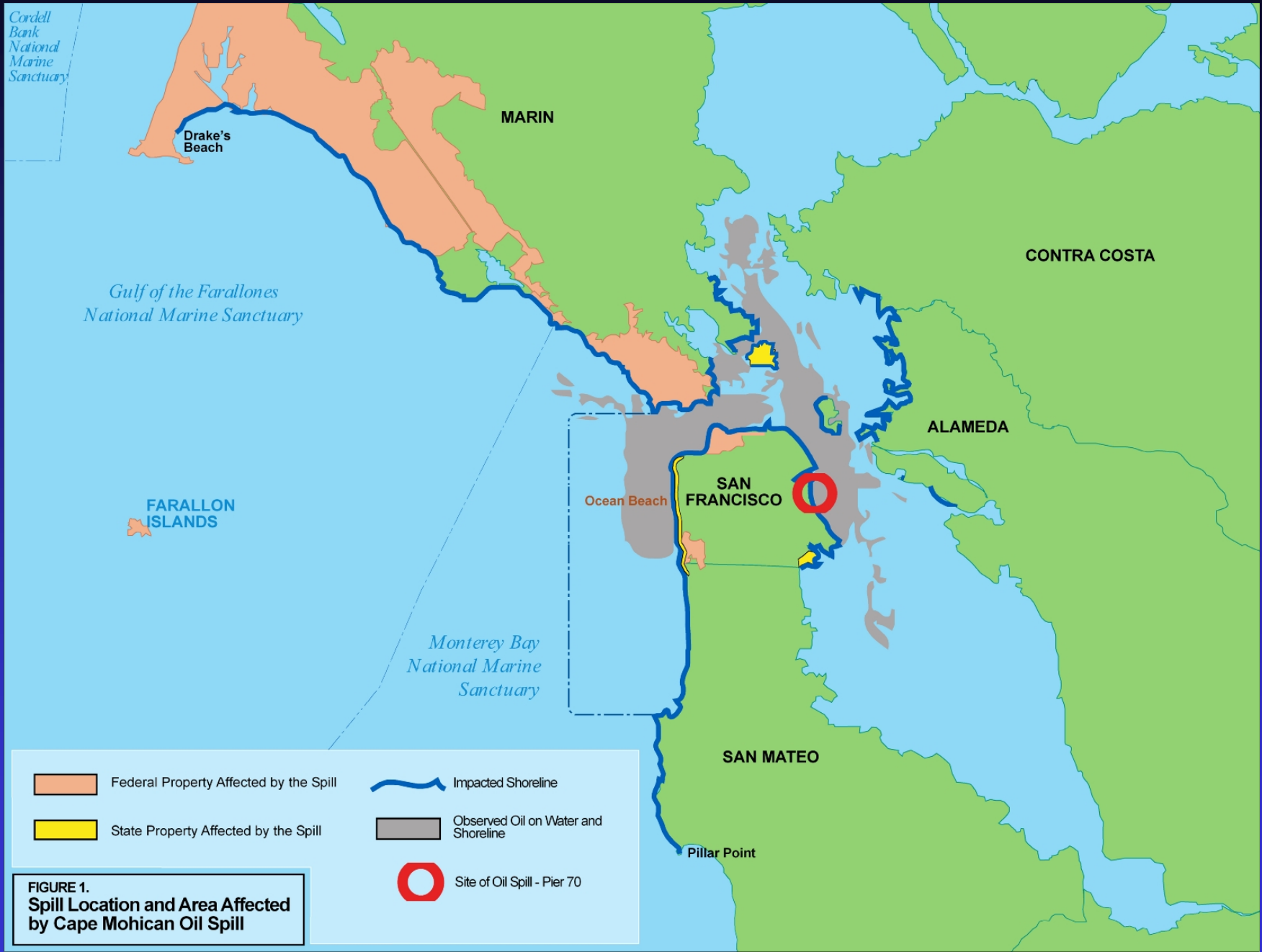
*What:* 96,000 gallons fuel oil spilled into dry dock  
40,000 gallons spilled into water

*Cause:* Human error



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# SPILL COVERAGE



**FIGURE 1.**  
**Spill Location and Area Affected**  
**by Cape Mohican Oil Spill**

# GENERAL CATEGORIES OF IMPACT

- Habitat
- Wildlife
- Human Use

# SUMMARY OF OILED HABITAT TYPES

	<u>AREA (Acres)</u>
Sandy Beaches	1,294
Rocky Intertidal	516
Mudflats / Wetlands	99
Piers / Pilings / Riprap	69
TOTAL	<hr/> 1,978

# OILED SHORELINE HABITAT TYPES



## Legend

- Yellow line: Sandy Beach
- Blue line: Rocky Intertidal
- Pink line: Mudflat / Wetlands
- Cyan line: Manmade Structures



# Habitat Type: Sandy Beach



# Habitat Type: Rocky Intertidal



# Habitat Type: Rocky Intertidal



# Habitat Type: Tidal Mudflats



# Habitat Type: Tidal Wetlands



# Habitat Type: Waterfront Pier Pilings



# WILDLIFE IMPACTS

- Birds (approx. 4,000)

Gulls

Cormorants

Pelicans

Grebes

Shorebirds

Waterfowl

Loons

Alcids

- Fish (Herring)

- Intertidal Plants and Animals

**Phalarope**



**Brown Pelican**

**Common Murre**





# HERRING SPAWNING AREAS



MARIN




CONTRA COSTA

ALAMEDA

SAN FRANCISCO

SAN MATEO

## Legend

-  Herring Spawning Areas
-  Impacted Shoreline
-  On-Water Oil Exposure Zone

# Spill-related Beach Closures



96 11 2

# Pressure Washing at Angel Island



# EXAMPLES OF PUBLIC USE AREAS AFFECTED BY THE SPILL

- Golden Gate National Recreation Area
- Point Reyes National Seashore
- Gulf of the Farallones National Marine Sanctuary
- Monterey Bay National Marine Sanctuary
- San Francisco Maritime National Historical Park
- Alcatraz Island
- Angel Island State Park
- Candlestick Point State Recreation Area
- Several Municipal Shorelines, Beaches, and Waterfronts

# IMPACTED PUBLIC LANDS



MARIN





CONTRA COSTA

ALAMEDA

SAN FRANCISCO

SAN MATEO

## Legend

-  Federal Property
-  State Property
-  Impacted Shoreline
-  On-Water Oil Exposure Zone

# EXAMPLES OF HUMAN USES AFFECTED BY THE SPILL

- General Beach Use
- Walking, Jogging, Riding
- Sightseeing
- Wildlife Viewing
- Surfing
- Sport Fishing
- Recreational Boating
- Educational Trips
- Swimming

# Recreational Boating



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# Historic Ships Oiled





# Cape Mohican /San Francisco Drydock

## Legal Context

- Primary Statutes
  - Clean Water Act
  - Oil Pollution Act
  - Park System Resources Protection Act
  - National Marine Sanctuaries Act
  - California Oil Spill Prevention and Response Act
  - California Fish and Game Code

# Cape Mohican /San Francisco Drydock Legal Context

- Trustees/Plaintiffs
  - California Department of Fish and Game
  - California Department of Parks and Recreation
  - U.S. Department of the Interior
    - National Park Service
    - Fish and Wildlife Service
  - National Oceanic and Atmospheric Administration

# Cape Mohican /San Francisco Drydock Legal Context

- Consent Decree
  - Approved by the Court on September 15, 1998
  - \$3,445,000 to restore injured natural and national park system resources
  - \$180,000 for State park areas and services
  - Provides for public input to Trustees in the development of a restoration plan
  - Requires funds be spent in accordance with law and with Memorandum of Understanding (MOU) signed by Trustees

# Cape Mohican /San Francisco Drydock Legal Context

- Memorandum of Understanding
  - Allocates funds to following categories:
    - \* Sandy/Rocky Beach Habitat - \$500,000
    - \* Wetland/Mudflat Habitat - \$400,000
    - \* Fisheries and Water Quality - \$425,000
    - \* Bird Restoration and Enhancement - \$800,000
    - \* Lost Human Use of National and State Parks - \$1,030,000
    - \* Restoration Planning, Implementation, and Oversight - \$470,000

*D R A F T*

# *SS Cape Mohican* Oil Spill Draft Restoration Plan and Environmental Assessment



Prepared by the *SS Cape Mohican* Trustee Council:

United States of America



State of California



# THRESHOLD EVALUATION CRITERIA

Restoration Projects must:

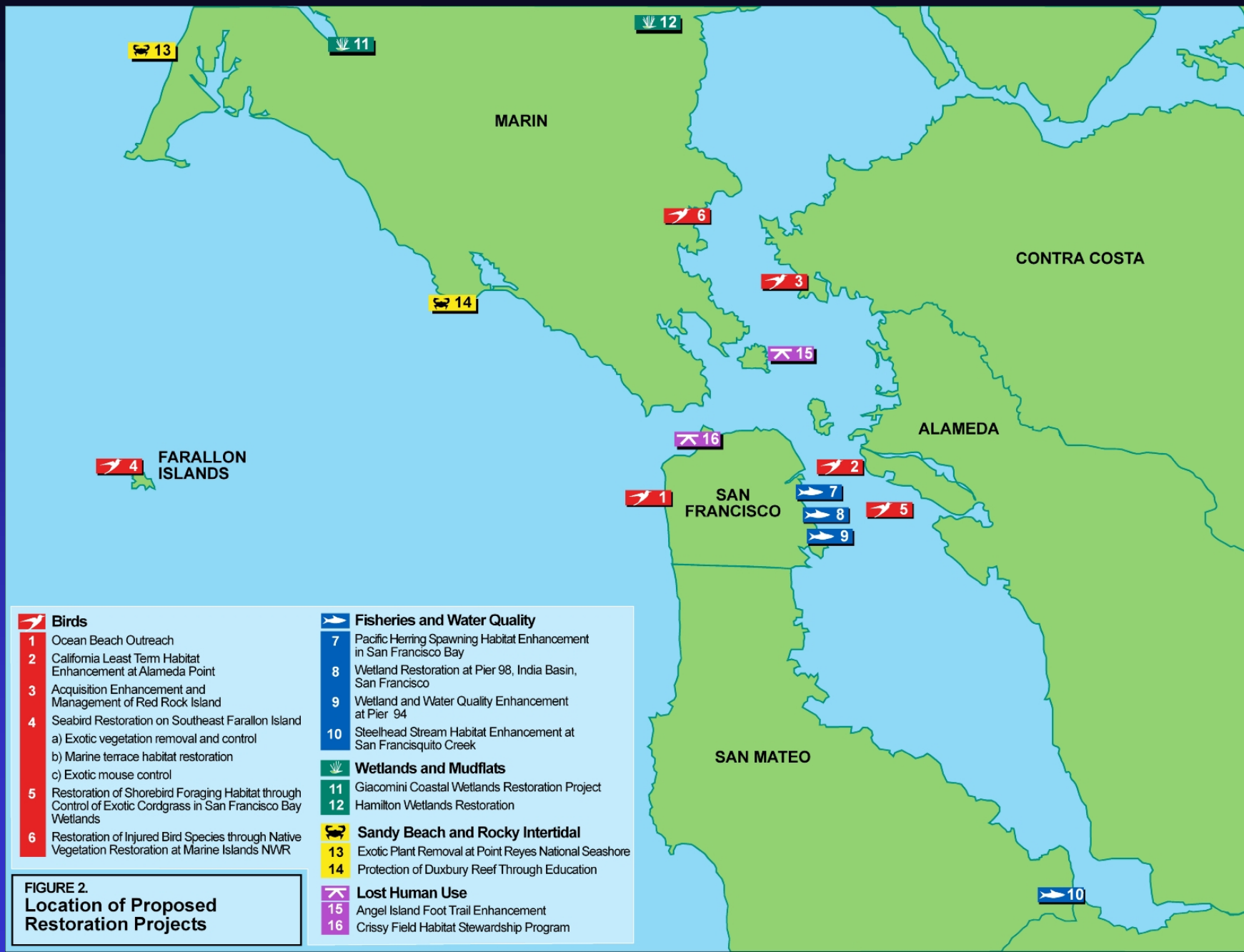
- Be Technically Feasible
- Be Consistent with Restoration Goals
- Be Compliant with Laws
- Not Harm Public Health and Safety






# ADDITIONAL EVALUATION CRITERIA

Restoration Projects should:

- Provide a close relationship to spill location, impacted natural resources and services
- Avoid further injuries
- Have a high likelihood of success
- Benefit multiple resources and services
- Provide timely benefits
- Provide protection and long-term duration of benefits
- Have potential collaborative funding
- Have high benefits relative to cost
- Have an accurate cost estimate
- Contribute to a comprehensive range of projects

# PROPOSED RESTORATION PROJECT SITES



 <b>Birds</b>	 <b>Fisheries and Water Quality</b>
1 Ocean Beach Outreach	7 Pacific Herring Spawning Habitat Enhancement in San Francisco Bay
2 California Least Tern Habitat Enhancement at Alameda Point	8 Wetland Restoration at Pier 98, India Basin, San Francisco
3 Acquisition Enhancement and Management of Red Rock Island	9 Wetland and Water Quality Enhancement at Pier 94
4 Seabird Restoration on Southeast Farallon Island a) Exotic vegetation removal and control b) Marine terrace habitat restoration c) Exotic mouse control	10 Steelhead Stream Habitat Enhancement at San Francisquito Creek
5 Restoration of Shorebird Foraging Habitat through Control of Exotic Cordgrass in San Francisco Bay Wetlands	 <b>Wetlands and Mudflats</b>
6 Restoration of Injured Bird Species through Native Vegetation Restoration at Marine Islands NWR	11 Giacomini Coastal Wetlands Restoration Project
	12 Hamilton Wetlands Restoration
	 <b>Sandy Beach and Rocky Intertidal</b>
	13 Exotic Plant Removal at Point Reyes National Seashore
	14 Protection of Duxbury Reef Through Education
	 <b>Lost Human Use</b>
	15 Angel Island Foot Trail Enhancement
	16 Crissy Field Habitat Stewardship Program

**FIGURE 2.**  
**Location of Proposed Restoration Projects**



# PROPOSED RESTORATION PROJECTS

## Wetlands / Mudflats Habitat Category

- Giacomini Coastal Wetland Restoration  
\$435,348
- Hamilton Wetlands Restoration  
\$500,000

## Sandy / Rocky Beach Habitat Category

- Sandy Beach Habitat Restoration at PRNS  
\$303,214
- Protection of Duxbury Reef through Education  
\$360,000

# PROPOSED RESTORATION PROJECTS

## Fisheries and Water Quality Category

- Herring Spawning Habitat Enhancement  
\$456,596
- Wetland Restoration at Pier 98  
\$146,920
- Steelhead Stream Habitat Enhancement  
\$40,000
- Wetland Enhancement at Pier 94  
\$400,300

# PROPOSED RESTORATION PROJECTS

## Bird Restoration Category

- Shorebird Habitat Protection at GGNRA  
\$23,500
- Least Tern Habitat Enhancement  
\$141,000
- Acquisition, Enhancement and Management of Red Rock  
\$800,000
- Exotic Cordgrass Wetlands Eradication  
\$246,000
- Farallon Island Seabird Restoration
  - a) Exotic Vegetation Control \$143,750
  - b) Removal of Concrete Slabs \$143,750
  - c) Control of Exotic Mice \$390,195
- Marin Islands Enhancement \$86,350

# PROPOSED RESTORATION PROJECTS

## Lost Human Use Category

- Angel Island State Park Trail Enhancement  
\$180,000
- Crissy Restoration and Public Access  
\$850,000

# **NON-PREFERRED ALTERNATIVES**

- Entry Triangle Marsh Wetland Restoration
- Bolinas Lagoon Wetland Restoration
- Tubbs Island Levee Setback
- Herring Stock Assessment
- Eelgrass Restoration in San Francisco Bay
- Creation of Artificial Herring Spawning Habitat
- Treasure Island Wetland Restoration
- Waterbird Conservation Project
- Big Lagoon Wetland Restoration Project
- Wetlands Walkway at Candlestick Point
- Tern Nesting Enhancement at Bair Island



*Thank you for coming!*