

# California Coastal Sediment Management Plan

## Developing Regional Sediment Management Strategies along the California Coast

SWRCB Hydromodification Workshop #4

November 21, 2013



Clif Davenport- California Geological Survey &  
Coastal Sediment Management Workgroup



A collaborative effort by federal and state agencies chaired by the U.S. Army Corps of Engineers South Pacific Division and the California Natural Resources Agency

## Federal Participation

- **USACE - South Pacific Division (co-chair)**
- USACE - Los Angeles District
- USACE - San Francisco District
- National Oceanic Atmospheric Administration
- U.S. Geological Survey
- U.S. Environmental Protection Agency
- National Park Service (GGNRA)
- Tijuana River National Estuarine Research Reserve

## Regional Assistance

- SANDAG
- BEACON
- Orange County Parks
- ABAG
- LA Beaches and Harbors
- City of Monterey
- Humboldt Bay RCD
- MBNMS
- SLOCOG ?



## State Participation

- **California Natural Resources Agency (co-chair)**
- Division of Boating & Waterways
- Coastal Commission
- Coastal Conservancy
- Parks & Recreation
- State Lands Commission
- California Geological Survey
- Dept. of Transportation
- Dept. of Fish and Game
- SF Bay Conservation and Dev. Commission
- California Ocean Sciences Trust
- State Water Resources Control Board

## Advisory

- CalCoast (local agencies)
- CMANC (Ports & Harbors)

# CSMW

- Initiated in late 1999
  - Response to concerns raised in meeting between USACE and CNRA on shore protection needs in California
- A collaborative taskforce
  - Concerned about adverse impacts of coastal erosion (habitat, economics, recreation, public safety)
  - Site specific solutions don't address regional imbalances in sediment supply causing the erosion (hence need for Regional Sediment Management or RSM)
- MOU South Pacific Division & State Natural Resources Agency
  - Develop means to implement RSM along the coast
  - 50/50 cost sharing agreement for studies, tools, strategies, demonstration projects
  - DBW State funding arm, USACE LA District Federal funding arm
- Leverage State & Federal Funds
  - Collaboration on coastal sediments activities.
- Prepare a Adaptive Sediment Master Plan
  - Help guide political, regulatory, environmental, educational and process-related efforts anticipated when implementing RSM
  - Focus on educational documents, computer-based tools, RSM Strategy /Plans, and Outreach/Agency coordination
- Share information, including common data bank
  - Website
  - Geospatial browser



## ***Mission***

*Conserve, restore, and protect California's coastal resources by developing and facilitating regional approaches to managing sediment imbalances.*

## ***Goals***

- To reduce shoreline erosion and coastal storm damages;*
- restore and protect beaches and coastal habitat by restoring natural sediment supply from rivers, impoundments and other sources to the coast; and*
- optimize the use of sediment from ports, harbors, and other opportunistic sources.*



# Why are beaches important to California?



## Provide:

Recreation  
Tourism  
Habitat  
Revenue

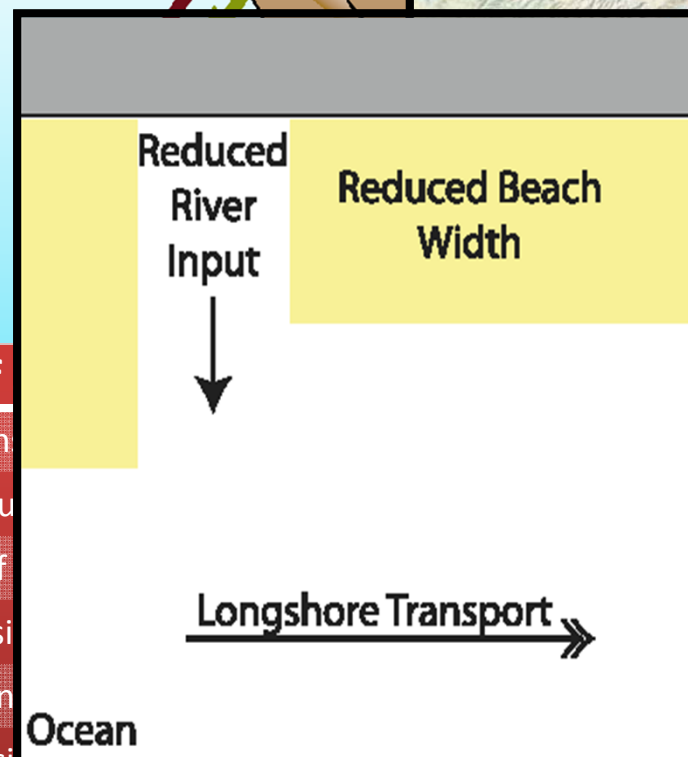
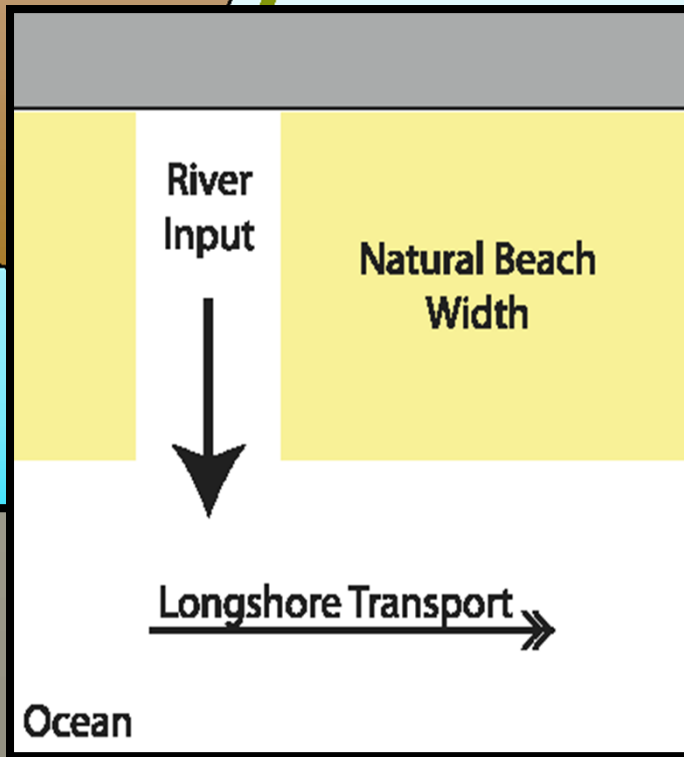
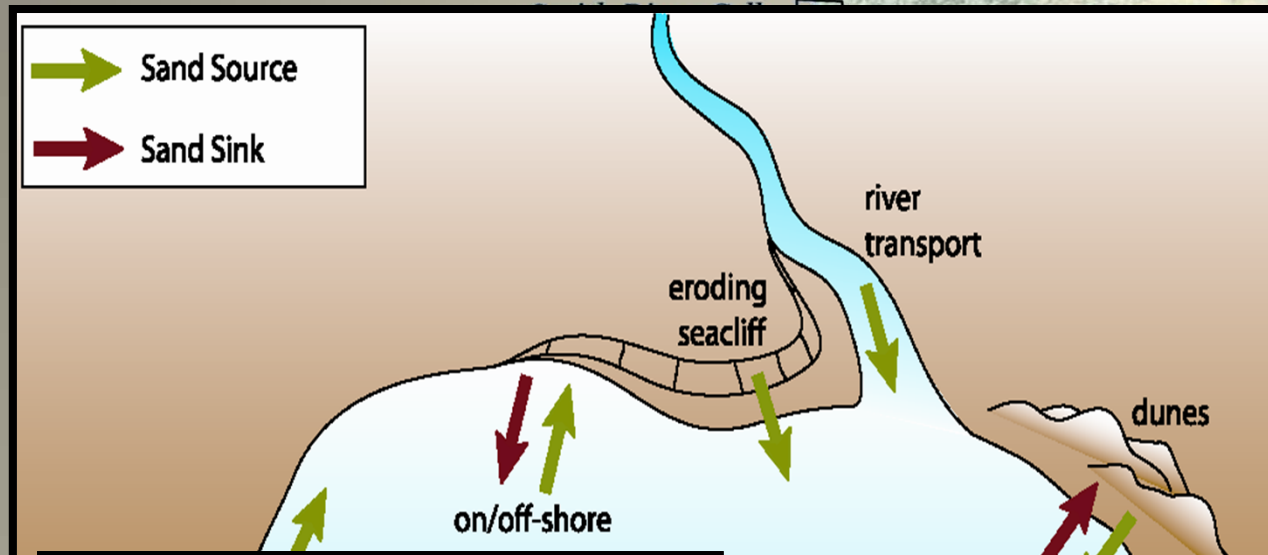
## Protect:

Bluffs  
Roads  
Buildings  
Dunes



# Littoral Cells and Beach Width

Source- Patsch, 2007



Beach Nourishment

ources of  
shore Tran  
River Inpu  
iff or Bluff  
Gully Erosi  
shore Tran  
Dune Erosi...

and  
port out  
sport  
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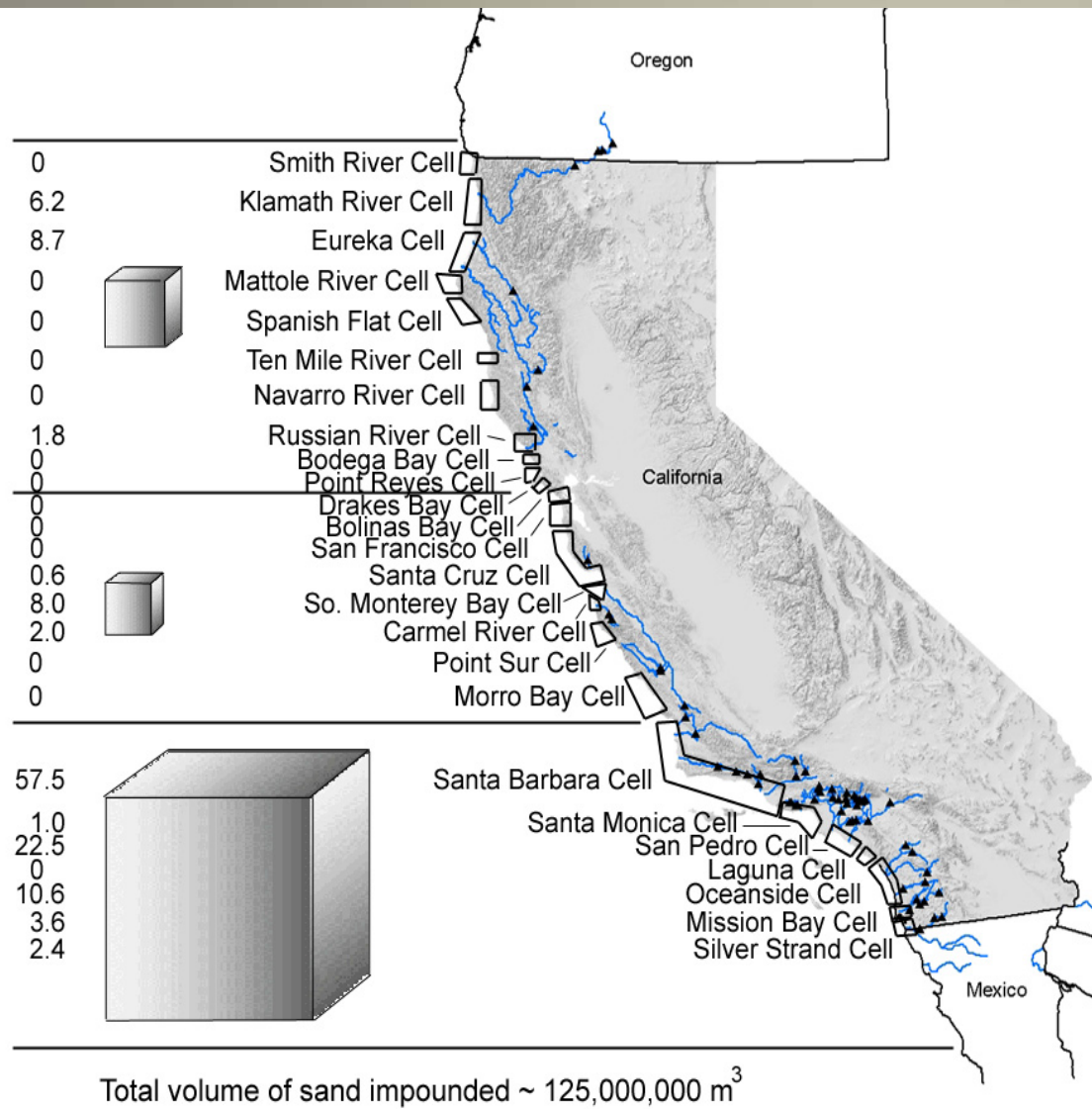


# DECREASED SEDIMENT SUPPLY

- ✦ Dams, Debris basins
- ✦ Channelized rivers
- ✦ Coastal Armoring
- ✦ Sand & Gravel Mining
- ✦ Wetlands, harbors

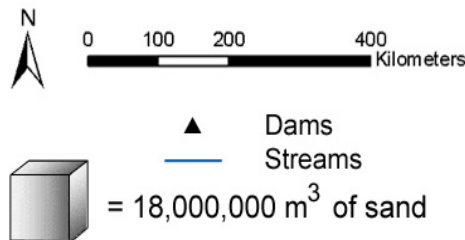


Plate 7.1 The La Tuna Canyon debris basin (Photograph courtesy of K. Barzou)



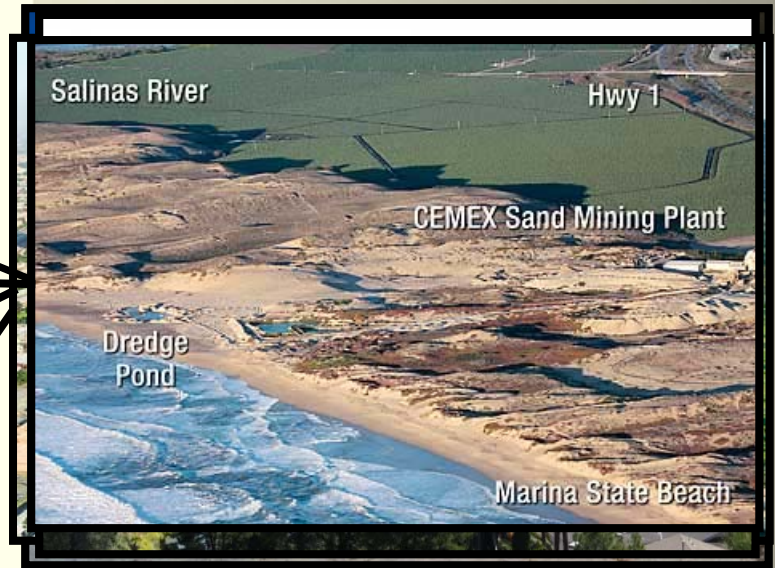
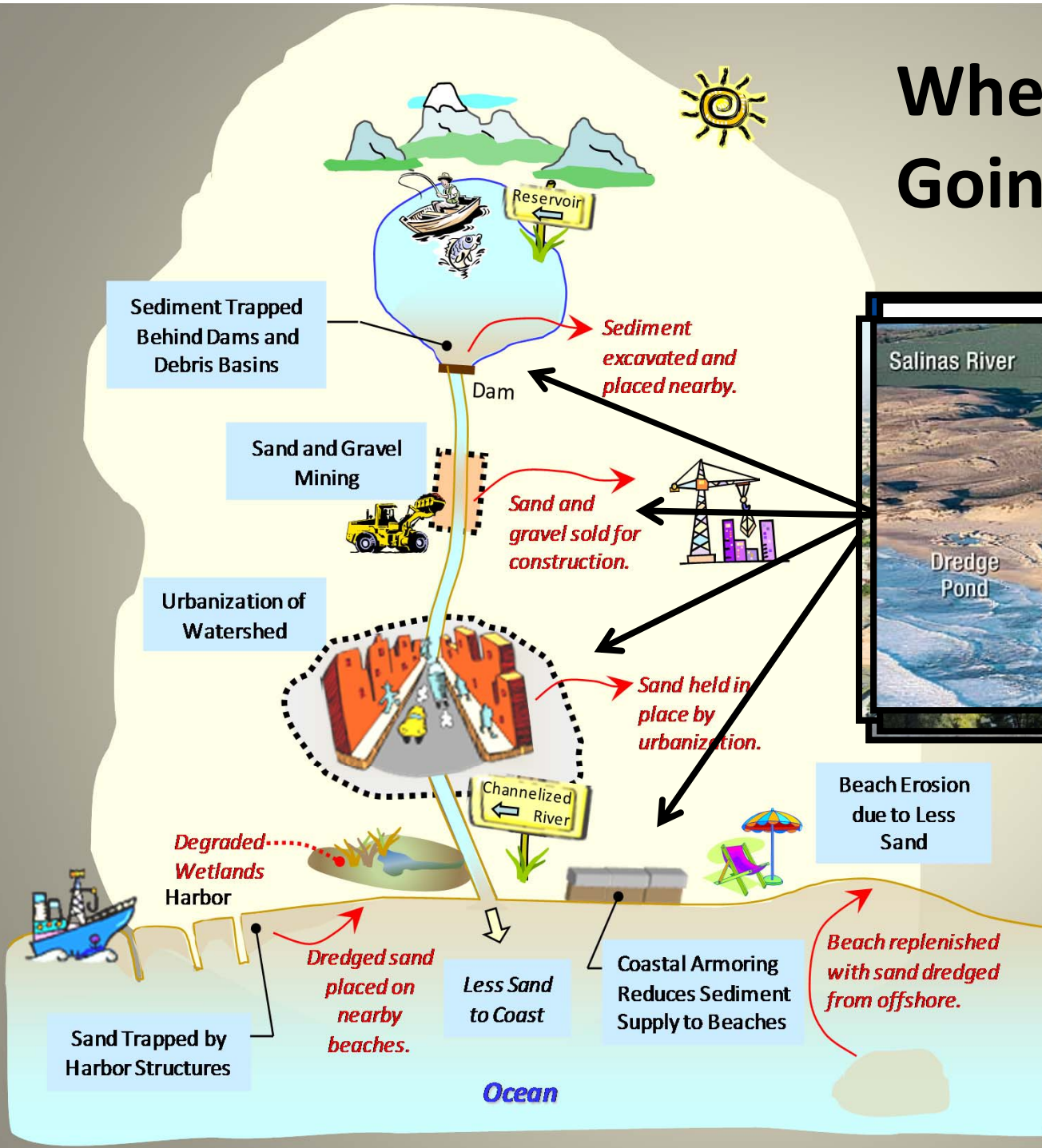
**Figure 7.** Cumulative sand impounded by dams in each of California's 25 major littoral cells. The numbers are millions of cubic meters of sand that have been trapped by dams in the watersheds draining into each littoral cell. The cubes are scaled in size relative to each other to depict impoundment in northern, central, and southern California. Littoral cell names and divisions are from Patsch and Griggs, 2005

Source: Slagel, M. and Griggs, G., 2006



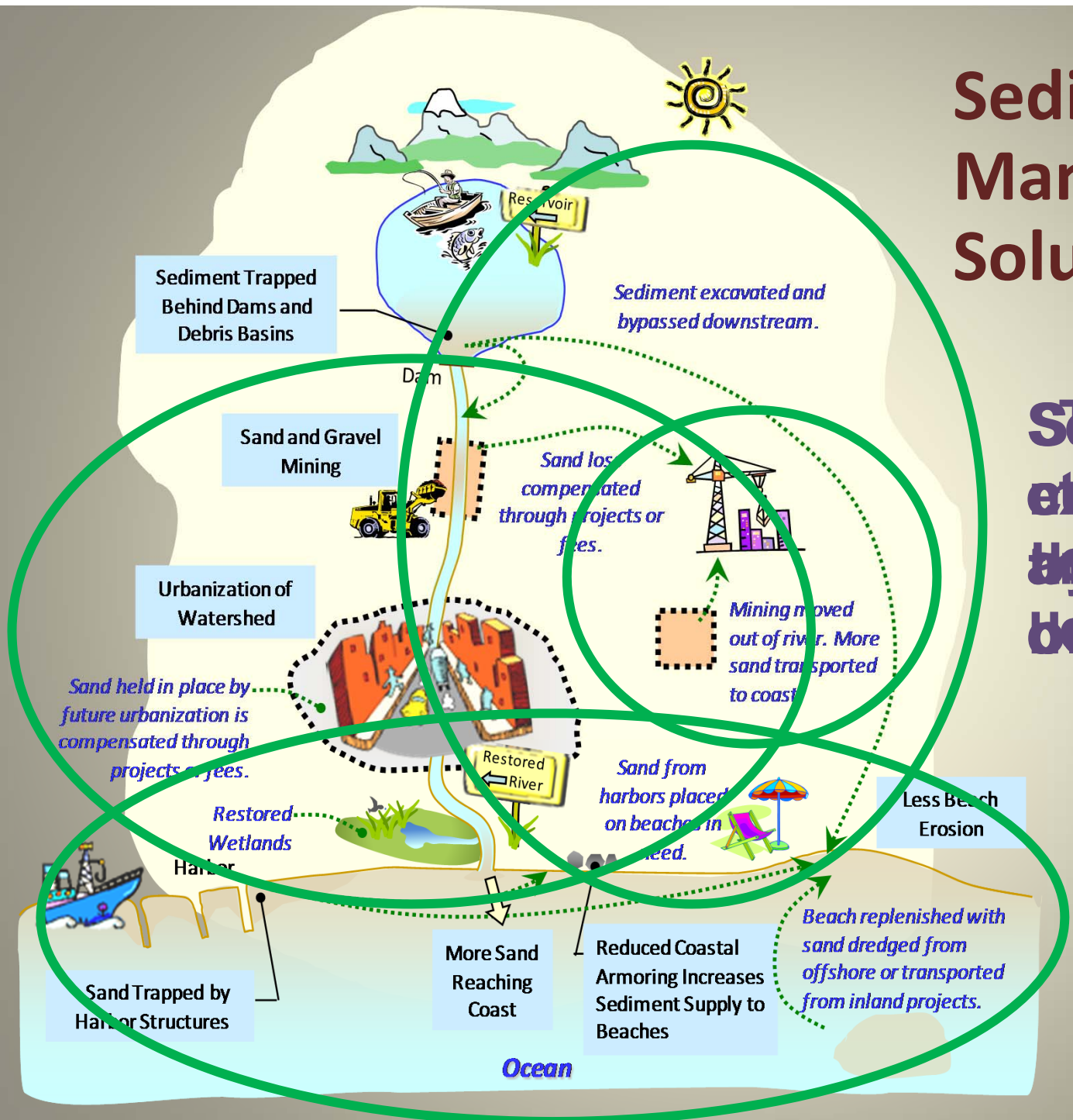


# Where is Sand Going?



# Sediment Management Solutions

~~Sand is being transported to the ocean (and deposited in areas~~



Source: CSMW Brochure

# SEDIMENT MANAGEMENT ISSUES



- Beneficial Reuse consideration
- Fine-grained sediment transport
- Source/beach sand compatibility
- Fines & project operations effect on natural resources
- Potential contaminants/bacterium
- Sediment Budgets
- Guidelines for regional opportunistic programs
- Economics
- Inadequate information for decision making



# COASTAL SEDIMENT MASTER PLAN



## “Deliverables”

- ✦ Educational materials, reports & data
- ✦ Computer-based decision support tools
- ✦ Work with watershed groups, regulatory agencies, etc. to incorporate RSM
- ✦ Regional-based strategies to implement RSM: Coastal RSM Plans.

## THE CALIFORNIA COASTAL SEDIMENT MASTER PLAN Status Report



PREPARED BY  
California Coastal Sediment Management Workgroup  
May 2012

<http://www.dbw.ca.gov/csmw/default.aspx>

## What Will It Do?

- Improve beach conditions and reduce erosion attributed to human causes.
- Improve wetland quality.
- Improve and leverage the use of federal and state agency resources.
- Optimize project execution by programmatically assessing environmental impacts of regional coastal projects
- Holistically integrate discrete solutions into comprehensive regional solutions.



# Education & Information



- Mission
- Meetings
- Ocean Action Plan
- New Contact Form
- Public Outreach
- Contact CSMW



A collaborative effort by federal and state agencies chaired by the U.S. Army Corps of Engineers South Pacific Division and the California Natural Resources Agency

Welcome to CSMW's website! Our collaborative [taskforce](#) of state, federal and local/regional entities, concerned about adverse impacts of coastal erosion on our coastal habitats, is working to implement [Regional Sediment Management](#) (RSM) in order to augment or restore natural processes. Our urbanizing society has significantly changed natural sediment supply and transport patterns, and some coastal areas (e.g., beaches) are eroding while others (e.g., wetlands, ports & harbors) are being deluged with excess sediment. Facilitating beneficial reuse of excess clean sediment from inundated locations at areas experiencing severe erosion is the substance of RSM.

Sediment is an integral component of the coastal ecosystem, representing a public good that must be managed to provide for quality of life, natural resource protection, and economic sustainability. Sediment imbalances resulting from alteration of the natural environment therefore threaten the viability of the public good and require management to restore the natural balance. Coordinated beneficial reuse of sediment resources within a regional context helps to restore natural processes and simultaneously address sediment imbalances.

CSMW is developing a coastal "[Sediment Master Plan](#)" (SMP) to guide political, regulatory, environmental, educational and process-related efforts anticipated when implementing RSM. The physical setting for coastal sediment imbalance problems and CSMW's vision for the "road to solutions" are discussed in the overview, "[Why a SMP is needed](#)". The [SMP Baseline Report 2006](#) describes the initial SMP development process, planned future activities, and CSMW priorities. The [SMP Status Report 2008](#) provides a progress reporting of CSMW and SMP activities to date. The SMP envisions three types of products produced during Plan development- informational reports, computer-based tools, and RSM strategies/Plans.

Currently, CSMW's main thrust for SMP development is preparation of regionally-based RSM strategy plans. We are working with various regional entities to implement RSM within their jurisdictional area through [Coastal RSM Plans](#). These Plans specify how governance, outreach and technical approaches can support beneficial reuse of sediment resources within and throughout that region without causing environmental degradation or public nuisance. CSMW has historically focused on the development of informational documents and computer-based tools to assist coastal managers obtain and utilize the information they need to provide sound decision-making. Links to these tools and documents lie within the column to your right and/or on our [Library](#) page.

Information on the various coastal sediment-related [programs](#) of CSMW [member agencies](#) is available, as are CSMW [meeting minutes](#) since 2003. Our outreach program has included [workshops](#), development of and mailings to our [Public Outreach Contact List](#), and is part of each Coastal RSM Plan development. Comments received to date from our [public outreach](#) activities can be viewed by workshop/region location.

We encourage you to contact us. Please direct technical issues to the CSMW Project Manager. Policy or procedure related questions can be directed to the CSMW co-chairs. A [questionnaire](#) may assist in identifying your concerns. If you would like to be added to our mailing list, please fill out the [New Contact](#) form.

[www.dbw.ca.gov/csmw/default.aspx](http://www.dbw.ca.gov/csmw/default.aspx)

Last modified: 02/07/2011

### CSMWs [Current Activities](#)

### RSM Related Reports

- [Why a SMP is needed](#)
- [Coastal Regional Sediment Management Plans](#)
- [SMP Status Report 2008](#)
- [SMP Baseline Report 2006](#)
- [Sand Compatibility and Opportunistic Use Program \(SCOUP\)](#)

### Computer Based Tools

- [Spatial Data Website](#)
- [Coastal Sediments Benefit Analysis Tool](#)
- [Coastal Sediment References Searchable Database](#)

### Outreach

- [National Shoreline Management Study \(Draft Outline\)](#)
- [Public Outreach Contact List](#)
- [Natural Resources Protection Workshops](#)

### Informational Documents

### RSM Partners

- Monterey Bay National Marine Sanctuary
- State Water



# Library of Project and Related Reports



## Library Tab CSMW Website ([www.dbw.ca.gov/csmw/default.aspx](http://www.dbw.ca.gov/csmw/default.aspx))

This page provides links to documents relevant to CSMW's mission. Please check back for updates.

### CSMW Reports:

- [California Coastal Sediment Management Master Plan Workplan](#)
- [Initial Report of the CSMW](#)
- [Sediment Master Plan Baseline Report 2006](#)
- [Sediment Master Plan Status Report 2008](#)
- [California Beach Erosion Assessment Survey 2010](#)
- [Coastal Sediment References 2004](#)
- [Drafts](#)

### Coastal Erosion:

- [CA Resources Agency Shoreline Erosion Protection Policy 1978](#)
- [Coastal Change - Beaches and Cliffs](#)
- [Dept. of Parks and Recreation Memo 1999](#)

### Coastal Engineering:

- [SLC Shoreline Protective Structures](#)
- [USACE Coastal Engineering Manual](#)
- [California Sand Retention Structure Impacts](#)
- [California Sand Retention Structure Impacts - Appendix A](#)

### Economic Studies:

- [Economics of RSM](#)
- [Economic Losses from failure to maintain California's Beaches](#)
- [Fiscal Impacts of Beaches in California](#)
- [Beach Spending/Recreational Benefits - City of San Clemente](#)
- [Beach Spending/Recreational Benefits - City of Carpinteria](#)
- [Overcrowding & Demand for Beaches, Southern California](#)

### Environmental

- [DRAFT Biological Impacts Analysis](#)
- [CROA Statutes and Guidelines](#)
- [SCOUP Pilot Project MND](#)
- [San Diego CBSMP- Proposed Actions & Alternatives](#)

### Outreach

- [Beach Restoration Regulatory Guide](#)
- [California Coastal Sediment Master Plan Informational Brochure](#)
- [Coastal Sediment References](#)
- [Explore the California Coast](#)
- [How Beach Nourishment Works](#)
- [Littoral Cells, Sand Budgets and Beaches](#)

### GeoSpatial Data Websites:

- [Cal-Atlas Geospatial Data Clearinghouse](#)
- [CSMW's WebMapper](#)
- This "WebMapper" / GIS product is funded in part with qualified outer continental shelf oil and gas revenues by the Coastal Impact Assistance Program, Bureau of Ocean Energy Management, Regulation, and Enforcement, U.S. Department of the Interior.
- [CDFBG's Marine Map DST](#)
- [San Diego Nearshore Program](#)
- [USDAs Natural Resources Data Gateway](#)
- [USGS Coastal and Marine IIMS](#)
- [USGS's usSEABED](#)

### Planning and Policy

- [Regional General Permit for Beach Nourishment](#)
- [Ocean Protection Council Strategic Plan](#)
- [West Coast Governors Agreement on Ocean Health - Action Plan](#)
- [Florida's Beach Restoration Program](#)
- [Texas's Beach Restoration Program](#)

### Regional Sediment Management:

- [ASCE Policy Supporting RSM](#)
- [Coastal RSM Plan for Southern Monterey Bay](#)
- [Coastal RSM Plan Pt. Conception to Pt. Mugu](#)
- [Coastal RSM Plan for the San Diego Region](#)
- [RSM Informational Bulletins](#)
- [RSM Primer](#)
- [Sand Compatibility and Opportunistic Use Program \(SCOUP\)](#)
- [Sandshed Management](#)

### Sea Level Rise

- [California Coastal Erosion Response to Sea Level Rise](#)
- [Impacts of Sea Level Rise on the California Coast](#)
- [USACE Policy on Sea Level Rise](#)

### Sediment Assessments:

- [California Beach Restoration Study 2002](#)
- [Cumulative Loss of Sand to the California Coast by Dams](#)
- [Development of Sand Budgets for California Major Littoral Cells](#)
- [Effects on Turbidity from Dredging Operations - CSTF Review](#)
- [Offshore Canyon Sand Capture](#)
- [Reservoir Sedimentation Database \(RESSED\)](#)
- [Sources, Dispersal and Fate of Fine Sediment Supplied to Coastal California](#)

### Miscellaneous:

- [USACE Digest HQ Resources Policies and Authorities](#)
- [USACE Publications](#)
- [NWS Publications](#)
- [Process Based Landslide Prediction](#)
- [Pressure Equalizing Modules \(PEMs\) Reports](#)
  - [Jutland Field Test PEMs June 2008 Part I](#)
  - [Jutland Field Test PEMs June 2008 Part II](#)
  - [Jutland Field Test PEMs June 2008 Part III](#)
  - [Jutland Field Test PEMs June 2008 Appendices](#)
  - [Holmsland Barrier Field Tests June 2008 Burcharth](#)



## Brochure: Why a Sediment Master Plan is needed



# California Coastal Sediment Master Plan

## Mission

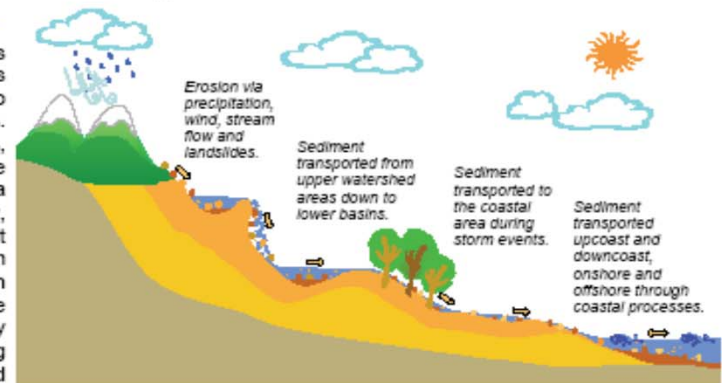
Develop a comprehensive master plan for the conservation, restoration, and preservation of the valuable sediment resources along the coast of California to reduce shoreline erosion and coastal storm damages, provide for environmental restoration and protection, increase natural sediment supply to the coast, restore and preserve beaches, improve water quality along coastal beaches, and optimize the beneficial use of material dredged from ports, harbors, and other opportunistic sediment sources.

## The California Coast – An Important Resource

The California coastline consists of a variety of landforms such as sand and cobble beaches, rocky intertidal areas, rocky cliffs, and loosely consolidated bluffs. These landforms provide habitat for hundreds of wildlife species covering the spectrum of birds, mammals, reptiles, amphibians, fishes, and invertebrates. The California shoreline also provides residential, industrial, commercial, and military land uses for humans as well as recreational and educational opportunities.

## Natural Sediment Processes

Much of the sediment that makes up the sand and cobble beaches of the coast is material carried to the coast by rivers and streams. Under natural conditions, weathering processes erode sediment from the watershed via precipitation, wind, stream flow, and landslides. Streams transport gravel, sand, silts, and clays from the upper watershed areas down to the lower basins, where the sediment is subsequently transported to the coast during storm events. The volume and size of the sediment transported by streams depends upon the stream forces. Larger storms cause increased volumes of sediment with higher proportions of sand and gravel to be transported to the coast. Upon reaching the coast, waves, currents, and winds transport the sediment upcoast and downcoast as well as onshore and offshore, contributing to the dynamic nature of coastal beaches.



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## Beneficial Uses of Coastal Sediment



Coastal sediment provides many beneficial uses for humans and wildlife. Sand and gravel provide habitat for various wildlife species that use streams and beaches, while sand also provides recreational beach space for humans and shoreline protection. Additionally, silts and clays carried from river substrates, supplies needed nutrients for nearshore habitats. Sand and gravel, extracted from in-stream and offshore sources, is used by the construction industry for infrastructure development. Easy access to this important construction material has been a factor in California's economic growth.



## FINAL SAND COMPATIBILITY AND OPPORTUNISTIC USE PROGRAM PLAN

prepared for:



401 B Street  
Suite 800  
San Diego, CA 92101-4231

prepared by:



3780 Kilroy Airport Way,  
Suite 600  
Long Beach, CA 90806

## SCOUP

### Regional Sand Management Plan

- Protocols for compatibility comparisons, potential sources and receiver sites
- Assess regional approaches for reuse of upland sands
- Roadmap for regulatory consultations





## **Study:** Fate and Transport of Sediment

### **Sources, Dispersal, and Fate of Fine Sediment Supplied to Coastal California**



Evaluate physical impacts and fate of fine-grained materials within/deposited from turbidity plumes

Scientific Investigations Report 2007–5254

**U.S. Geological Survey**

# Where are the problem areas?

## BECA's



### CALIFORNIA BEACH EROSION ASSESSMENT SURVEY 2010

October 2010



Figure C-6: Sediment Sources, BECAs and Littoral Cells Santa Barbara and Ventura Counties

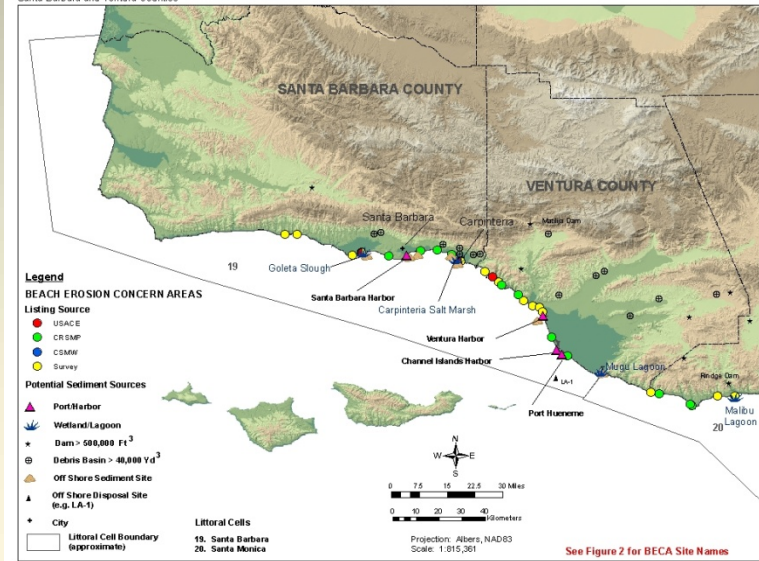


TABLE 1- Potential BECA Locations

County	Location	List Source	Page No. (Appendix A)
Alameda	Robert W. Crown Memorial State Beach	Survey	15
San Mateo	Coyote Point	Survey/County	15
San Francisco	Ocean Beach (San Francisco)	USACE	16
San Mateo	Princeton	CSMW	16
San Mateo	El Granada County Beach	Survey	17
Monterey	Southern Monterey Beaches	CRSMP	17
Santa Barbara	Refugio State Beach	Survey	18
Santa Barbara	El Capitan State Beach	Survey	18
Santa Barbara	Isla Vista	Survey	19
Santa Barbara	Gorda Beach County Park	Survey/USACE	19
Santa Barbara	Arroyo Burro County Beach	CRSMP	20
Santa Barbara	Butterfly Beach	CRSMP	20
Santa Barbara	Summerland Beach	CRSMP	21
Santa Barbara	Santa Claus Beach	CRSMP	21
Santa Barbara	Carpinteria City Beach	Survey/USACE	22
Santa Barbara	La Conchita	Survey	22
Ventura	Oil Piers	USACE	23
Ventura	Hobson County Park	Survey	23
Ventura	North Rincón Parkway	CRSMP	24
Ventura	South Rincón Parkway/Emma Wood County Beaches	CRSMP	24
Ventura	Emma Wood State Beach	Survey	25
Ventura	Sarles Point Park	Survey/CRSMP	25
Ventura	San Buenaventura State Beach	Survey	26
Ventura	Pierpoint Beach	Survey	26
Ventura	Onard Shores/Mandalay Beach	CRSMP	27
Ventura	Huamne Beach	CRSMP	27
Los Angeles	Leo Carrillo State Park	Survey	28
Los Angeles	Nicholas Canyon County Beach	CRSMP*	28
Los Angeles	Zuma County Beach	CRSMP*	29
Los Angeles	Point Dume County Beach	CRSMP*	29
Los Angeles	Dan Blocker Beach	Survey/CRSMP*	30
Los Angeles	Malibu Surfriders/ Lagoon County Beach	Survey/CRSMP*	30
Los Angeles	Topanga County Beach	Survey/CRSMP*	31
Los Angeles	Will Rogers State Beach	Survey/CRSMP*	31
Los Angeles	Venice City Beach	Survey/CRSMP*	32
Los Angeles	Dockweiler State Beach	Survey/CRSMP*	32



#### El Granada County Beach

San Mateo County  
Shoreline Mile 20  
List Source- Survey



Setting: Narrow sandy beach backed by a low bluff. An unimproved parking area exists at the edge of the bluff downcoast (south) of Half Moon Bay Breakwater. A rock revetment exists to the north of the parking area.

Project Lead: San Mateo County

#### Southern Monterey Beaches

Monterey County  
Shoreline Miles: 16.2-19.2  
List Source- CRSMP



Setting: This stretch of shoreline is a highly desirable beach combing and strolling area located along the picturesque Monterey Bay National Marine Sanctuary and fronting the Cities of Sand City and Monterey.

Project Lead: Association of Monterey Bay Area Governments

PROBLEM ASSESSMENT

Rapid erosion of the beach and coastal dunes are impacting critical habitats, coastal access, and threatening public infrastructure such as a raw sewage transport trench. Passive erosion fronting areas of hardened shoreline will eventually prohibit lateral beach access through narrowing of the beach. Seawalls continue to be built to protect individual structures from erosion-related damages. A 3-mile stretch of shoreline from Wharf II north to Sand City recommended for restoration in the CRSMP. CRSMP indicates erosion rate of 1.0-3.5 ft/year along this stretch.

# Biological Impacts Analysis/Resource Protection Guidelines

What are the environmental consequences of sediment management?

## REVIEW OF BIOLOGICAL IMPACTS ASSOCIATED WITH SEDIMENT MANAGEMENT AND PROTECTION OF CALIFORNIA COASTAL BIOTA

In Support of the  
CALIFORNIA SEDIMENT MANAGEMENT MASTER PLAN



Prepared for:  
California Coastal Sediment Management Workgroup  
Under Contract with: BEACON



- Assess potential adverse and beneficial biological impacts from sediment management activities
- Identify recommended practices to eliminate or mitigate negative impacts
- Develop guidelines to assist resource managers protective efforts
- Reviewed by agencies, awaiting peer review





# Demonstration Project- Develop information on the transport and fate of fines



Tijuana River Study Location Map

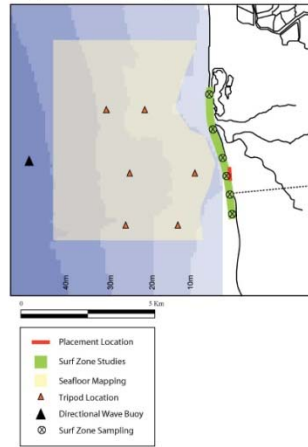
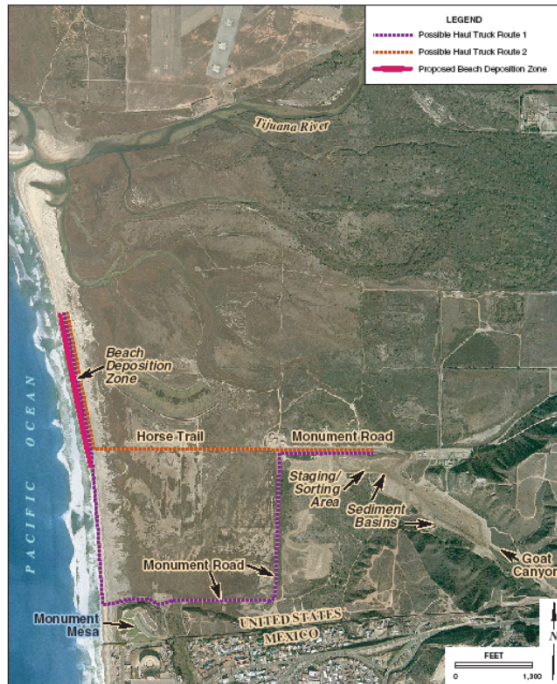


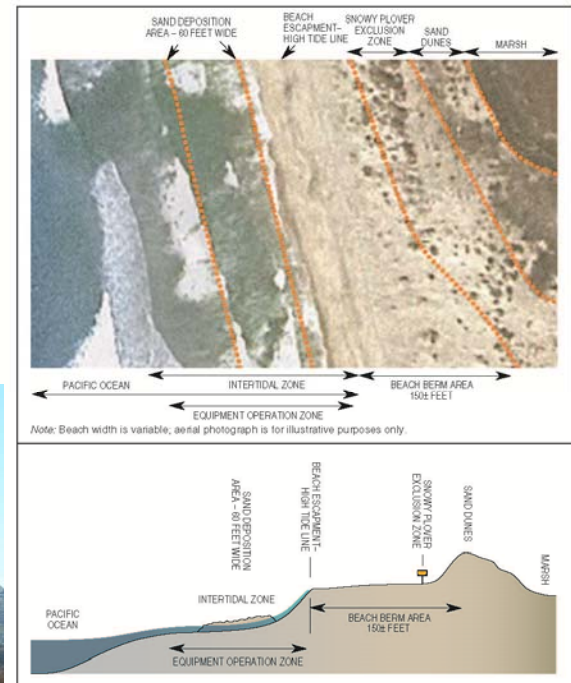
Figure 4: Map showing study area and in-situ equipment locations.



Greater Project Area  
Tijuana River Estuary

FIGURE  
2-3

## Tijuana Estuary Sediment Study



Schematic of Proposed Beach Work Zone  
Tijuana River Estuary

FIGURE  
2-4



# Study: Sediment Budgeting

Evaluate the major littoral sediment budgets along the CA coast for guidance on project-based studies



## DEVELOPMENT OF SAND BUDGETS FOR CALIFORNIA'S MAJOR LITTORAL CELLS

KIKI PATSCH

GARY GRIGGS



JANUARY 2007

INSTITUTE OF MARINE SCIENCES  
UNIVERSITY OF CALIFORNIA, SANTA CRUZ  
CALIFORNIA COASTAL SEDIMENT MANAGEMENT WORKGROUP

# Education and Information

*How do beaches form and change?*



## BEACHES, LITTORAL DRIFT, AND LITTORAL CELLS- UNDERSTANDING CALIFORNIA'S SHORELINE

KIKI PATSCH  
GARY GRIGGS



“Handout”

SEPTEMBER 2006  
UNIVERSITY OF CALIFORNIA, SANTA CRUZ  
CALIFORNIA COASTAL SEDIMENT MANAGEMENT WORKGROUP

How does the beach nourishment regulatory process work?



## **CALIFORNIA COASTAL SEDIMENT MASTER PLAN**

### **BEACH RESTORATION REGULATORY GUIDE**

*Prepared For:*

**California State Coastal Conservancy**

1330 Broadway, 11th Floor

Oakland, California 94612-2530

**Coastal Sediment Management Workgroup**

135 Ridgway

Santa Rosa, CA 95401

*Prepared By:*

**Everest International Consultants, Inc.**

444 West Ocean Boulevard, Suite 1104

Long Beach, CA 90802

**December 2006**



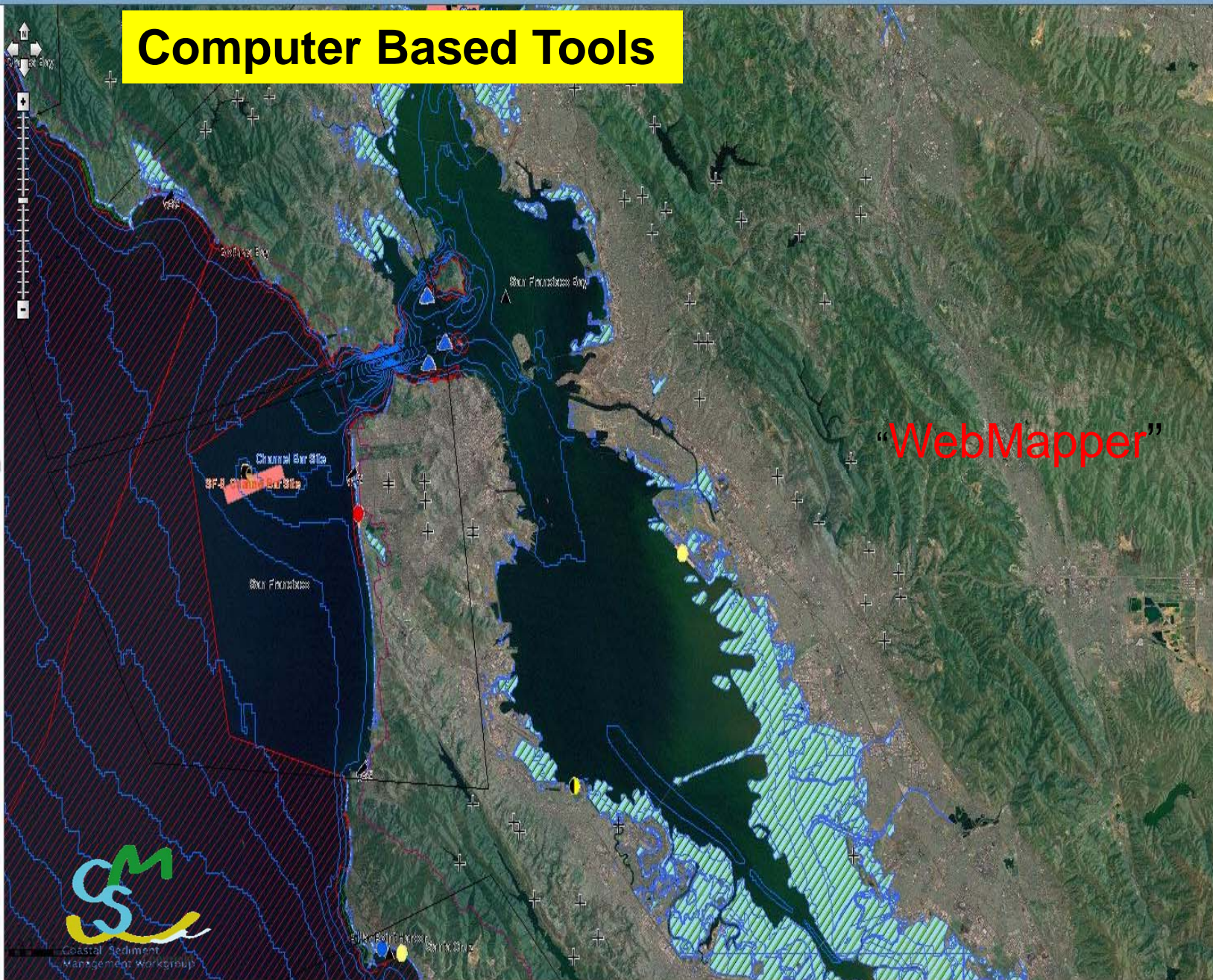
Print | Find BECA

Results

Map Contents

- Coastal Map Layers
  - Beach Erosion\_Receiver Sites
    - BECA Locations
    - Beca Beaches
    - San Diego Receiver
    - Historic Beach Nourishment
  - Potential Sediment Sources
    - Coastal Dams
    - Harbors
    - Offshore Locations
    - Coastal
    - Upland
    - San Diego Offshore
    - PRI Coastal Wetlands
  - Coastal RSM Plan Data
  - Coastline (Reference Layer)
  - Coastal Setting
  - Coastal Erosion
  - Sand Retention
  - Offshore Disposal
  - Jurisdictional Boundaries
    - State Waters Bound
    - State Parks
    - Coastal Cities
    - Coastal Counties
    - Coastal Zone Bound
    - Marine Protected Areas
  - Coastal Hydro-Data
  - Environmental
  - Sea Level Rise
- Geology
- 13\_Imagery\_Prime\_World\_2D

# Computer Based Tools



“WebMapper”





# WebMapper Geoportal

Coastal Sediment Management Workgroup

Help

Print Measure Bookmarks Find address or place

Search for Layers  
Create Editable Layer  
Add Layer from File  
Add Layer from Web

Receiver Site Placement  
 California Sea-Level Rise (Pacific Institute)  
 Coastal Records Project Images  
 Marine Habitat  
 Marine Management  
 Oceans

Select a basemap

Imagery	Imagery with Labels	Streets
Topographic	Terrain with Labels	Light Gray Canvas
National Geographic	Oceans	OpenStreetMap
Bing Maps Aerial	Bing Maps Hybrid	Bing Maps Road

Bookmarked places

Southern Monterey Bay		
Santa Barbara Littoral		
San Diego County		
Orange County		
Eureka Littoral Cell		
San Francisco Littoral		
Los Angeles County		

0 15 30mi

Sources: Esri, GEBCO, NOAA, National Geographic, DeLorme, NAVTEQ, Geonames.org, and other... esri

# WebMapper Geoportal

Coastal Sediment Management Workgroup

ArcGIS Services Directory  
Home > Ocean > CSMw\_Sediment (MapServer) > Beach Nourishment History

Layer: Beach Nourishment History (ID: 4)  
Parent Layer: Existing and Potential Receiver Sites  
Display Field: ROUTEKEY  
Type: Feature Layer  
Geometry Type: esriGeometryPolyline

**Description:** This is a dataset of beach nourishment history for the California Coastline from the 1920s to 2000. The original data was in tabular form (an Excel spreadsheet) and was compiled by Melanie Coyne while she was a NOAA fellow with the California Coastal Commission in the year 2000, and updated by CSMW in 2008. The original data is included with this dataset and is titled: beach\_nourishment\_history.xls. The locations of the nourishment projects listed in the table were digitized as points onto a 1:24k shoreline. It is important to note that the exact x and y location of the nourishment project is often unknown, and so the location is an approximation. The data table for this shapefile contains the beach nourishment history data. Each line may represent one or many beach nourishment events, the Date field will list multiple dates if applicable. All files in this dataset were originally projected in NAD83 Teale Albers, reprojected to WGS 1984 by USACE GIS Analyst. The original beach nourishment line shapefile had many truncated values, USACE GIS Analyst increased field character lengths to accommodate all information from the original source Excel File.

**Definition Expression:**  
**Copyright Text:** Melanie Coyne  
**Min. Scale:** 10000000  
**Max. Scale:** 0  
**Default Visibility:** False  
**Extent:**  
XMin: -13834344.4186  
YMin: 3833651.3061  
XMax: -13038257.52  
YMax: 5123015.4003

Beach Erosion Concern Area Sites: Malibu Surfriider/Malibu Lagoon State Beach	
Beach ID	LA-17.5-18.2
Beach Name	Malibu Surfriider/Malibu Lagoon State Beach
City	Malibu
County	Los Angeles
Location Data Source	Malibu Quadrangle
Study Sponsor	LA County Beaches and Harbors
Study Report Title	California Beach Restoration Survey for LA County
Zoom to	

# Coastal Sediment References Database



CSMW-database - Windows Internet Explorer

http://www2.mvr.usace.army.mil/CSM/CSMWdefault.cfm

Bing

Favorites U-PASS SPL - Los Angeles District ... att.net Mail (susanming@s... CEFMS Baltimore Reports Coastal Projects and Studi... CSMW CWG Encinitas-Solana Sharepoi... Gmail - Inbox - susieming... Gmail

CSMW-database

Page Safety Tools

## CALIFORNIA SEDIMENT MASTER PLAN COASTAL SEDIMENT REFERENCE DATABASE



Search by **subject** | Begin by selecting a category. Options for a subcategory and, if applicable, a subsubcategory will autopopulate based on your category selection.

Select a Category

Select from the items below ....

Search records by **author, title, or region** | The more fields entered, the more selective the search results.

Author Last Name

Title

Region

(All Regions)

Submit

Reset Page

Done

Local intranet | Protected Mode: Off

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9:45 PM  
10/10/2012



## Agency Coordination

USEPA- Addressing 80/20 Rule of Thumb for nourishment materials and Beneficial Reuse Option

Monterey Bay National Marine Sanctuary- working on ways to conduct nourishment activities within the Sanctuary given their restrictive regulations

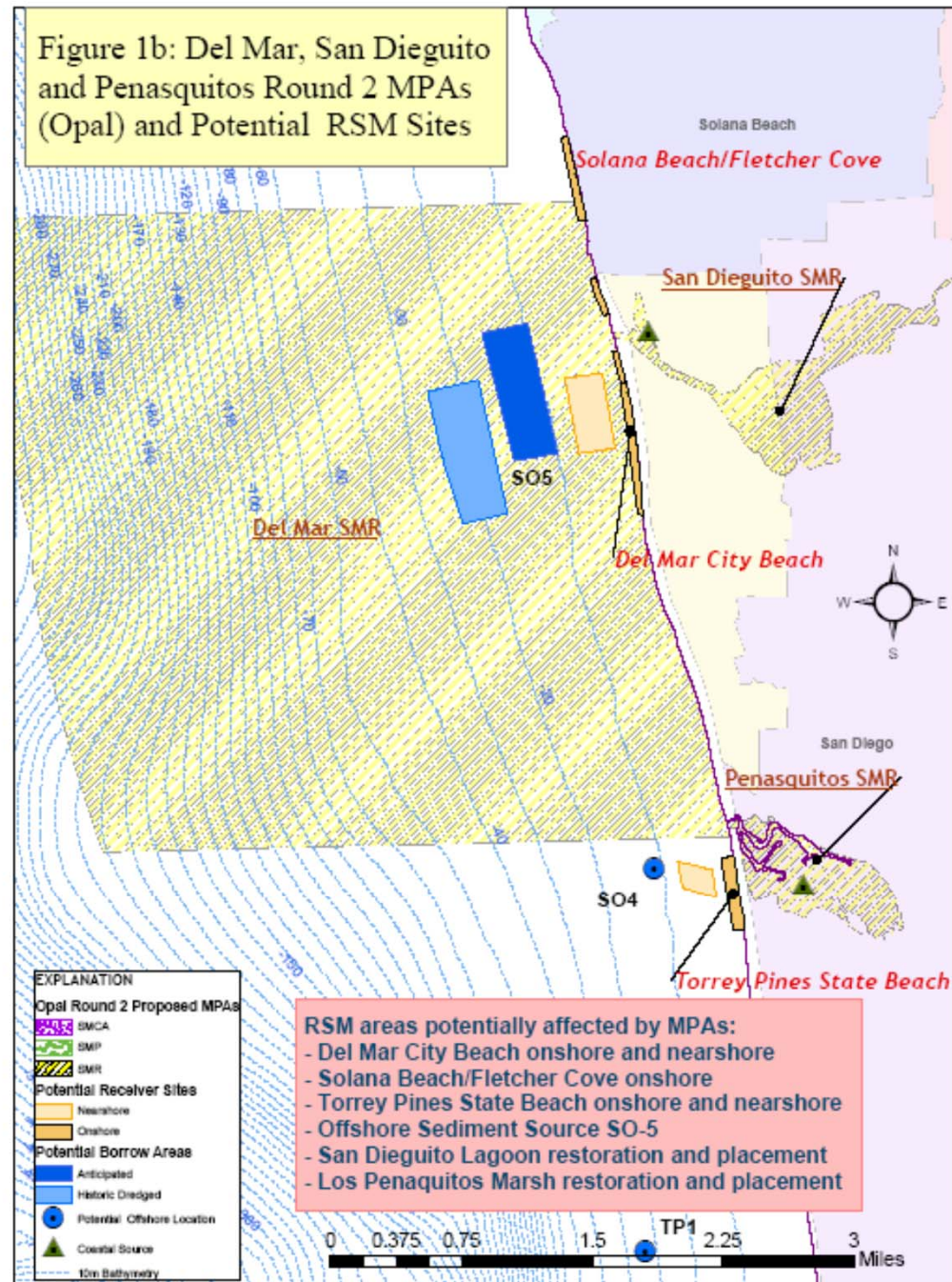
State Water Quality Control Board- TMDLs and facilitating transport of coarse-grained materials to the coast

Fish & Game/State Parks- incorporating RSM implementation needs in developing Marine Protected Area boundaries and classifications

# Agency Coordination

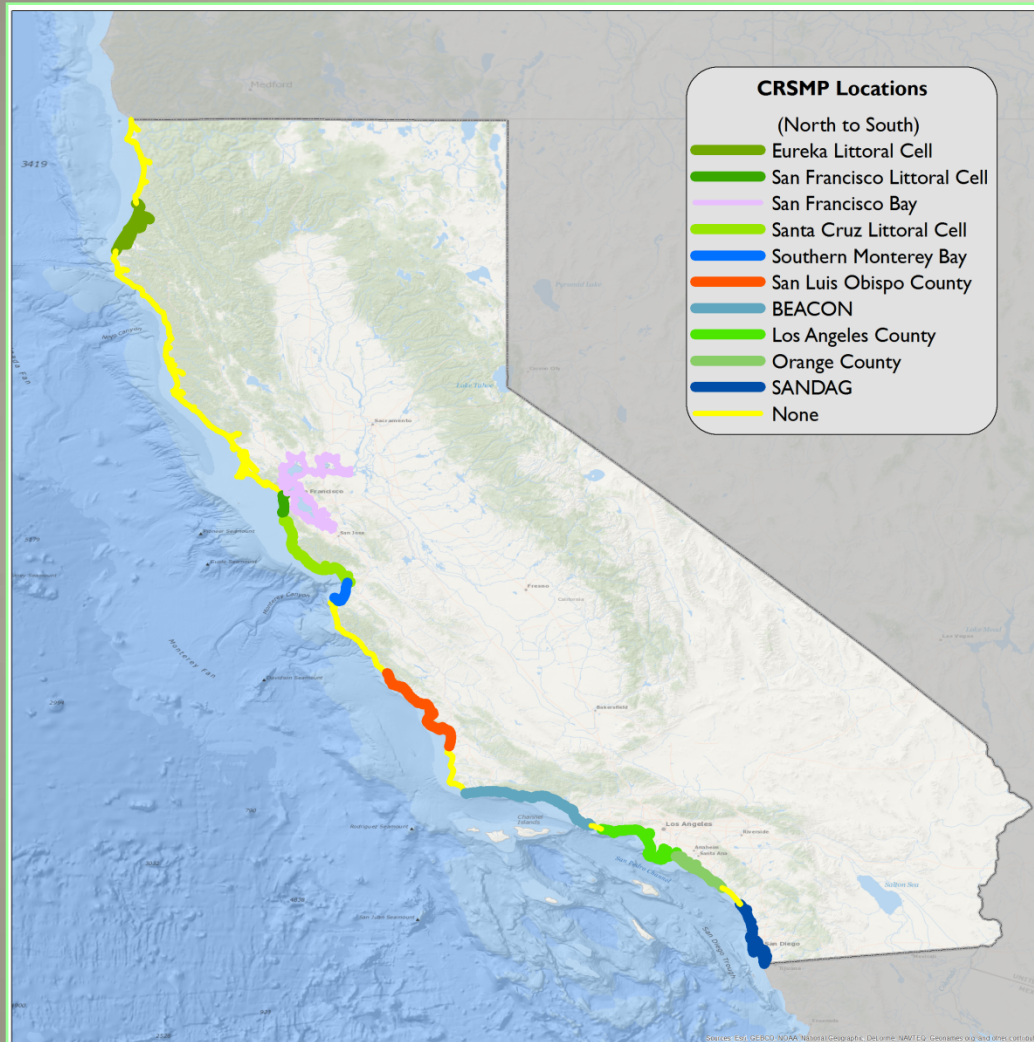
## Coordinating RSM needs with Biological Protection

- Preserving access to potential placement areas and offshore sand sources during development of Marine Protected Areas





# Coastal RSM Plan Development



- Formulate and seed regional consensus-driven sediment management policy and guidance
- Restore and maintain coastal beaches and other critical areas of sediment deficit
- Reduce the proliferation of protective shoreline structures
- Sustain recreation and tourism
- Enhance public safety and access
- Restore coastal sandy habitats.



# CRSMP Objectives

Region-Specific

Consistent with CSMW Goals

Governance, Outreach, "Science-Based"

Developed by local/regional stakeholders

Focus on Implementation



## Governance & Outreach

### Governance

- Regional Entity guiding Plan direction
- Involve Stakeholder Advisory Group
- Formal Acceptance or Adoption

### Outreach

- Engage existing stakeholder group
- Provide Agency coordination
- Public Outreach Program

## CRSMP Elements: Technical

- Identify critical eroding areas
- Determine potential sediment sources
- Locate critical species and habitats
- Compile physical processes info
- Data gaps, other issues of concern
- Permitting requirements
- Identify potential funding streams





**Extent of Completed  
& In-Progress  
Regional Sediment  
Management Plans**



## Lessons Learned

- An easily readable Plan is important to getting buy-in from the public, local managers and politicians
- Establish an appropriate advisory group at the onset of Plan development
- Utilize existing Regional Planning or Resource Management Authority (JPAs) to address regional sediment management concerns
- Regional Authority's Executive Officer needs a funded staff member to effectively manage sediment management activities
- Coordinate with State and Federal Regulatory programs to integrate RSM needs
  - TMDLs, MLPA, Sanctuaries
- Pursue sediment stockpile areas for upland sand
  - Utilize SCOUP protocols
- Assess feasibility of sediment management devices to retain sand
  - Technical, political, environmental
- Dedicated revenue streams needed
  - Local to match federal/state funds, State/Federal to cover incremental costs
- Focus on the 80% of points everyone agrees on rather than the 20% that people don't
- Important to emphasize soft solutions

## Challenges For Effective Implementation of RSM

- No state-federal office that coordinates sediment projects (like DMMO)
- Sediment currently defined as a pollutant
- Inability for locals to match state/fed dollars
- Lack of dedicated revenue source to fund beach restoration program
- No state or federal regulations that require restoration of beaches eroded due to sand mining, navigation projects, etc.

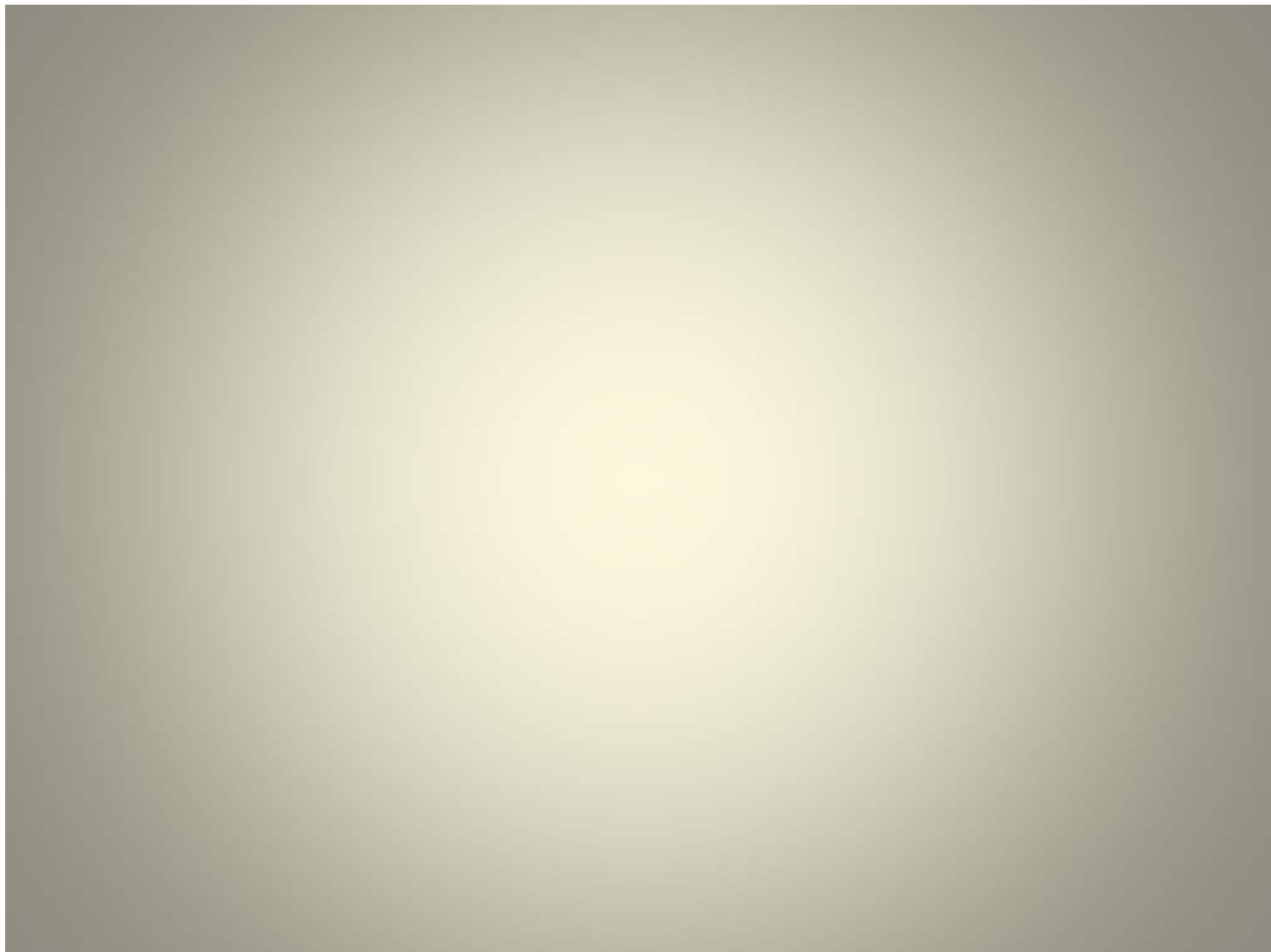




Coastal Sediment  
Management Workgroup

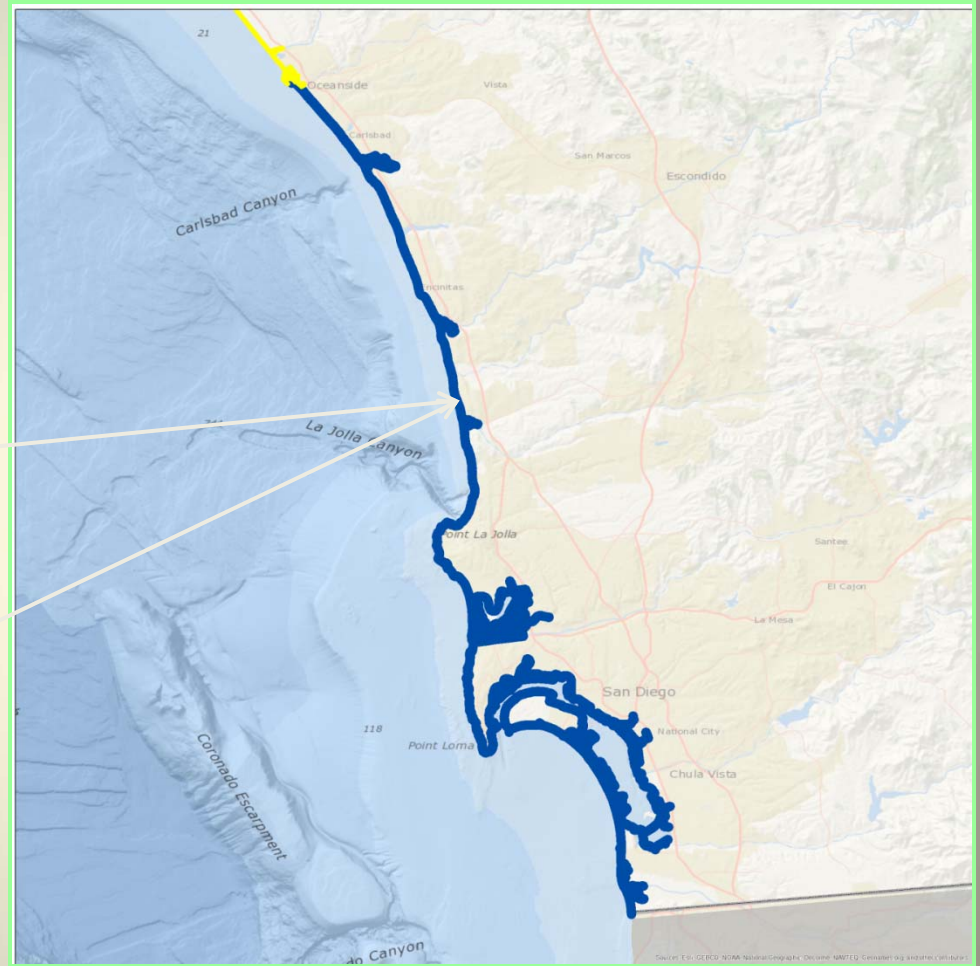
Contact:

[Clif.Davenport@conservation.ca.gov](mailto:Clif.Davenport@conservation.ca.gov)



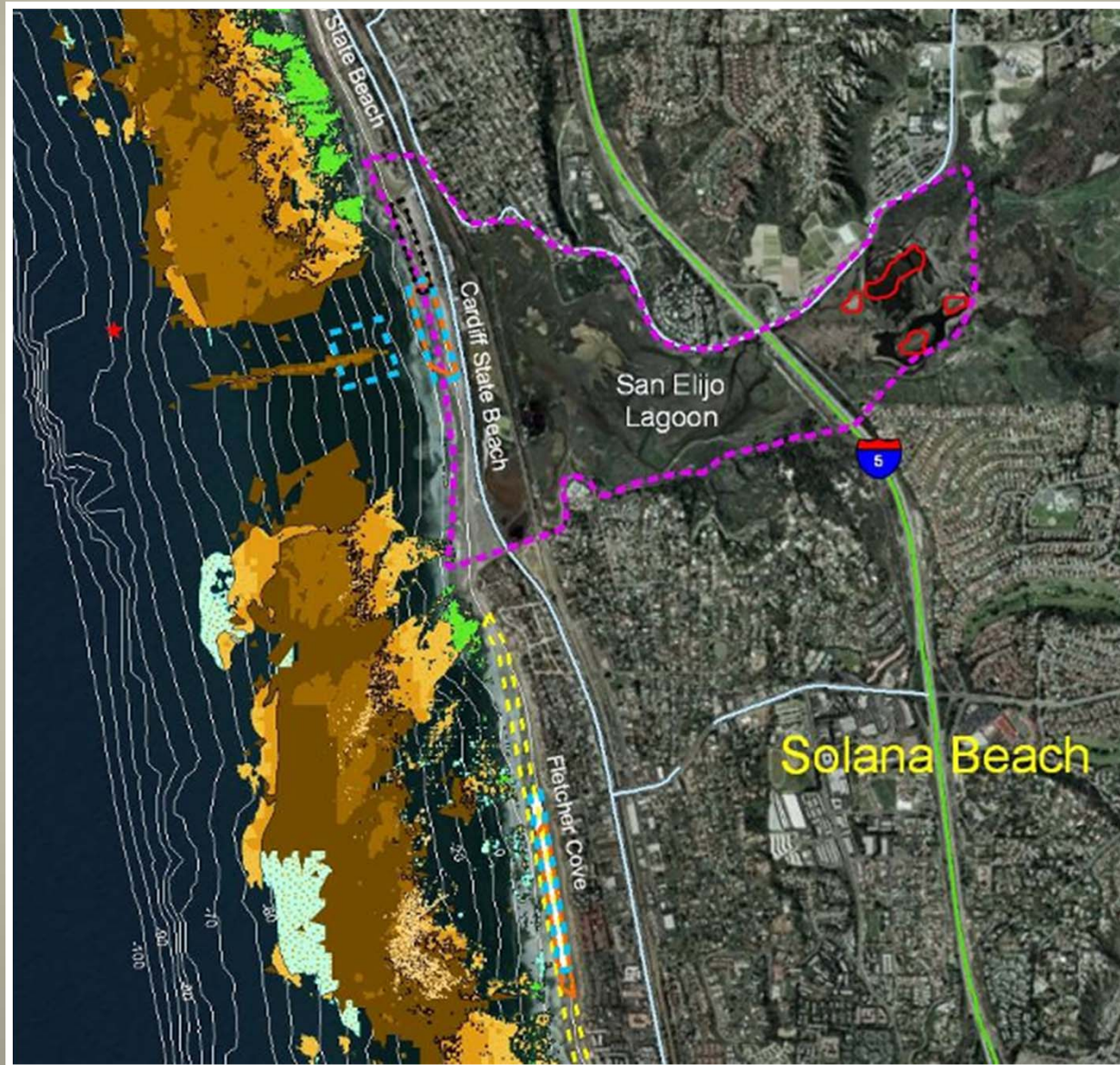


# SANDAG

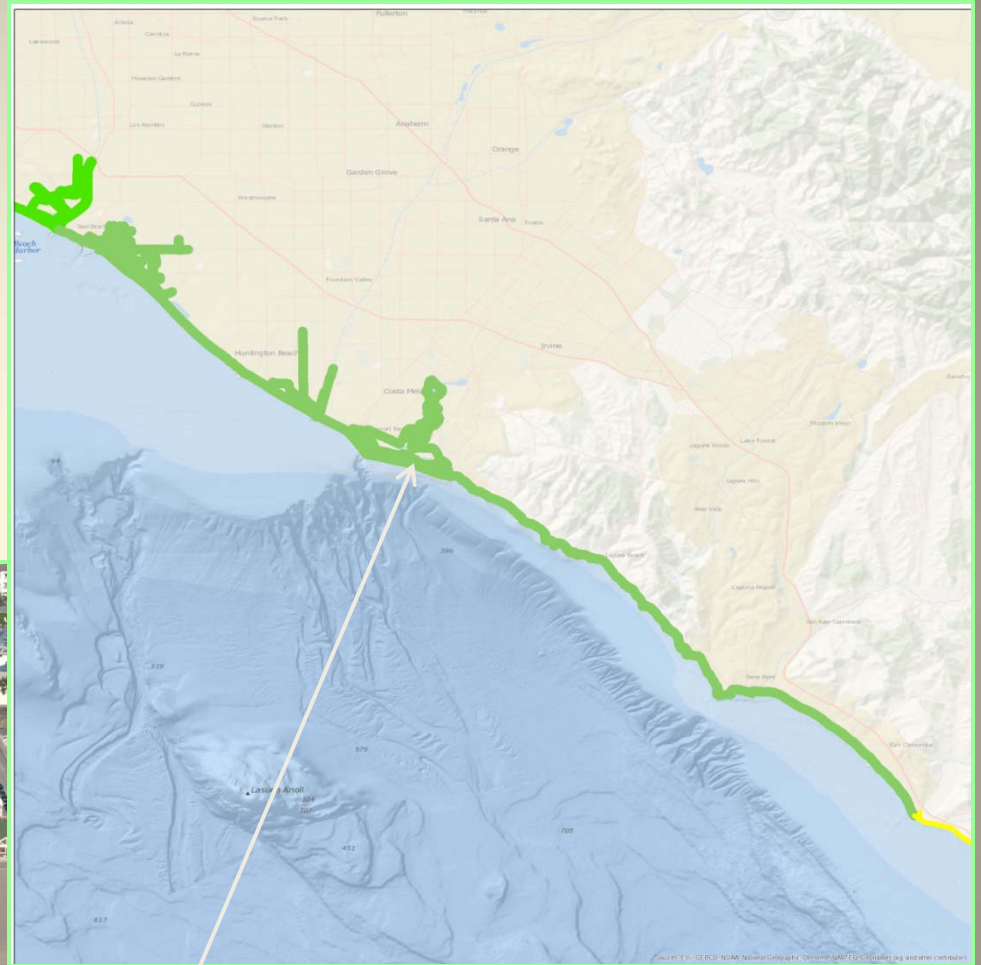




# Biological Constraints Guide Coastal Source and Receiver Site Locations



# Orange County



*(Source: Adelman and Adelman 2002–2010).*

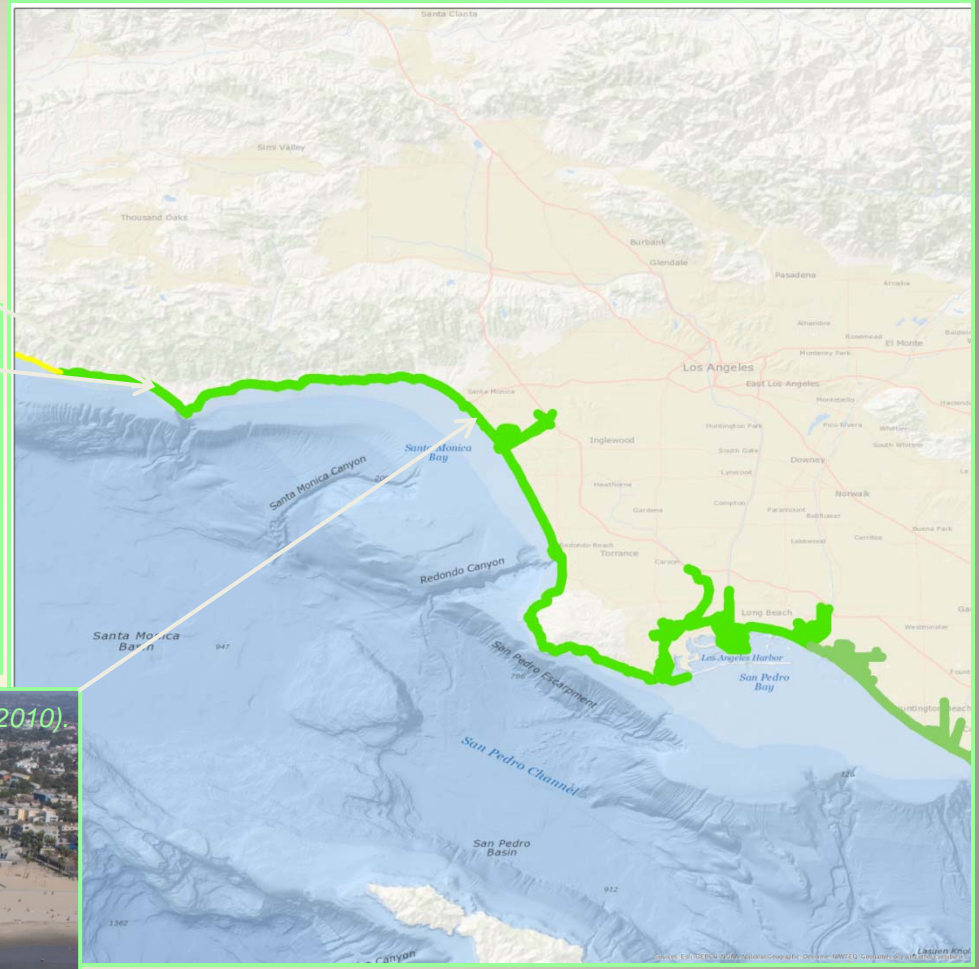


# BEACON





# Los Angeles County



# Southern Monterey Bay





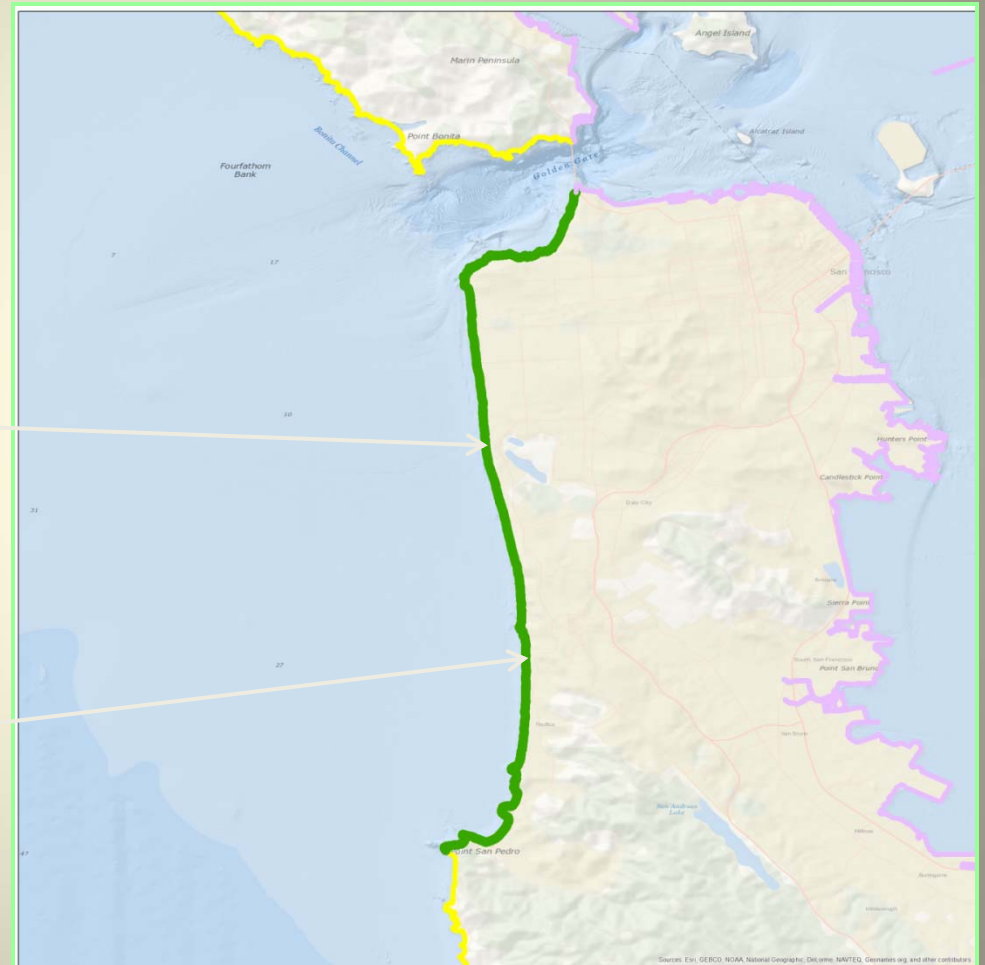
# Santa Cruz Littoral Cell



(Source: Gary Griggs / Santa Cruz Sentinel, 2010)



# San Francisco Littoral Cell



# Eureka Littoral Cell

