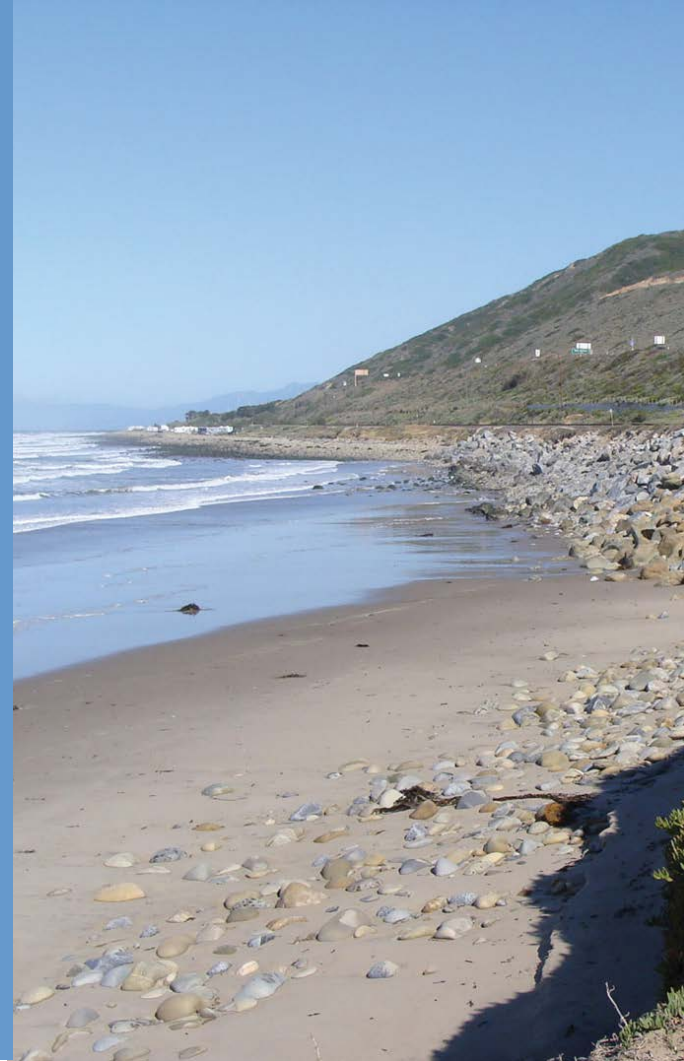


Your Coast in 50 Years Sediment Management Workshop

San Francisco Littoral Cell CRSMP

Municipal/Landowners Workshop, 1-4
November 14, 2012 (Pacifica)

*Doug George and Bob Battalio, ESA PWA
Athena Honore, ABAG*



Essentials for Today

- This Project: develop a coastal regional sediment management plan
 - Identify ways to mitigate coastal erosion hazards by increasing sediment supply
 - Describe actions that may become part of plan but not specific projects
- This Plan: for state and federal agencies to create local and regional projects
- This Workshop: dialogue with city staff and federal landowners to provide input about what you want to see happen along the coast

Today's Agenda

<i>Time</i>	<i>Topic</i>	<i>Speaker</i>
1:00-1:05	Opening, Introduction	Athena Honore, ABAG
1:05-1:20	Project overview, including hazard zones and economic information. Other CA CRSMPs as examples.	Doug George, ESA PWA
1:20-1:50	Tools, alternatives, scenarios. Impacts of existing approach (armoring).	Bob Battalio, ESA PWA
1:50-2:00	Break	
2:00-2:05	Description of work groups exercise	Doug
2:05-2:55	Exercise in small groups	All
2:55-3:05	Break	
3:05-3:20	Local solutions/regional perspective	Work groups report out, moderated by Athena
3:20-3:40	Economic analysis	Phil King, SFSU
3:40-3:50	Policy development and funding opportunities	Athena
3:50-4:00	Next steps, closing	Athena

Project overview: regional coastal troubles

The New York Times

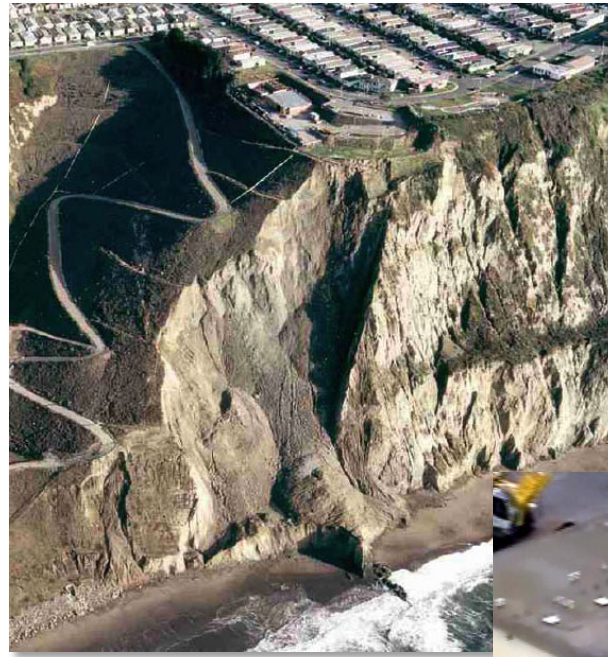
Both Coasts Watch Closely as San Francisco Faces Erosion



Jim Wilson/The New York Times

At the south end of Ocean Beach, a 3.5-mile stretch of the Pacific in San Francisco, El Niño-driven storms have torn down bluffs, pulling huge amounts of sand into the sea.

By FELICITY BARRINGER
Published: March 24, 2012



Daly City



Pacifica



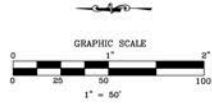
2010

1943

- LEGEND**
- APPROXIMATE TOP OF BLUFF (BASED ON FIELD SURVEY DATED JANUARY 26, 2010)
 - APPROXIMATE TOP OF BLUFF (BASED ON AERIAL PHOTO DATED DECEMBER 18, 2008)
 - APPROXIMATE TOP OF BLUFF (BASED ON AERIAL PHOTO DATED SEPTEMBER 18, 2009)
 - APPROXIMATE TOP OF BLUFF (BASED ON AERIAL PHOTO DATED JULY 2007)
 - APPROXIMATE TOP OF BLUFF (BASED ON AERIAL PHOTO DATED JUNE 2001)
 - APPROXIMATE TOP OF BLUFF (BASED ON AERIAL PHOTO DATED MARCH 1986)
 - APPROXIMATE TOP OF BLUFF (BASED ON AERIAL PHOTO DATED 1973)
 - APPROXIMATE TOP OF BLUFF (BASED ON AERIAL PHOTO DATED MAY 1965)
 - APPROXIMATE TOP OF BLUFF (BASED ON AERIAL PHOTO DATED OCTOBER 1943)
 - ARTIFICIAL BLUFF PROGRESSION AS A RESULT OF HISTORIC SITE GRADING

WILD 15/4 UAS N. 13350 153.93

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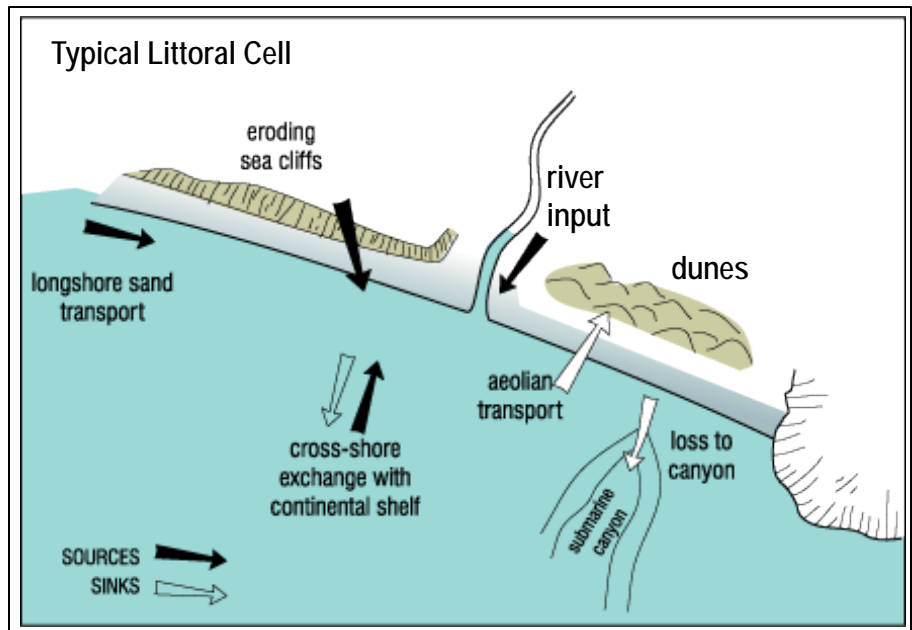


HISTORICAL AERIAL PHOTO (1943-JANUARY 2010)
 HISTORICAL BLUFF RETREAT
 LAND'S END HOA
 100 ESPLANADE AVENUE
 PACIFICA, CALIFORNIA

Project overview: The role of sediment (sand and mud)

- Buffer from ocean processes
- Habitat (beaches, tidal flats)
- Creates recreational zone

Littoral cell – geographic area offshore that contains a complete cycle of sedimentation including sources, transport paths, and sinks.



Project overview: California Coastal Sediment Master Plan

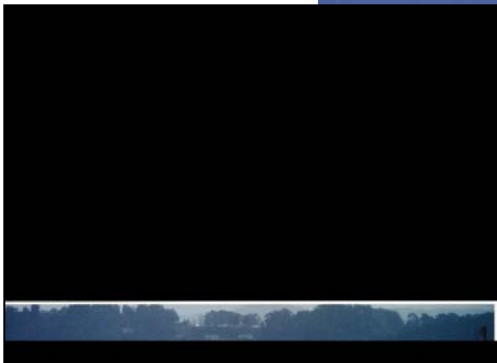
A “Super-Regional” Approach



Ocean Beach



Port of Oakland



Pacifica, 1994



South Bay Salt Ponds

Coastal Regional Sediment Management Plans (CRSMPs)

**Policy &
Governance**

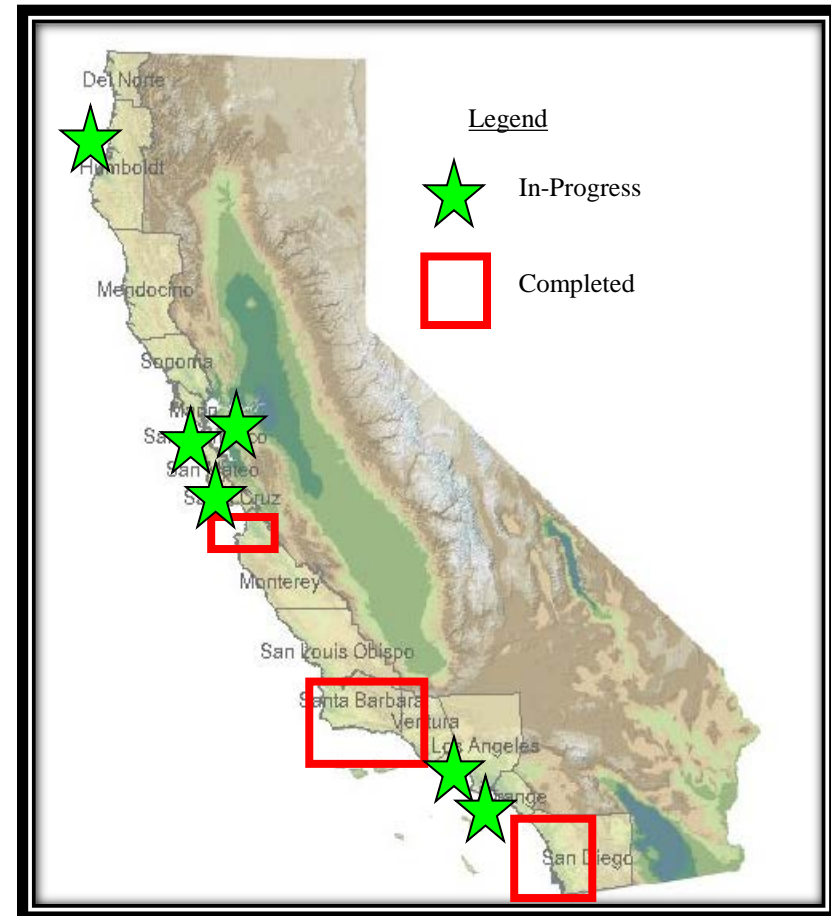
**Economics &
Infrastructure**

Ecology

**Geology &
Morphology**

**Physical
Processes**

Present Ideas for Local Projects



CRSMP examples from southern CA

Artificial Reef, Oil Piers



Managed Retreat, Surfer's Point

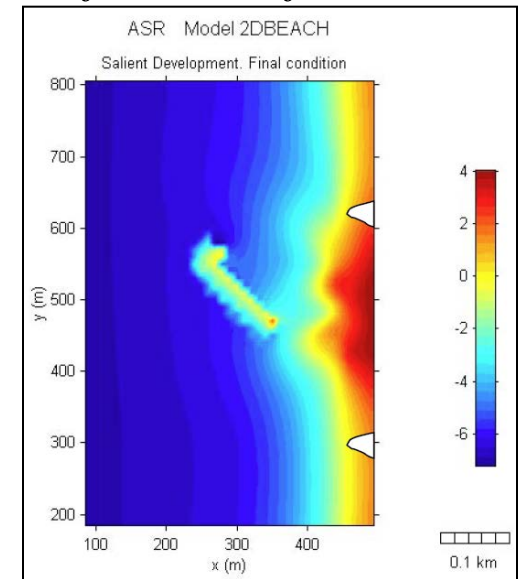


Photo: USACE



*County Flood Control
Agency Sediment Supply*

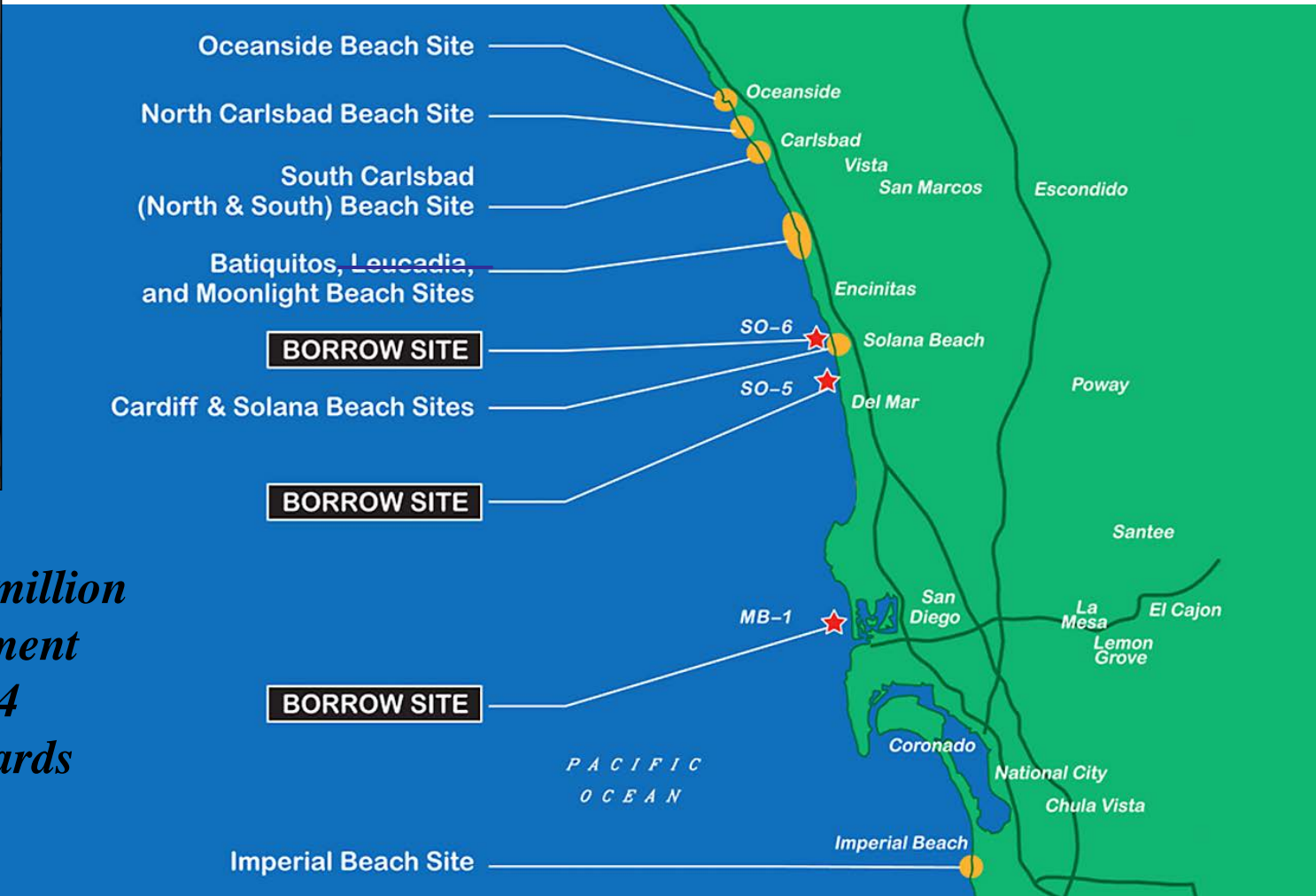


CRSMP examples from southern CA



Photo: SANDAG

RSBP II: \$2.9 million beach nourishment program of ~1.4 million cubic yards



A mini-CRSMP in SF



Photo: SPUR

- City of SF and NPS (GGNRA)
 - Sand trucking from NOB to SOB
 - 100,000 cubic yards in August 2012
- USACE
 - Single placement of 300,000 cubic yards
 - Dredged sediment pumped onshore at Sloat and to 4000' south
 - Designation of OBDS as permanent site
- Ocean Beach Master Plan
 - 2 million cubic yards of sand placed every 10 years



CRSMP Basics



Direction of Net Sand Transport



Cell Boundaries



- Primary jurisdictions:
 - San Francisco
 - Daly City
 - Pacifica
 - National Park Service (GGNRA)
 - State Parks
- 16 Reaches
- 17 miles long

CRSMP Players

Federal
Interests



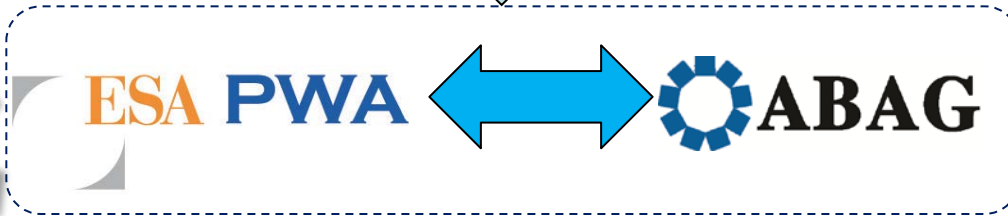
State
Interests



Stakeholder
Advisory
Group

Public

Cities &
Landowners



CRSMP Lead

Outreach & Governance

CRSMP Economic Analysis



- Economic Analysis will be performed by Dr. Philip King and Aaron McGregor
- First part of the study will collect data necessary for analysis
- Conducted preliminary counts
- Prepared baseline estimates and categorized assets at risk



CRSMP Ecology and Policy Analyses



- Ecological filters for future opportunities

- Coordination with region's planning efforts

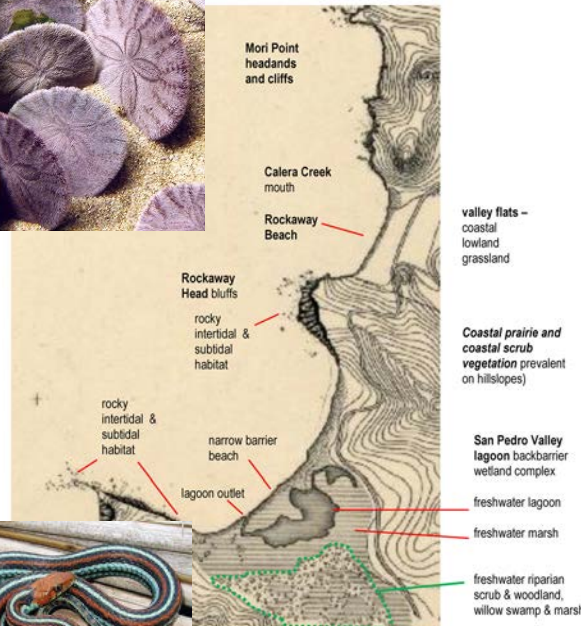
SF: Ocean Beach Master Plan

Daly City: GP/LCP Update

Pacifica: GP/LCP Update

GGNRA: General Management Plan Update

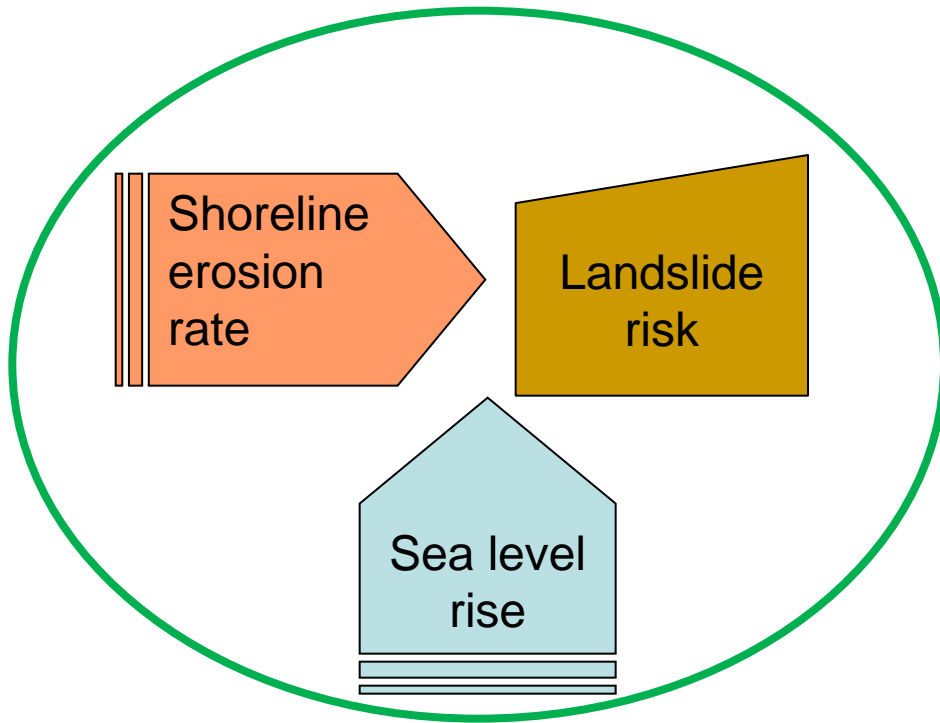
GFNMS: Closure of Sanctuary Exclusion Area



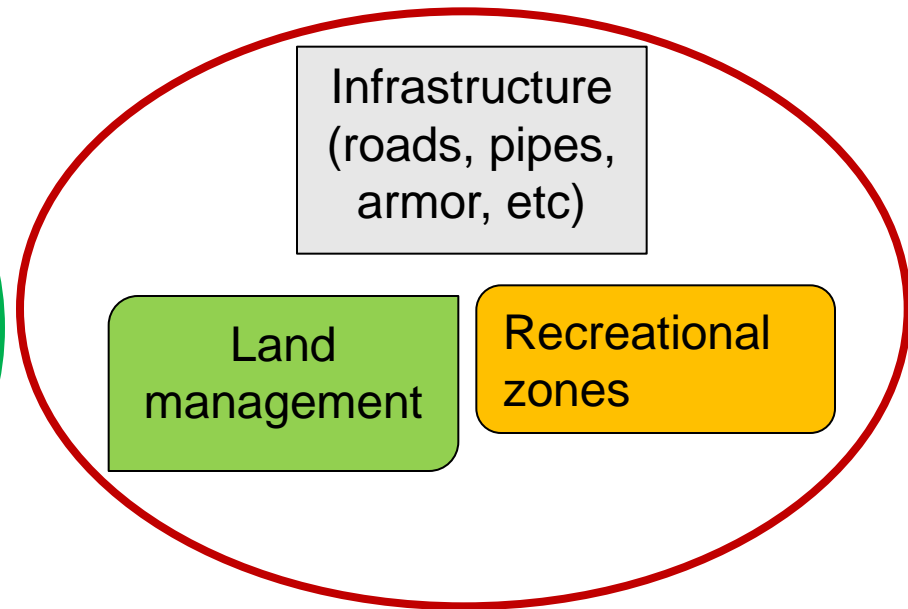
**1869 Habitats
Peter Bay**

CRSMP Hazards Analyses

Physical and geological processes



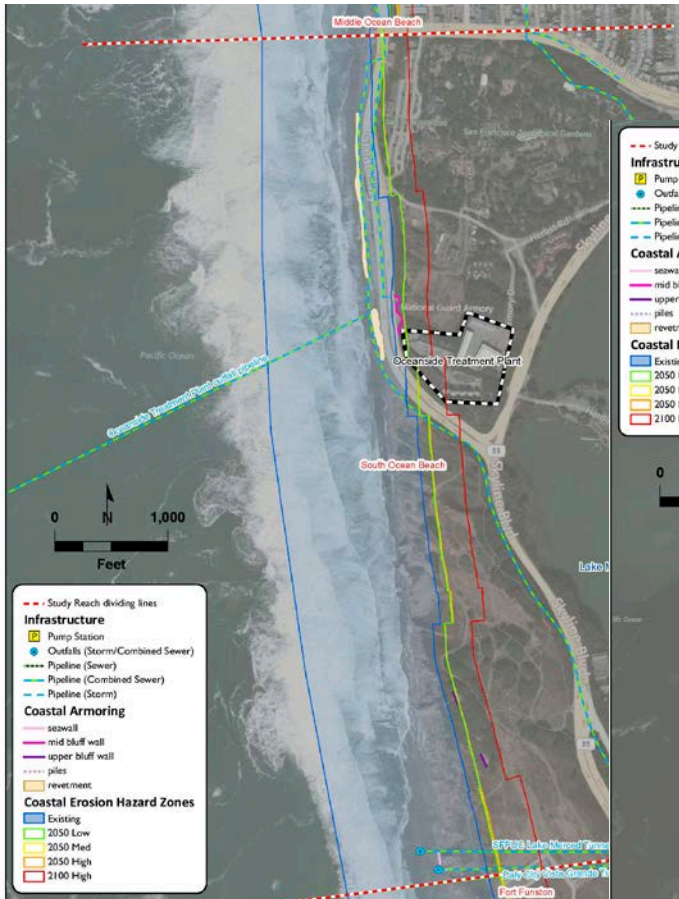
Human environment



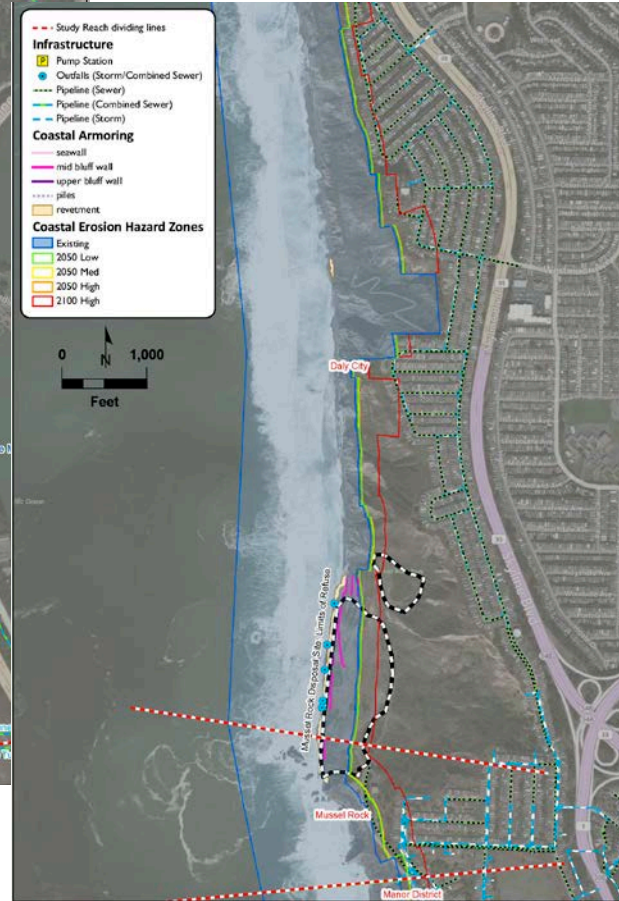
Information from USGS, USACE, NOAA, CGS, NPS, Coastal Commission, Coastal Conservancy, cities, counties, academic and engineering studies

Example city hazard zones: now-2100

Southern Daly City



South Ocean Beach, SF



Manor District, Pacifica

Larger landslide concerns in Daly City

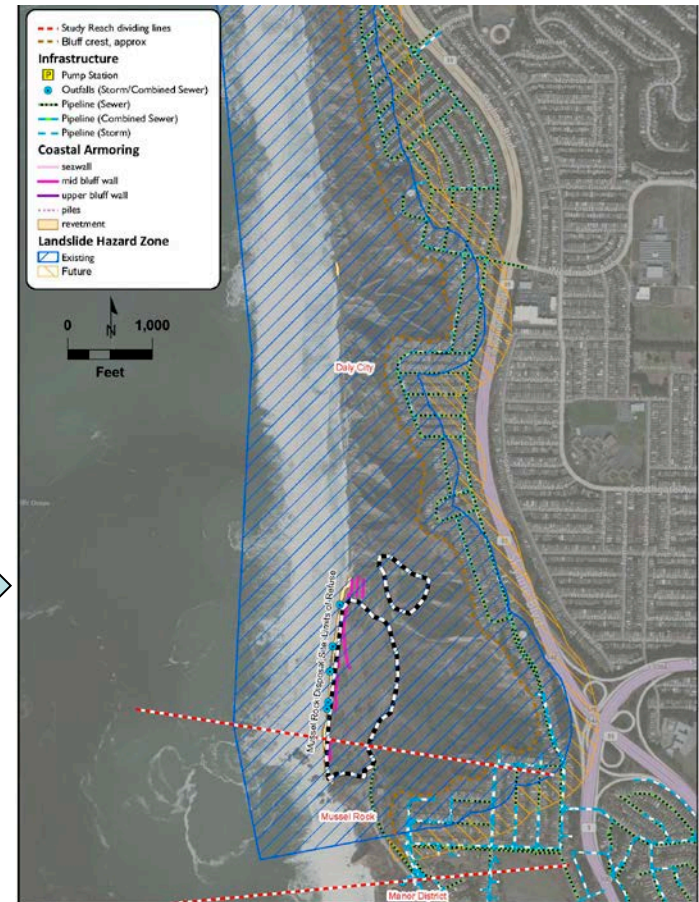
“Coastal Erosion Hazard Zones”



CRSMP affecting directly

CRSMP affecting indirectly

“Landslide Hazard Zones”



WHAT CAN BE DONE?







WORKGROUP EXERCISE

Goal and Setup

- Allow in-depth brainstorming by municipalities and landowners/regulators to address coastal hazard zones
- Use the tools
 - Posters of cities with hazard zones
 - Labels of coastal erosion mitigation alternatives
 - Information packet as a reference
 - Example scenarios
- Report back to the group to look at regional differences and similarities

Ground rules

- Creative environment
- All views heard
- Stay on topic
- We are here for the group cause
- We know the process is imperfect but we are sharing the responsibility
- If lost, ask for directions
- Have fun – this is your chance to imagine a future shoreline!

YOUR COAST IN 50 YEARS