Got sand?

Regional Sediment Management in Orange County

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Army Corps of Engineers

Coastal Studies Group

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Coastal Sediment Management Workgroup

Regional Sediment Management

Regional sediment management recognizes that the physical system and embedded ecosystems respond beyond the space and time scales of individual projects, and that a proactive regional planning and engineering approach will produce significant cost savings and project benefits.

California Coastal Sediment Master Plan

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A "Super-Regional" Approach

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MASTER PLAN GOALS

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- Prioritize regional sediment management needs
- Streamline the process
- Make information widely available
- Connect areas in deficit and those with excess sediment.
- Implementation Strategy

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Coastal Zone Initiatives

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Comprehensive Adaptive Management

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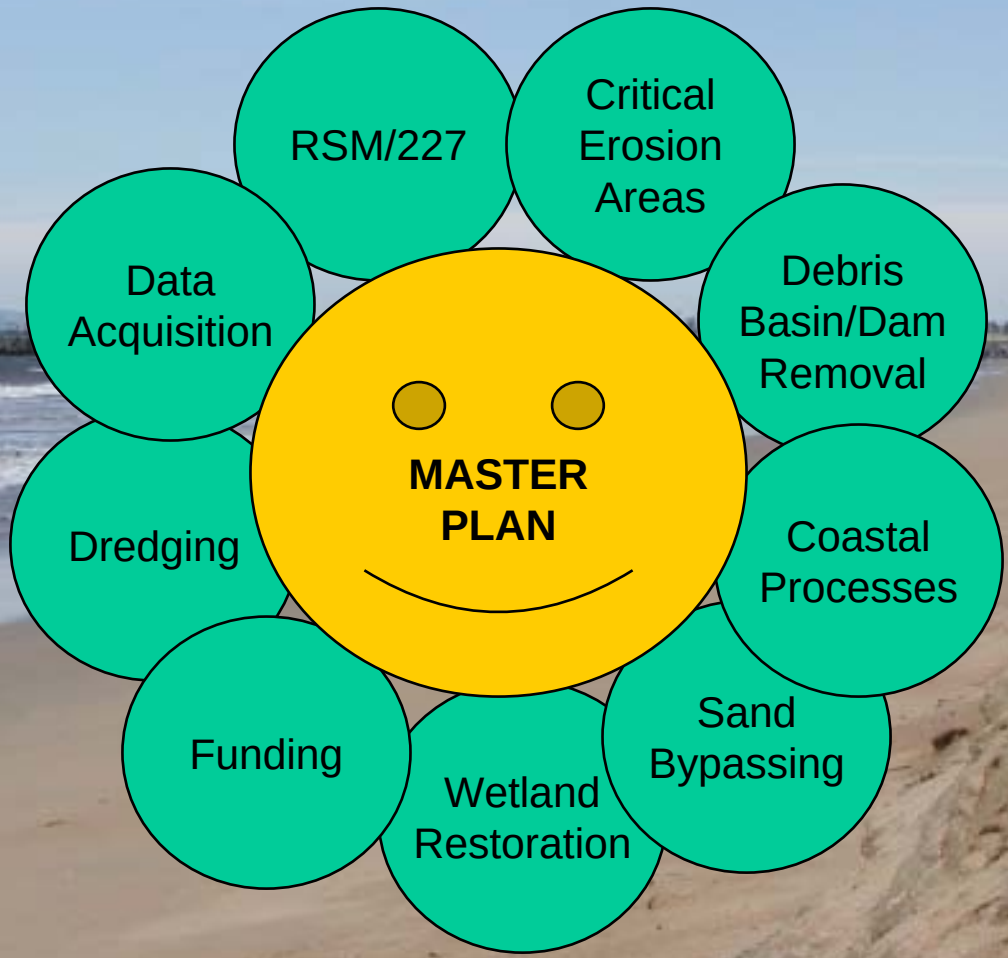

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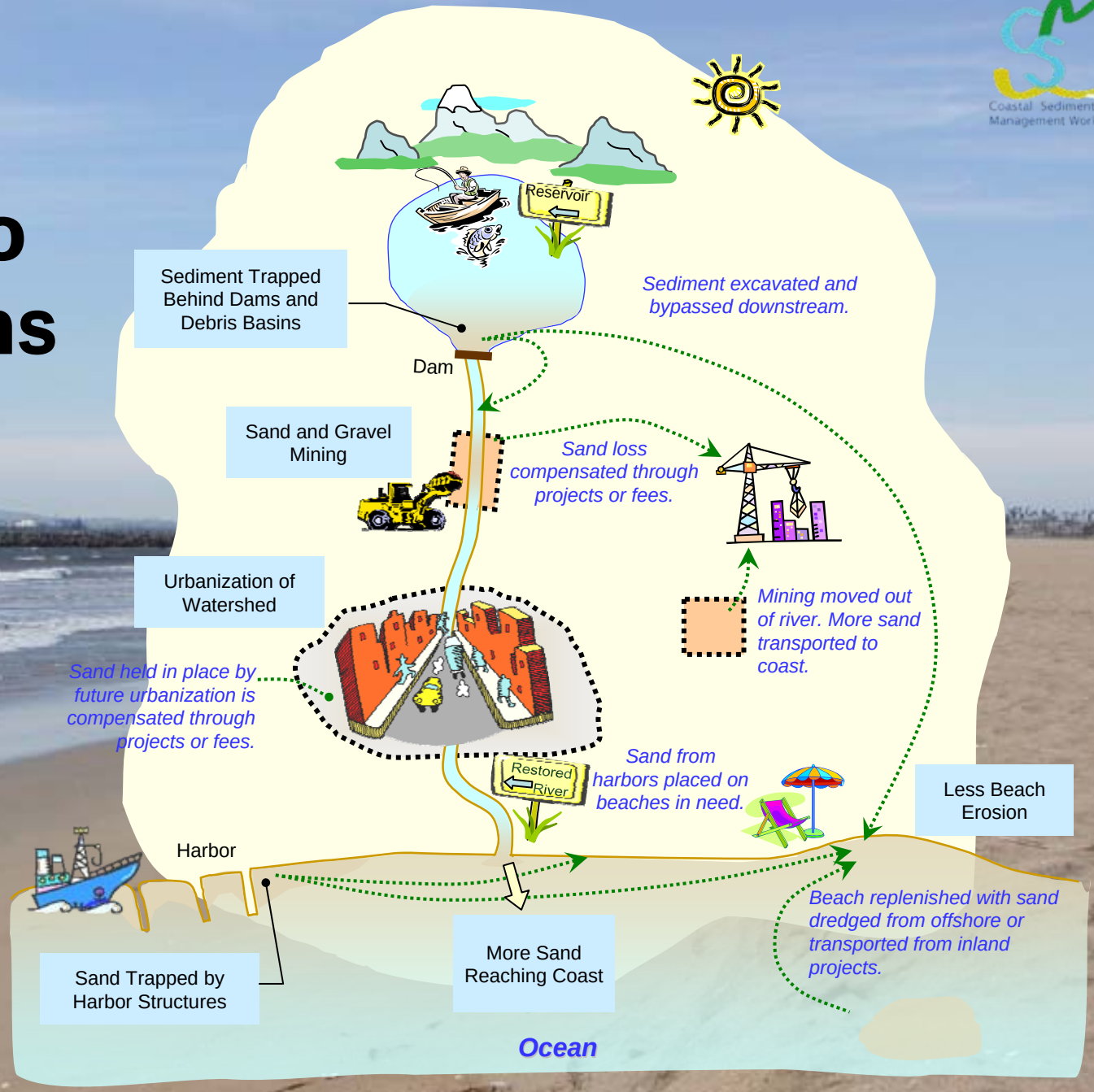
Road to Solutions



Regional Sediment (Sand) Management

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CSMW Participation

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Federal Participation

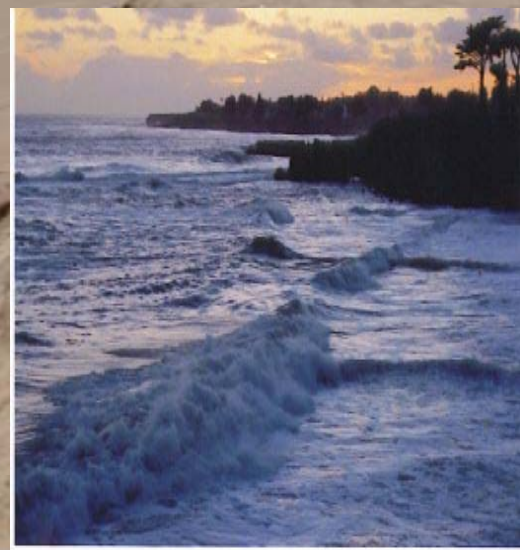
- USACE - South Pacific District
- USACE - Los Angeles District
- USACE - San Francisco District
- NOAA
- U.S. Geological Survey
- U.S. Environmental Protection Agency
- U.S. Minerals Management Service
- National Ocean Service
- ERDC
- IWR

State Participation

- Resource Agency
- Boating & Waterways
- Coastal Commission
- Coastal Conservancy
- Parks & Recreation
- State Lands Commission
- CA Geological Survey
- CA Dept. of Transportation
- CA Dept. of Fish and Game

Local Participation

Cal Coast (local agencies)
CMANC
Others to be added



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CSMW

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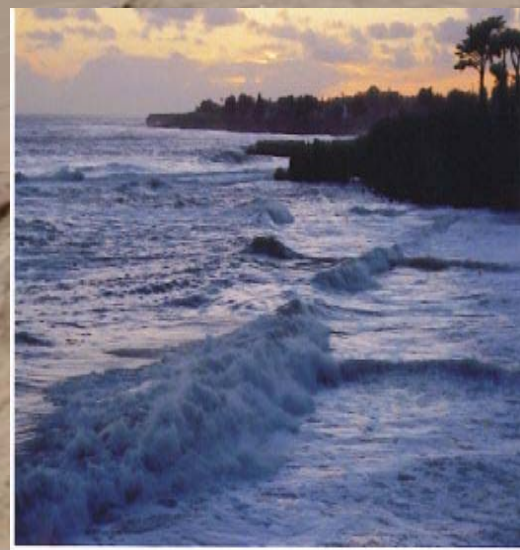
Mission

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

Goals

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



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Tools – Reports and Data

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- Coastal References Database – Literature review
- Cumulative Loss of Sediment Due to Dams
- The Economics of Regional Sediment Management in Ventura and Santa Barbara Counties
- Sand Compatibility and Opportunistic Use Program (SCOUP)- Guidance for upland opportunistic regional programs
- SCOUP Pilot Project Mitigated Negative Declaration – env documents
- Beaches, Littoral Drift and Littoral Cells- Understanding California's Shoreline and Beach Nourishment
- Beach Nourishment Reference Guide- Guidance for local coastal stakeholders
- SMP Status Report
- Development of Sand Budgets for California's Major Littoral Cells
- Policies, Procedures and Regulations Analysis
- Mud Budget Final Report – Fine Grained Sediment Sources, Transport and Sinks

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Tools – Computer Based, Educational and Informational

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- CSMW Website
- Web-based Mapping tool (IMS)
- SMP Brochure
- Public Outreach/Multiple Workshops
- Initial Data Inventory and Collection - GIS Database

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Tools – Under Development

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- Coastal Sediment Benefit Analysis Tool (CSBAT)
- California Beach Restoration Strategy (CBReS)
- Conceptual Plan to Capture/Reuse Coastal Sediments Lost to Submarine Canyons
- Analysis of Impacts and Recommended Mitigation for Critical Species and Habitats- Guide for Env Doc
- Regional Sediment Management Plans
- Environmental Documents for RSM Plans

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Coastal Sediment Benefit Analysis Tool (CSBAT)

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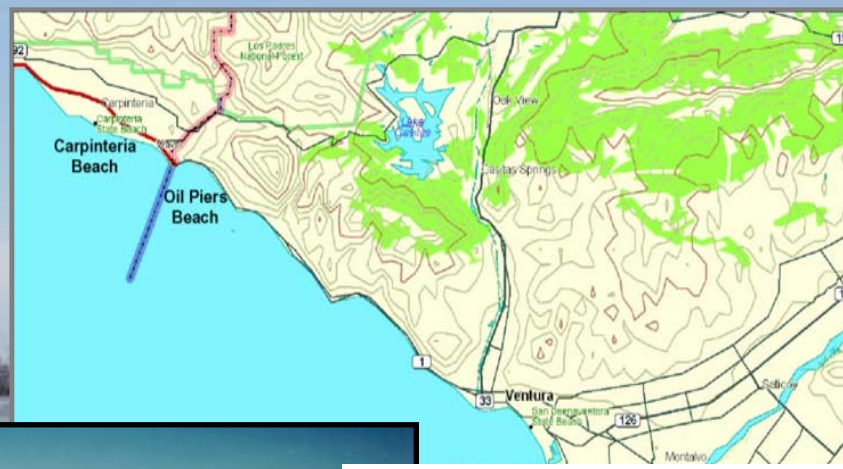
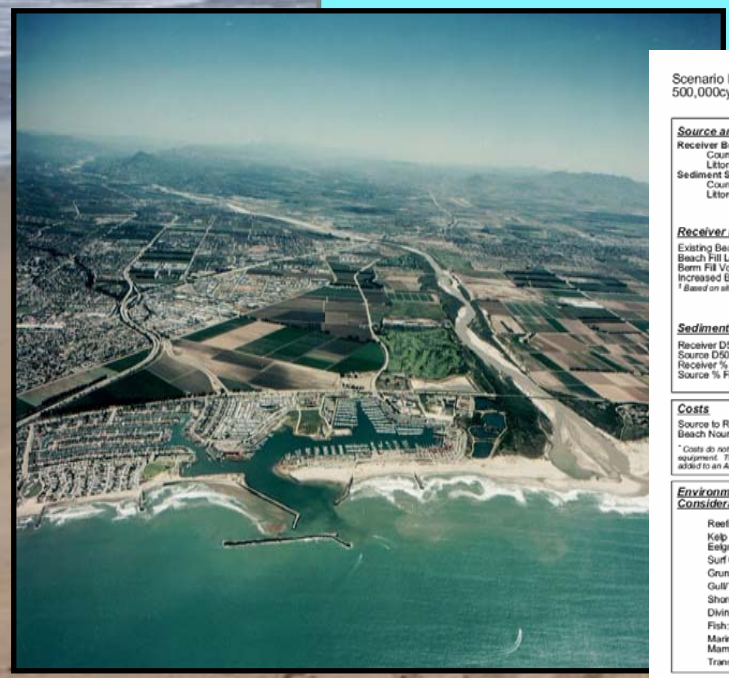
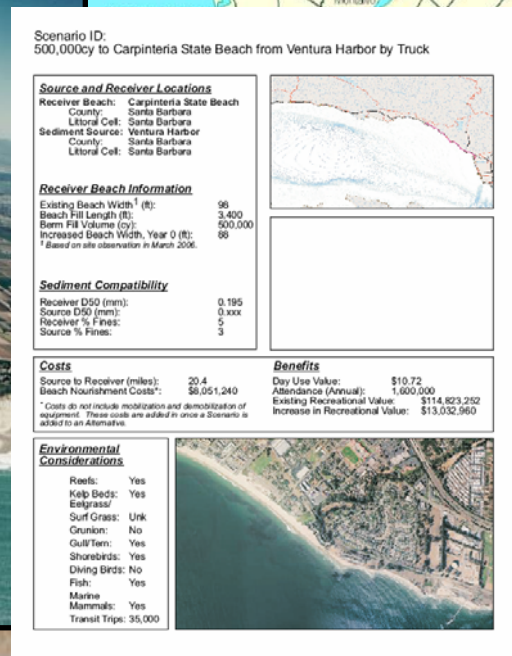
- A GIS-based management support tool for decision makers to evaluate future dredging and disposal options along the coast.
- Sources – harbors, dams, inland, offshore
- Tool looks at recreation benefits and costs of transporting sediment to various locations.
- Santa Barbara, Ventura, and San Diego Counties







Scenario ID:
500,000cy to Carpinteria State Beach from Ventura Harbor by Truck

Source and Receiver Locations

Receiver Beach:	Carpinteria State Beach
County:	Santa Barbara
Littoral Cell:	Santa Barbara
Sediment Source:	Ventura Harbor
County:	Santa Barbara
Littoral Cell:	Santa Barbara

Receiver Beach Information

Existing Beach Width[1] (ft):	98
Beach Fill Length (ft):	3,400
Berm Fill Volume (cy):	500,000
Increased Beach Width, Year 0 (ft):	88

[1] Based on site observation in March 2006.

Sediment Compatibility

Receiver D50 (mm):	0.195
Source D50 (mm):	0.xxx
Receiver % Fines:	5
Source % Fines:	3

Costs

Source to Receiver (miles):	20.4
Beach Nourishment Costs*:	$8,051,240

* Costs do not include mobilization and demobilization of equipment. These costs are added in once a Scenario is added to an Alternative.

Benefits

Day Use Value:	$10.72
Attendance (Annual):	1,600,000
Existing Recreational Value:	$114,823,252
Increase in Recreational Value:	$13,032,960

Environmental Considerations

Reefs:	Yes
Kelp Beds:	Yes
Eelgrass/ Surf Grass:	Unk
Grunion:	No
Gull/Tern:	Yes
Shorebirds:	Yes
Diving Birds:	No
Fish:	Yes
Marine Mammals:	Yes
Transit Trips:	35,000

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Brochure

California Coastal Sediment Master Plan

Mission

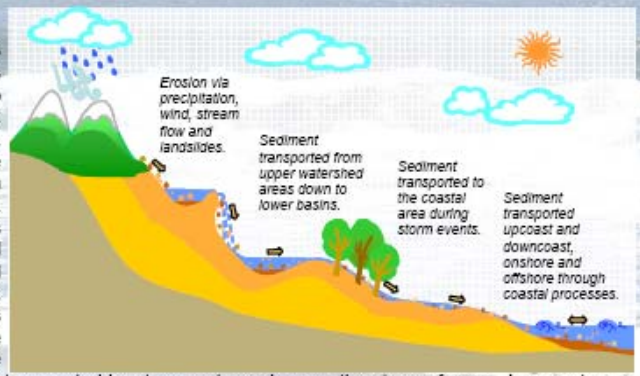
Develop a comprehensive master plan for the conservation, restoration, and preservation of the valuable sediment resources along the coast of California to reduce shoreline erosion and coastal storm damages, provide for environmental restoration and protection, increase natural sediment supply to the 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.



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.

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Webpage

Coastal Sediment Management Workgroup

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

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IMS

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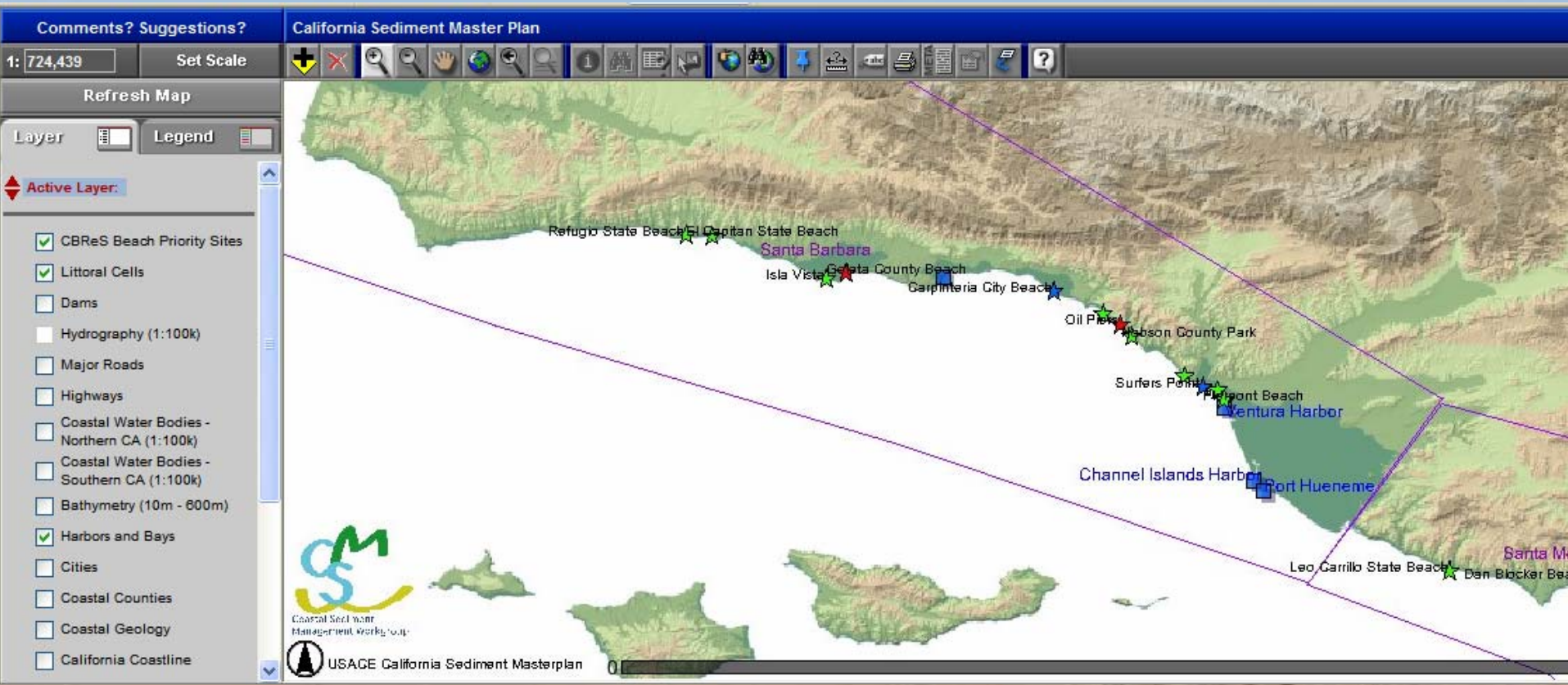

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How can Orange County get involved?

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Coastal RSM Plans

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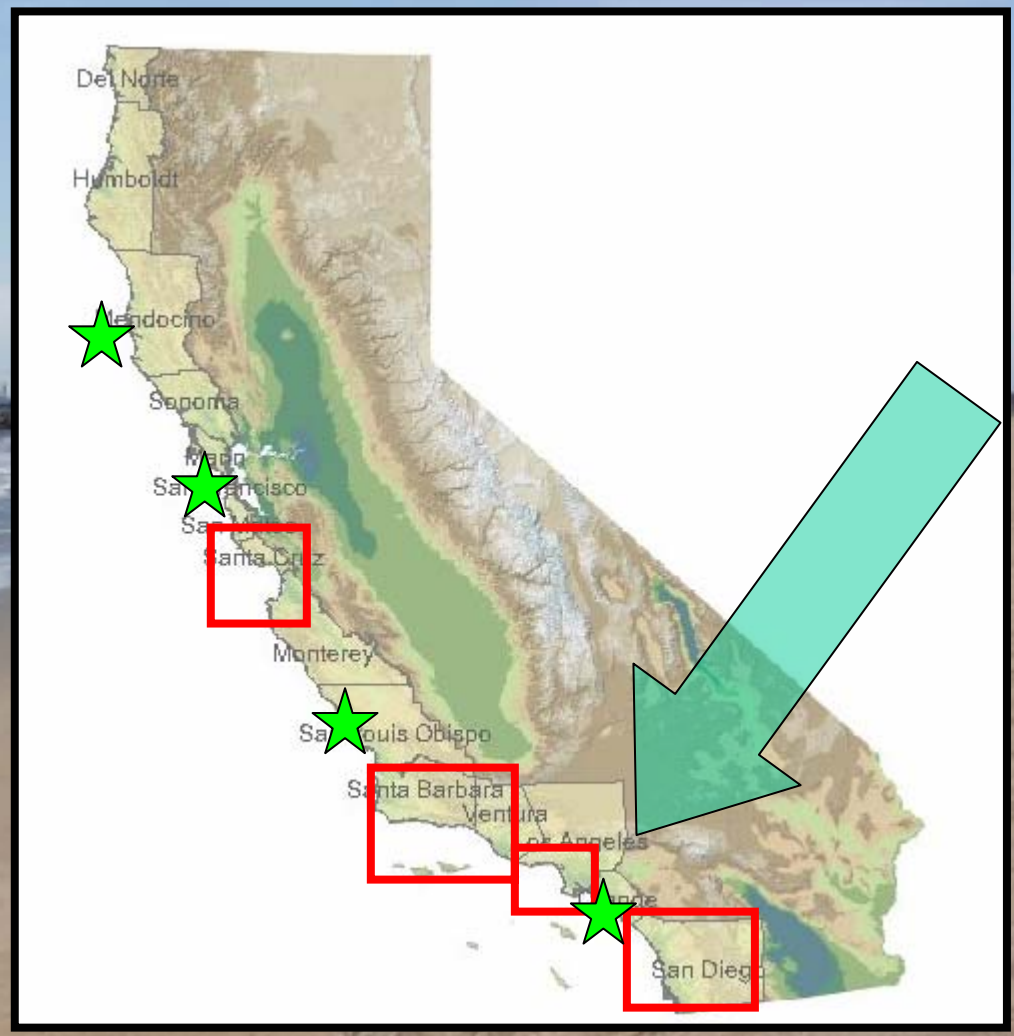
- ✓ **Formulate and seed regional consensus-driven sediment management policy and guidance**
- ✓ **Restore and maintain coastal beaches and other critical areas of sediment deficit; reduce the proliferation of protective shoreline structures; sustain recreation and tourism; enhance public safety and access; and, restore coastal sandy habitats.**




Lower
LA River
Peninsula
Beach
Anaheim
Bay
Ports of
LA/LB
Surfside
Bolsa
Chica
Huntington
Beach
Lower
Santa Ana
River
Newport
Beach
Upper
Newport
Bay
Newport
Harbor
Laguna
Beach
(Aliso Creek)
Dana
Point
SURFSIDE-SUNSET
CG - Construction
Stage 12 Renourishment Design
HUNTINGTON HARBOR/ ANAHEIM BAY –NAVY & CORPS
GI – Reconnaissance
2nd Entrance Navigation Channel,
Ecosystem Rest.
UPPER NEWPORT BAY
CG - Construction
Ecosystem Restoration
NEWPORT BAY HARBOR
O&M – Navigation
ALISO CREEK
GI - Feasibility
Restore Channel
LA RIVER ESTUARY
O&M - Navigation
$450K – FY06 (Reprogram)
Sediment Sample & Test
BOLSA CHICA (USFWS)
Ecosystem Restoration
POLA Mitigation
LOWER SANTA ANA RIVER
CG - Construction
Completed Reach 1 & 2
Excavation/Dredging
DANA POINT
O&M – Navigation
COASTAL FLIGHT LEG:
Dana Point to LA River Estuary


Dana Point
San Clemente
SAN CLEMENTE
GI - Feasibility
Shoreline Protection
Primary Benefit – R.R. Cost Avoidance (Seawall)
SAN DIEGO COUNTY SHORLINE
GI - Feasibility
Shoreline Protection (Oceanside)
Mitigation Study for Fed Nav Features
OCEANSIDE HARBOR
O&M – Navigation
CAMP PENDLETON
San Luis Rey River
Oceanside
COASTAL FLIGHT LEG:
Oceanside to Dana Point

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Questions?

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