California Coastal Sediment Master Plan
Public Outreach and Plan Formulation

June 12, 2014

Presented By

David Cannon, M.C.E., P.E.

Everest International Consultants

Public Outreach And Plan Formulation Summary Scope of Work

- Public Outreach
  - Conduct six stakeholder meetings
  - Prepare meeting notes
- Plan Formulation
  - Prepare sediment management activity list
  - Develop implementation framework

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Public Outreach And Plan Formulation Summary
Meeting Objectives

- Discuss RSM implementation lessons learned
- Define sustainable/economical temporal monitoring
  - Receiver sites (scales?)
  - Borrow sites (scales?)
- Define sustainable/economical spatial monitoring
  - Receiver sites (scales?)
  - Borrow sites (scales?)
- Identify information gaps and tool needs

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Orange County Regional Sediment Management Plans

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Coastal Sediment Management Workgroup

US Army Corps of Engineers ®
Los Angeles District

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Purpose

To develop a coastal regional sediment management plan (Plan) that provides sufficient information for decision makers to develop policies and/or execute management sub-plans for the future vitality of Orange County beaches and shoreline areas.

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Objectives (1 of 2)

- Obtain/Compile Existing Data/Information
  - Studies, Reports, Plans, CEQA/NEPA Documents
  - Spatial Data And Information
- Engage Stakeholders
  - Obtain Input, Data, Information, Plan Ideas
  - Update Them On Progress

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Objectives (2 of 2)

- Identify Key Opportunities And Constraints
  - Beach Erosion Concern Areas
  - Potential Sediment Sources
  - Possible RSM Projects (e.g., economic improvement)
  - Critical And Sensitive Habitat Areas
- Develop Plan Specific To Orange County
  - Relevant To Orange County Beaches And Shoreline
  - Useful To Stakeholders
    - Technically, Economically, And Environmentally Feasible
    - Recommendations For Financial Viability
    - Suggestions For Possible Governance Approach

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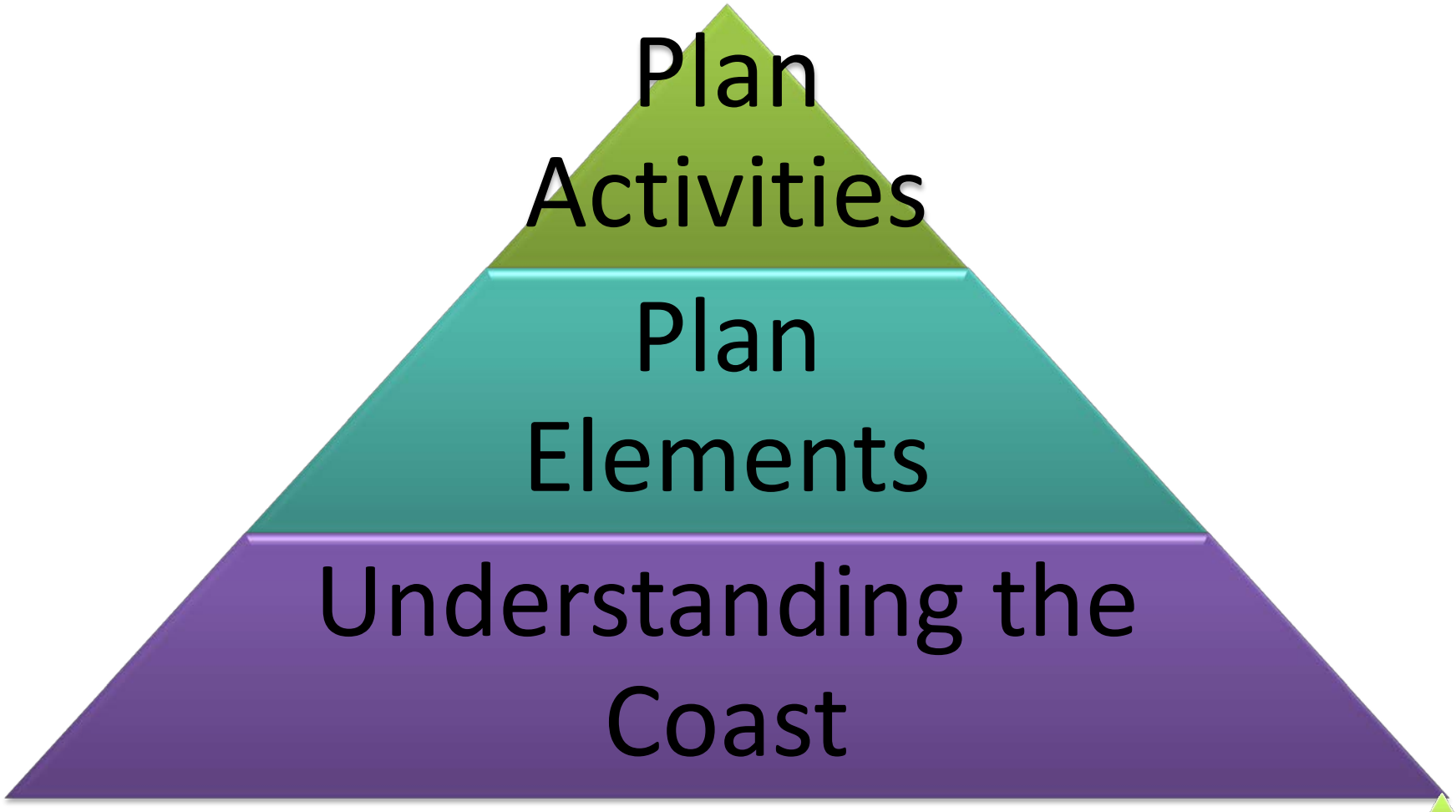
Report Organization



Everest. April, 2012. *Orange County Coastal Regional Sediment Management Plan Draft Report.* http://www.dbw.ca.gov/csmw/crsmp_oc.aspx

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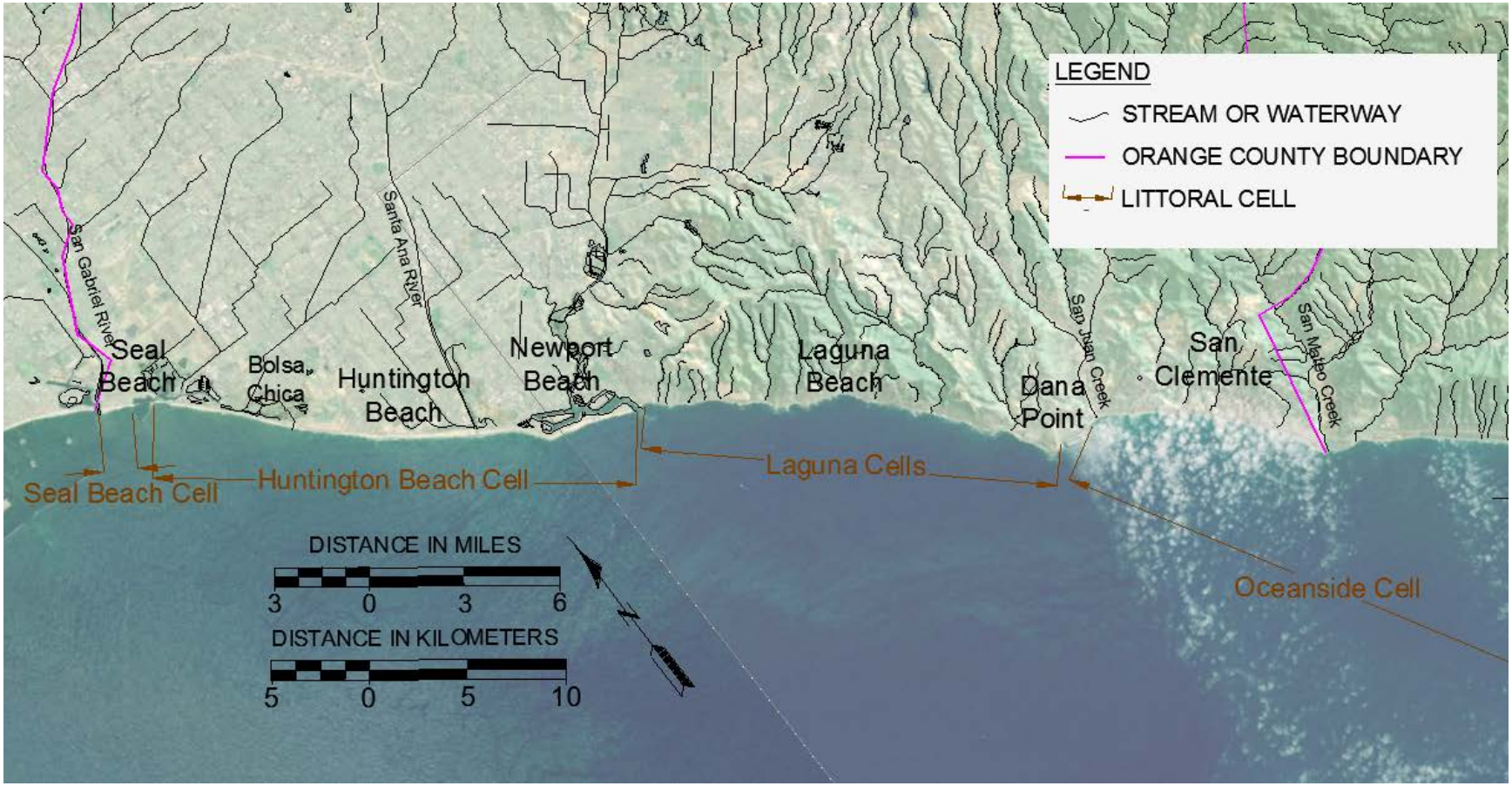
Understanding The Coast

Littoral Cells



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Socioeconomics

- Population Trends
- Identify All 77 Beaches
- Describe Recreational Characteristics
- Attendance
- Amenities
- Parking
- Beach Access

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Plan Elements

Plan Elements: Receiver Sites

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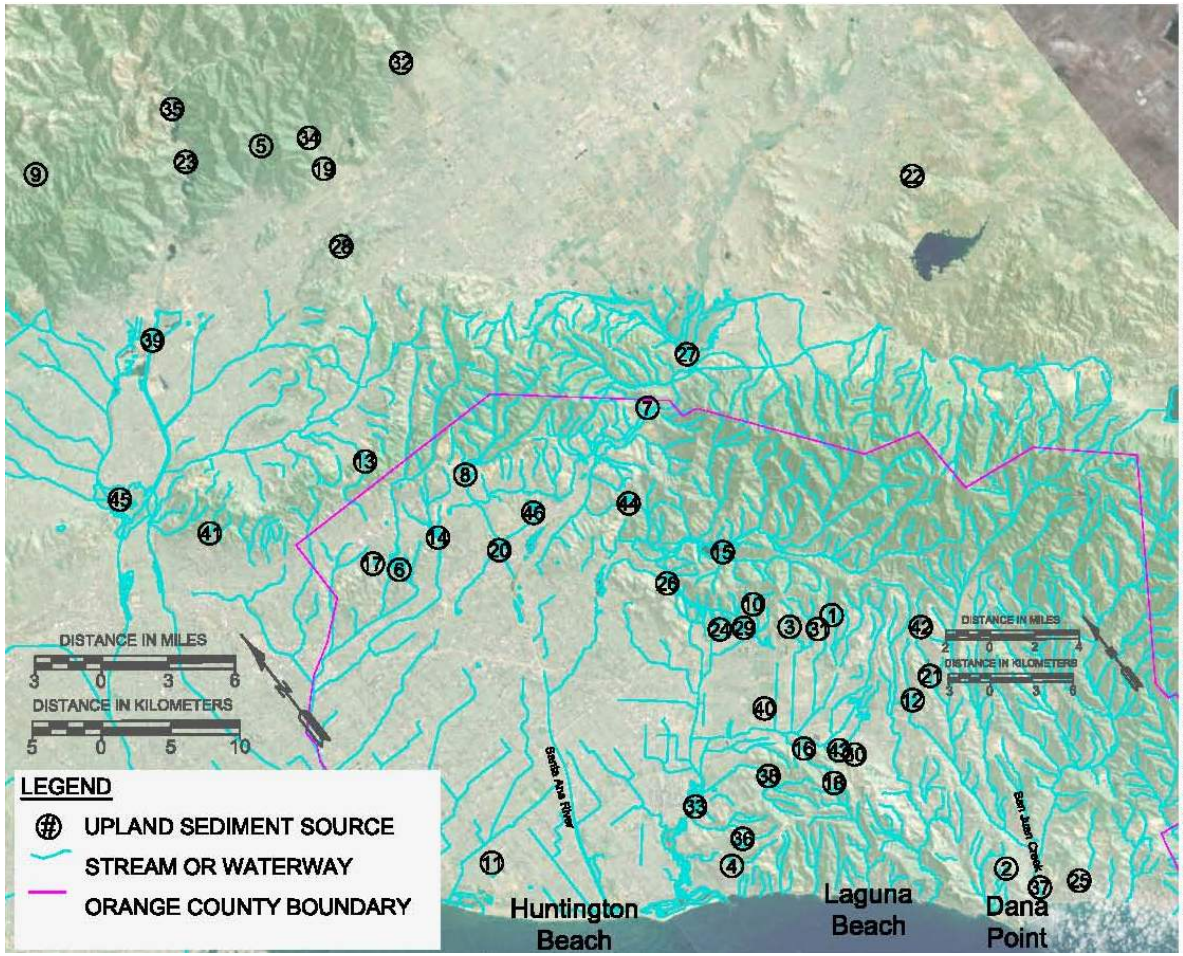
Plan Elements: Upland Sediment Sources



#	NAME	TYPE
1	Agua Chinon	Retarding Basin
2	Aliso Sewer	Construction
3	Bee Canyon	Retarding Basin
4	Big Canyon	Reservoir
5	Big Dalton	Reservoir
6	Brea Flood Control	Reservoir
7	Brush Basin	Debris Basin
8	Carbon Canyon	Reservoir
9	Cogswell	Reservoir
10	E. Hicks Canyon	Retarding Basin
11	Edinger, Sunset	Flood Control
12	El Toro	Reservoir
13	Fieldbrook	Debris Basin
14	Fullerton	Reservoir
15	Irvine (Santiago R.)	Lake
16	Laguna	Reservoir
17	Laguna	Lake
18	Lagunas	Lake
19	Live Oak	Reservoir
20	Miller	Retarding Basin
21	Mission Viejo	Lake
22	Mockingbird Cyn	Reservoir
23	Morris	Reservoir
24	Orchard Estates	Retarding Basin
25	Palisades	Reservoir
26	Peters Canyon	Reservoir
27	Prado	Flood Control Basin
28	Puddingstone	Reservoir
29	Rattlesnake Cyn	Reservoir
30	Rossmoor 1 799	Reservoir
31	Round Canyon	Retarding Basin
32	San Antonio	Reservoir
33	San Diego	Creek
34	San Dimas	Reservoir
35	San Gabriel	Reservoir
36	San Joaquin	Reservoir
37	San Juan Creek	Creek
38	Sand Canyon	Dam
39	Santa Fe	Reservoir
40	Trabuco	Retarding Basin
41	Turnbull	Debris Basin
42	Upper Oso Dam	Reservoir
43	Veeh	Reservoir
44	Walnut Cyn	Reservoir
45	Whittier Narrows	Reservoir
46	Yorba Linda	Reservoir

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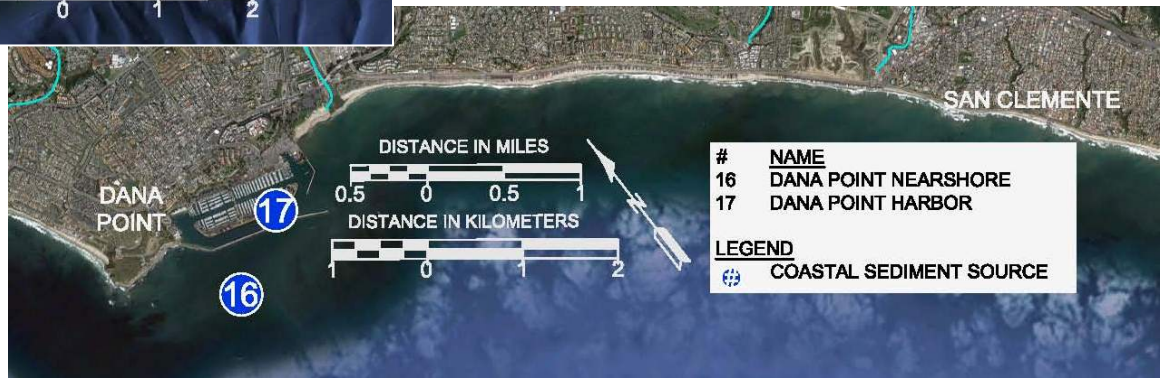
Plan Elements: Coastal Sediment Sources



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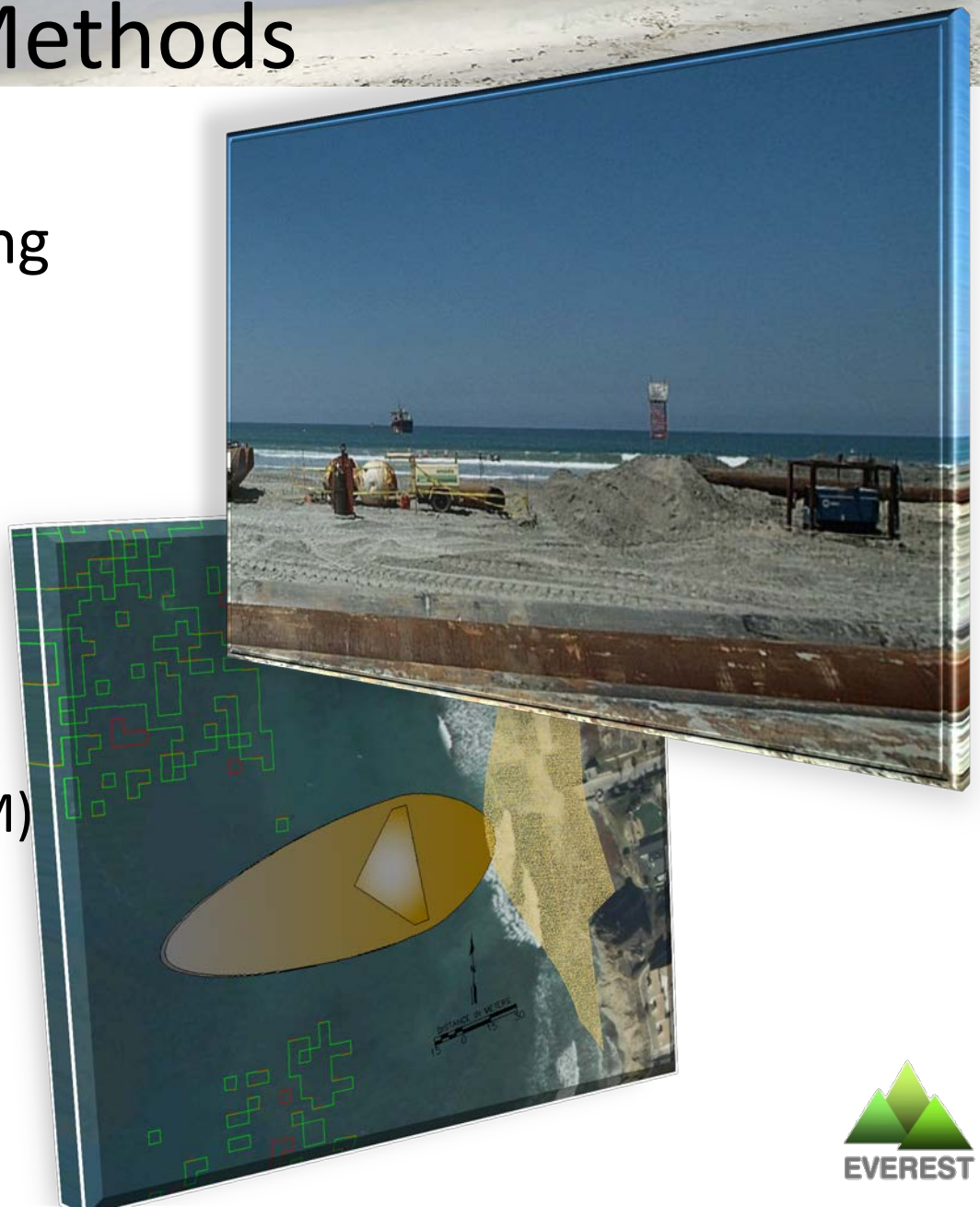
Plan Elements: Sediment Management Methods

- Dam/Harbor Bypassing
- Beach Backpassing
- Beach Nourishment
- Nearshore Fill
- Sand Retention
  - Artificial Reefs
  - Dewatering (e.g., PEM)
  - Soft Solutions



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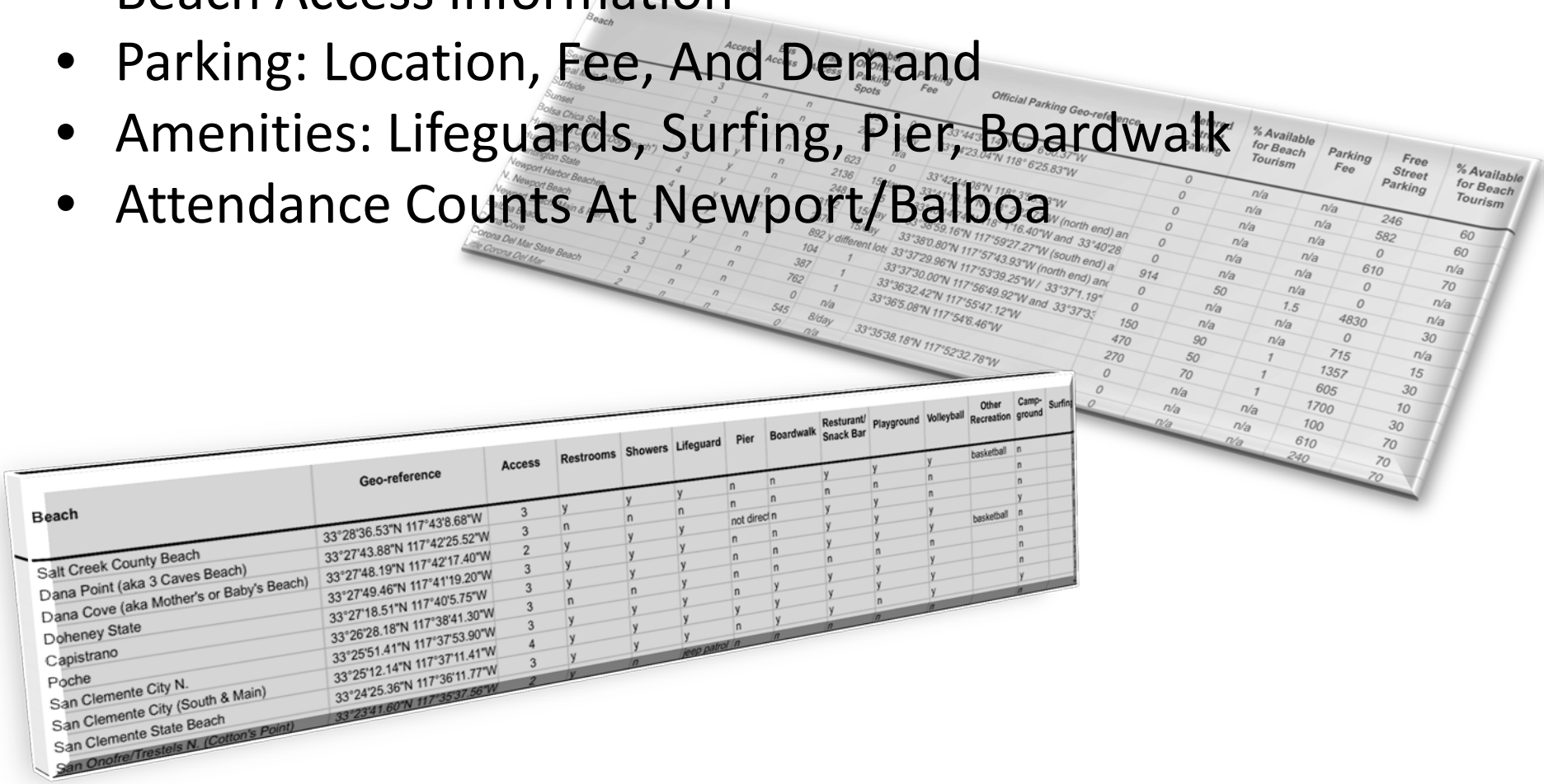
Plan Elements: Economic Data

- Data Collected For 46 Beaches
- Beach Access Information
- Parking: Location, Fee, And Demand
- Amenities: Lifeguards, Surfing, Pier, Boardwalk
- Attendance Counts At Newport/Balboa



Beach	Geo-reference	Access	Restrooms	Showers	Lifeguard	Pier	Boardwalk	Resturant/ Snack Bar	Playground	Volleyball	Other Recreation	Camp-ground	Surfing
Salt Creek County Beach	33°28'36.53"N 117°43'8.68"W	3	y	y	y	n	n	y	y	y	basketball	n	
Dana Point (aka 3 Caves Beach)	33°27'43.88"N 117°42'25.52"W	3	n	n	n	n	n	n	n	n		n	
Dana Cove (aka Mother's or Baby's Beach)	33°27'48.19"N 117°42'17.40"W	2	y	y	y	not direct	n	y	y	n		y	
Doheney State	33°27'49.46"N 117°41'19.20"W	3	y	y	y	n	n	y	y	y	basketball	n	
Capistrano	33°27'18.51"N 117°40'5.75"W	3	y	n	y	n	n	y	y	n		n	
Poche	33°26'28.18"N 117°38'41.30"W	3	n	n	y	n	n	n	y	y		n	
San Clemente City N.	33°25'51.41"N 117°37'53.90"W	3	y	y	y	n	y	y	y	y		n	
San Clemente City (South & Main)	33°25'12.14"N 117°37'11.41"W	4	y	y	y	n	y	y	n	y		y	
San Clemente State Beach	33°24'25.36"N 117°36'11.77"W	3	y	n	y	jeep patrol	n	n	n	n		n	
San Onofre/Trestels N. (Cotton's Point)	33°23'41.60"N 117°35'37.56"W	2	y	n	y	n	n	n	n	n		n	

Plan Elements: Economic Analysis

- Economic And Tax Impacts Of OC Beaches
- Economic Benefits Of Surfside-Sunset Nourishment
- Transient Occupancy Tax Opportunities
- Parking Fee Opportunities
- Estimated Sales And Property Taxes
- Estimated Sand Impoundment Fee
- San Clemente Case Study

Plan Elements: Funding Options Identified

- Sediment Impoundment Fee (Dams/Debris Basins)
- Transient Occupancy Tax (Residents Exempt)
- Real Estate Transfer Tax
- Sporting Goods Tax
- Cost Sharing Among Beneficiaries
- Special Assessments
- User Fees
- Sales Tax
- Leverage State and Federal Dollars

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Plan Elements: Biological Objectives

- Maintain Healthy Habitats
- Protect Sensitive Resources
- Avoid/Minimize Impacts

Plan Elements: Biological Considerations

- Constraints And Opportunities
  - Utilize Habitat Resource Map Tools
  - Lessons Learned From Relevant Projects
- Maintain And Protect Resources
  - Buffer Sensitive Resources
  - Enhance Sandy Beach Habitat
- Adaptive Management
  - Focused Monitoring With Feedback

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Plan Elements: OC Sensitive Resources

- Beach Habitat/Biota
  - California Grunion
  - Tidepools
  - California Least Tern
  - Western Snowy Plover
- Nearshore Habitat/Uses
  - Surfgrass
  - Kelp Bed Reefs
  - Commercial/Recreational Fishing
- Lagoons, Bays, Estuaries
  - Nesting Sites
  - Marine Fish Nursery & Foraging

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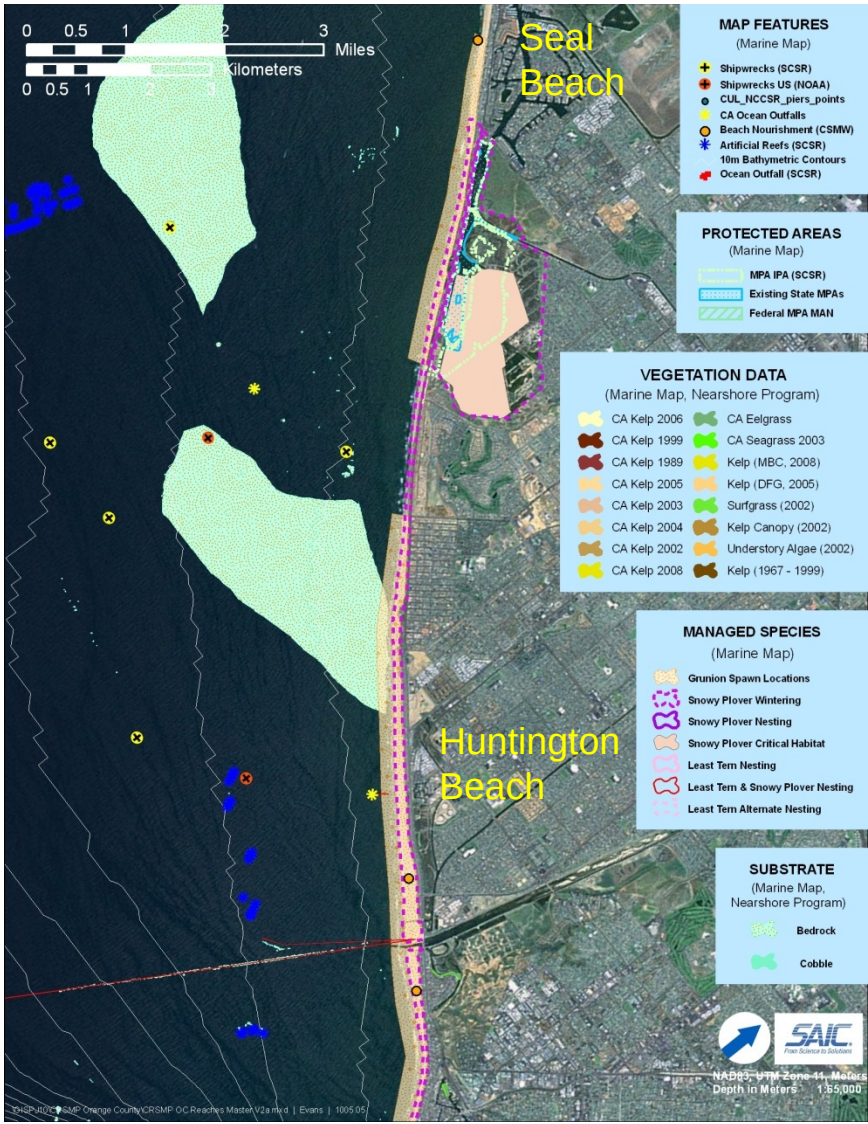
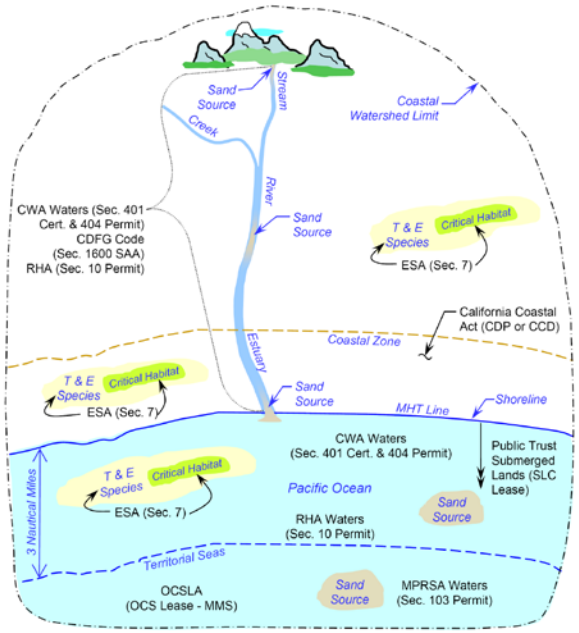
Plan Elements: Biological Resource Mapping

- Sensitive Resources
  - Estuaries
  - Eelgrass
  - Grunion Spawning
  - Overwintering Habitat
  - Sensitive Nesting Areas
  - Plover Critical Habitat
- Biologically Relevant Features
  - Harbors
  - MPAs
  - Ocean Outfalls
  - Shipwrecks
- Nearshore Habitats
  - Artificial Reefs
  - Piers
  - Kelp Beds
  - Nearshore Habitats



Plan Elements: Permitting And Regulations

Geographical

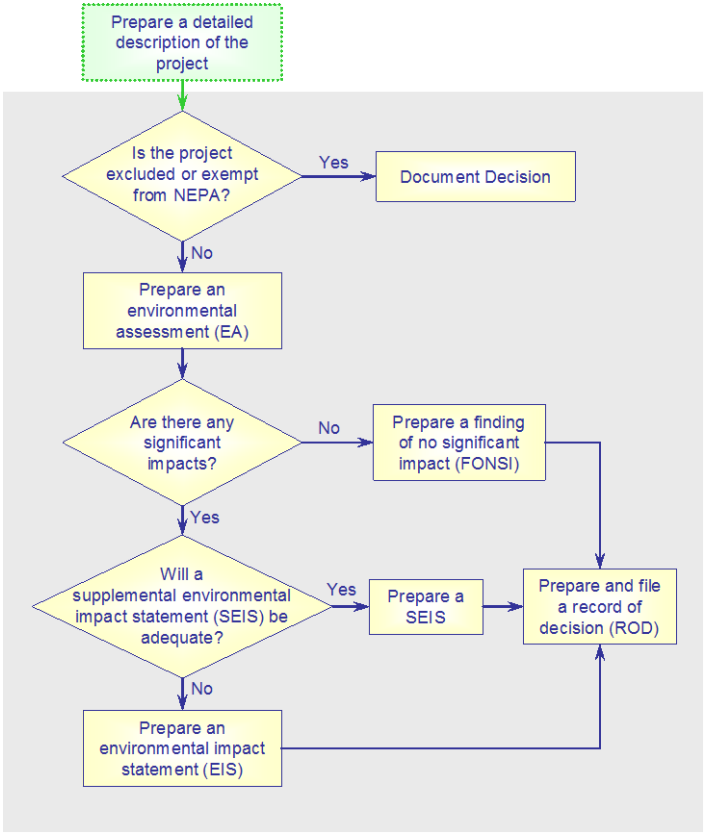


Legend

CWA = Clean Water Act
ESA = Endangered Species Act
RHA = Rivers and Harbors Act
CDFG = California Department of Fish and Game
MHT = Mean High Tide
SAA = Streambed Alteration Agreement
OCSLA = Outer Continental Shelf Lands Act
MMS = Minerals Management Service
MPRSA = Marine Protection, Research and Sanctuaries Act
SLC = State Lands Commission
CCD = Coastal Consistency Determination
CDP = Coastal Development Permit
T & E = Threatened and Endangered

Note: This figure is only intended as an aid to understanding regulatory compliance. Consultation with the agencies that have jurisdiction will determine actual regulatory requirements.

Textual And Flowcharts



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Plan Elements: Permitting And Regulations

- Southern California Dredged Material Management Team Meetings
  - USACE, USEPA, NMFS, USFWS
  - CCC, CDFG,CSLC, CSP, RWQCB
- Direct Burial, Sediment Grain Size Compatibility, Chemical Contamination, Color, Placement Rate
- National and Regional General Permits
- Coastal Development Permits And Special Use Permits
- Opportunistic Sand Program (e.g., SCOUP)
- Total Maximum Daily Load Considerations
- Marine Life Protection Act Implications

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Plan Elements: Governance

- Regional Coastal Planning Entity With Implementation Focus
- Example Joint Powers Authority (JPA)
  - San Diego Association Of Governments (SANDAG)
  - Association of Monterey Bay Area Governments (AMBAG)
  - Beach Erosion Authority For Clean Oceans And Nourishment (BEACON)
- Existing JPAs In Project Area
  - Southern California Association Of Governments (SCAG)
  - Orange County Council Of Governments (OCCOG)

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Plan Activities

Plan Activities: Categories

- Priority
  - High, Medium, Low
- Type
  - Plan Performance
  - Governance And Regulation
  - Construction
- State
  - Existing & Potential
- Duration
  - Project, Recurring, Ongoing

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Plan Activities: Prioritization

- Stakeholder Interest
- Perceived Needs
- Recreational Benefits
- Shore Protection Benefits
- Funding Availability
- Costs
- Habitat Impacts
- Regulatory Requirements
- Permittability

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Plan Activities: High Priority

Activity	Type	State	Duration
Outreach & Education	Plan Performance	Potential	Project
Governance Structure	Governance & Regulations	Potential	Ongoing
San Clemente Shoreline Project	Construction	Potential	Project
Surfside Sunset Beach Nourishment Project	Construction	Existing	Recurring
Newport Harbor & Bay Dredging and Nourishment Project	Construction	Existing	Recurring
Prado Dam Bypassing to Santa Ana River	Construction	Potential	Recurring
Santa Ana River and Huntington Beach Wetlands Dredging	Construction	Existing	Recurring
East Beach Seal Beach Maintenance	Construction	Existing	Recurring
Dana Point Harbor Dredging and Nearby Nourishment	Construction	Existing	Recurring
Bolsa Chica Maintenance Dredging and Huntington Cliffs Nourishment	Construction	Existing	Recurring
Data Gaps and Database	Plan Performance	Potential	Ongoing
Improved Monitoring and Performance Evaluation	Plan Performance	Potential	Ongoing

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Plan Activities: Medium Priority

Activity	Type	State	Duration
Federal Legislation	Governance & Regulations	Potential	Project
State Legislation	Governance & Regulations	Potential	Project
High Fines Sediment Nourishment Pilot Study	Plan Performance	Potential	Project
Pilot SCOUP within Orange County	Governance and Regulations	Potential	Ongoing

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Plan Activities: Low Priority

Activity	Type	State	Duration
Orange County Dredge Ownership	Construction	Potential	Ongoing
Sand Retention Feasibility Study	Plan Performance	Potential	Project
Huntington Harbour Dredging and Beach or Nearshore Placement	Construction	Potential	Recurring
Sea Level Rise Beach Sustainability Study	Plan Performance	Potential	Project
Update Sediment Budget for Laguna Beach Littoral Cell	Plan Performance	Potential	Project
Seek Methods to Assess and Mitigate for Upstream Sand Mining	Governance and Regulations	Potential	Ongoing
Study Large Grain Size Impacts at East Beach, Seal Beach	Plan Performance	Potential	Project
Update Sediment Transport Studies for Southern Orange County	Plan Performance	Potential	Project
Update the Plan	Plan Performance	Potential	Recurring

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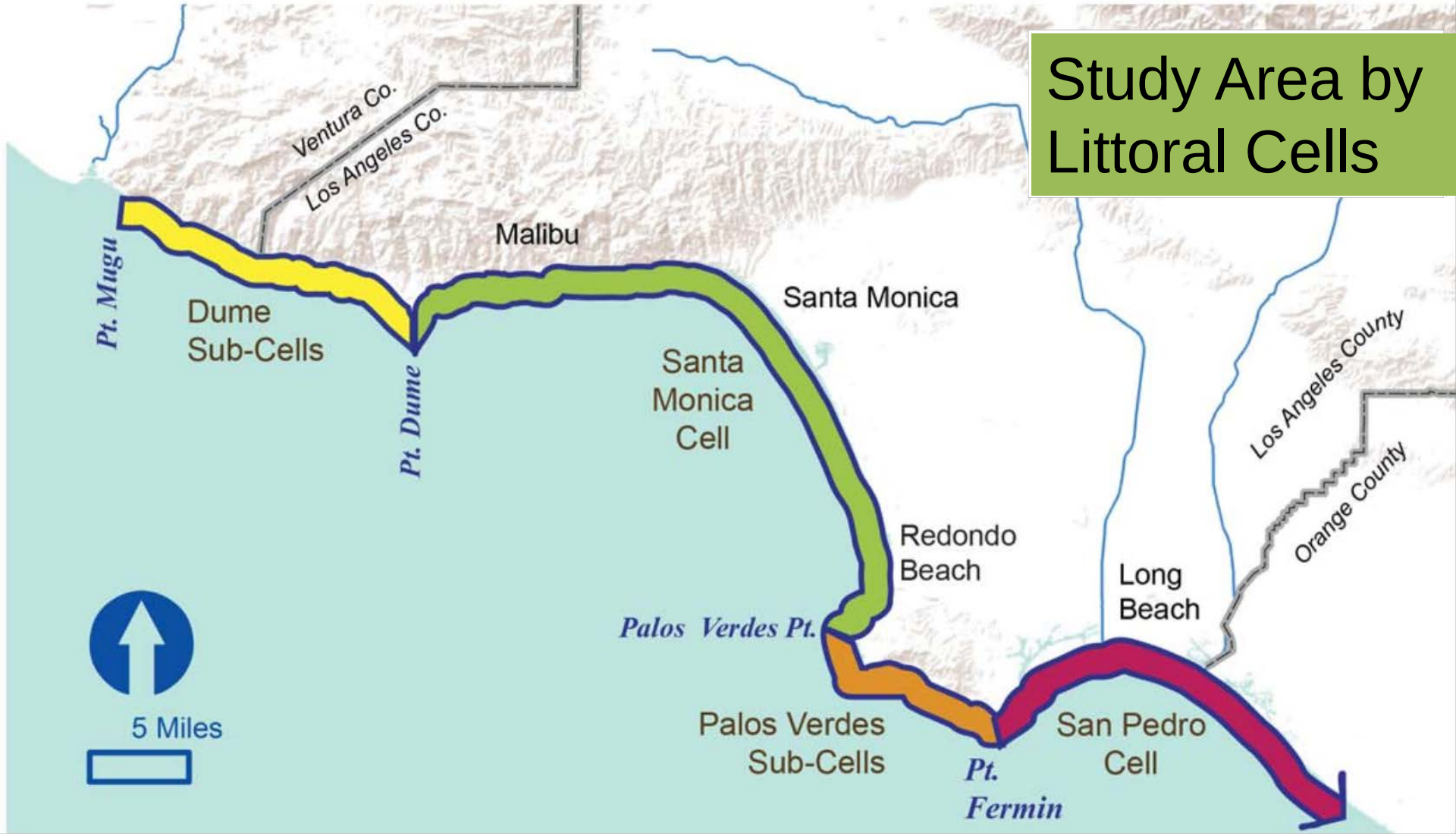
LOS ANGELES COUNTY
REGIONAL SEDIMENT MANAGEMENT PLAN

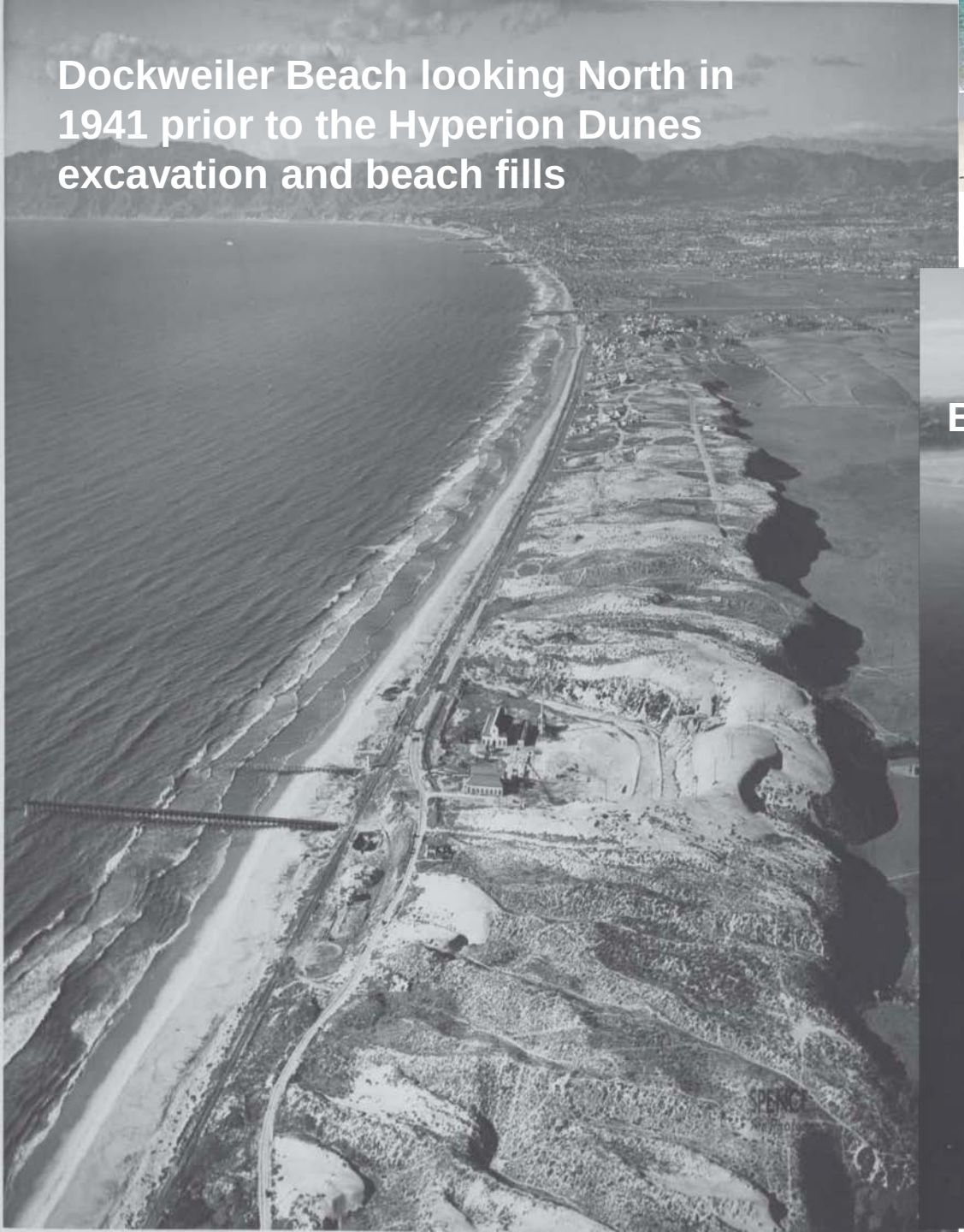
LA RSM Plan Purpose

To develop a coastal regional sediment management plan (CRSMP) that provides sufficient information for decision makers to develop policies and/or execute management sub-plans for the future vitality of Los Angeles County beaches and shoreline areas.

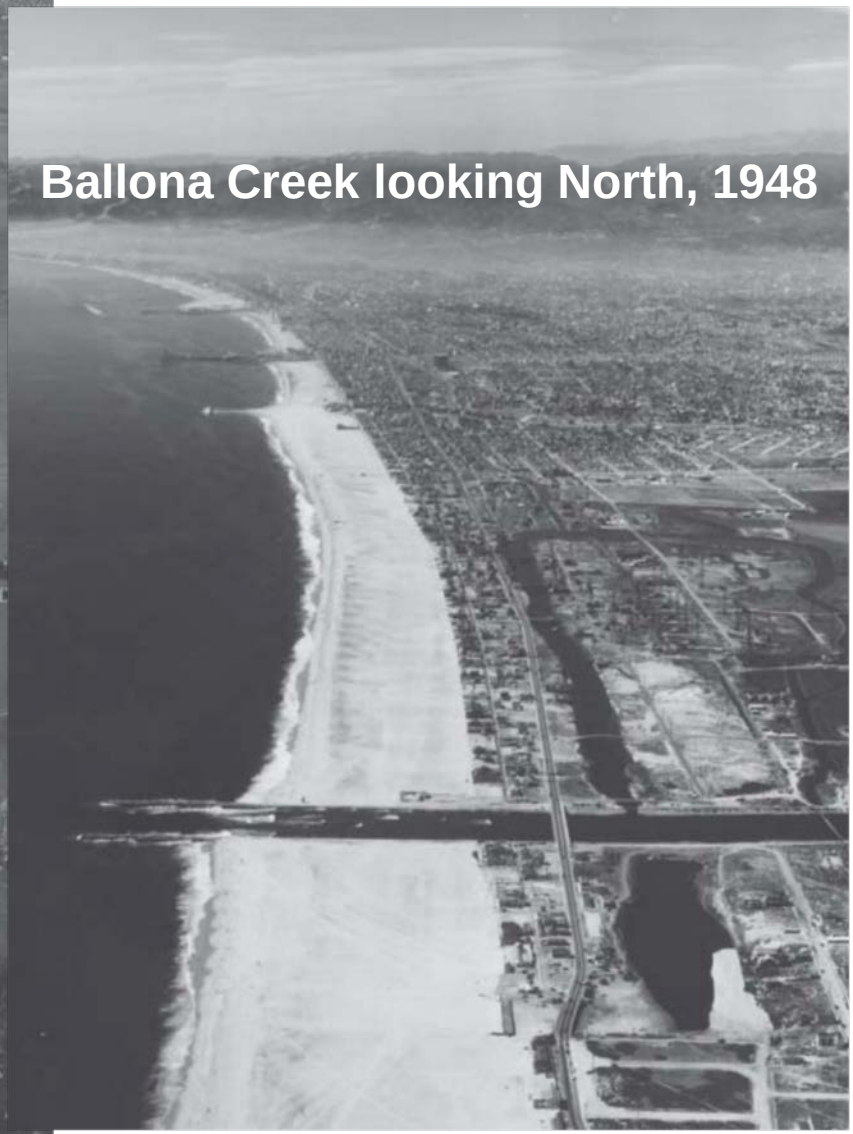
Study Area


Study Area by Littoral Cells
Ventura Co.
Los Angeles Co.
Malibu
Pt. Mugu
Dume Sub-Cells
Pt. Dume
Santa Monica
Santa Monica Cell
Redondo Beach
Palos Verdes Pt.
Palos Verdes Sub-Cells
Pt. Fermin
San Pedro Cell
Long Beach
Los Angeles County
Orange County
5 Miles

Historical Perspective

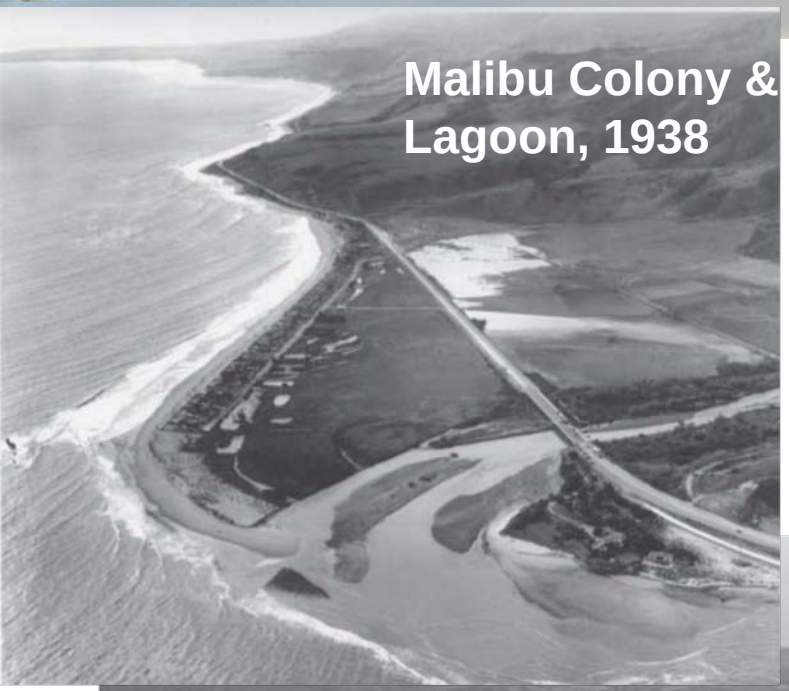


Dockweiler Beach looking North in 1941 prior to the Hyperion Dunes excavation and beach fills

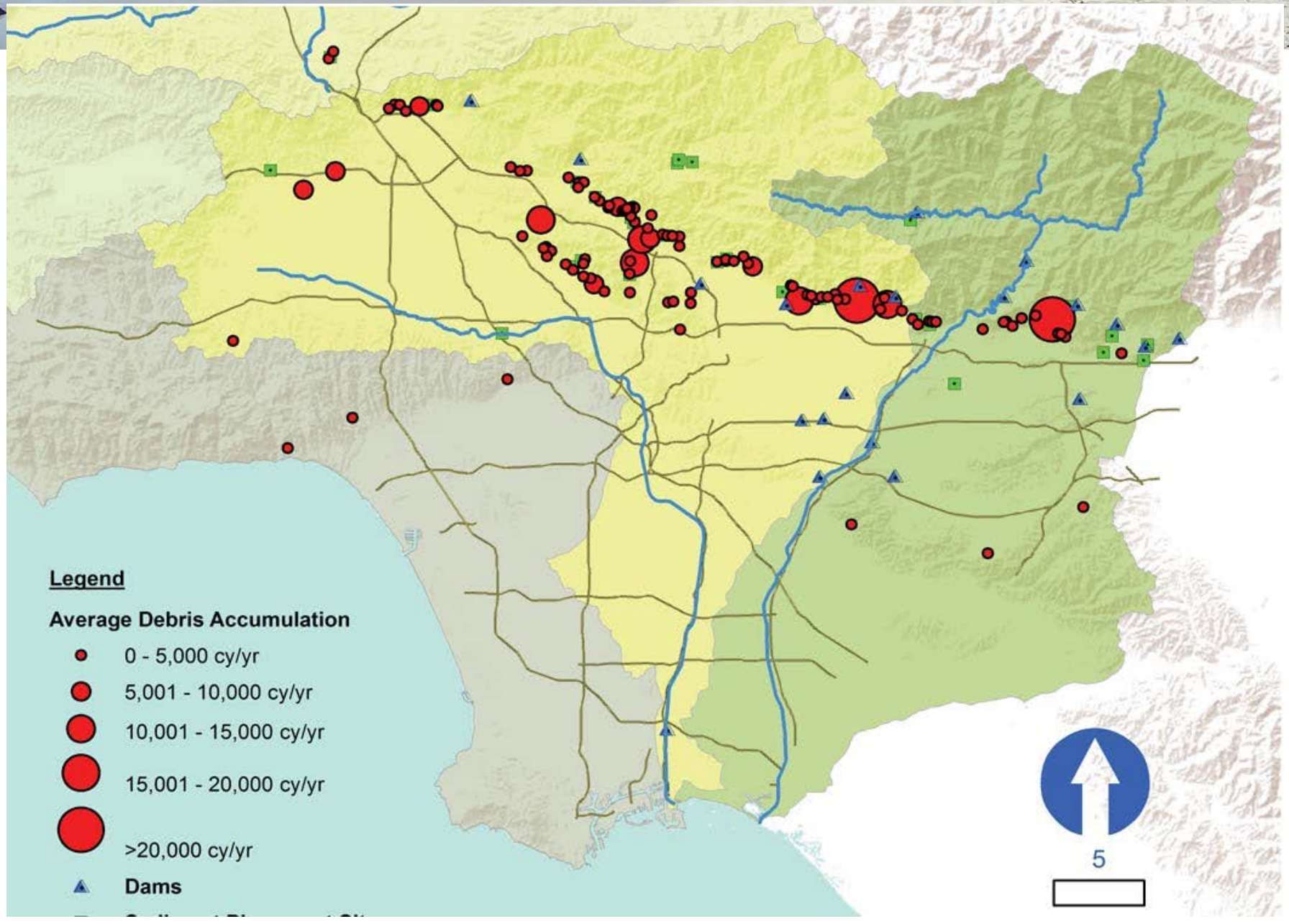


Ballona Creek looking North, 1948

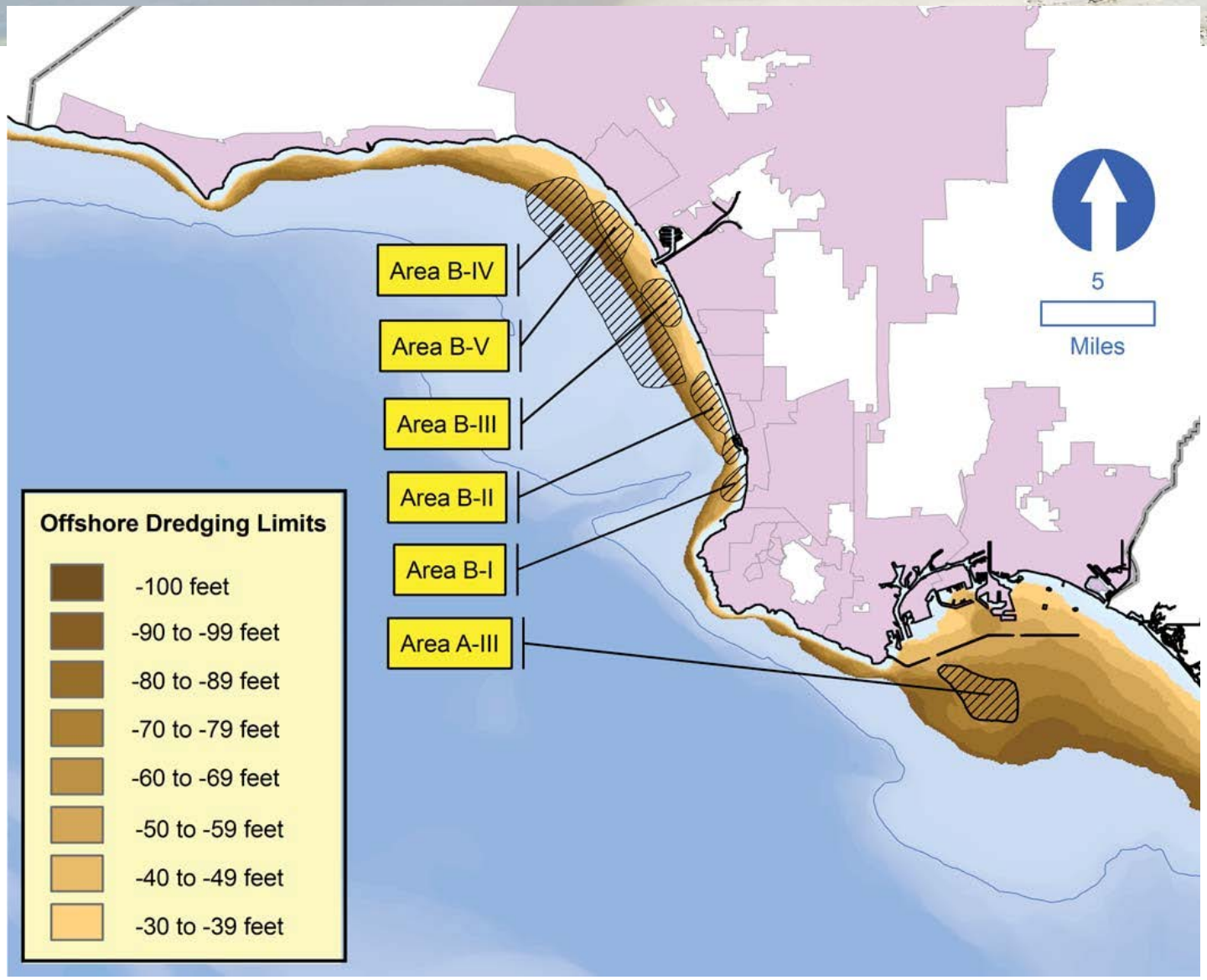
Historical Perspective (cont'd)



Sediment Inventory



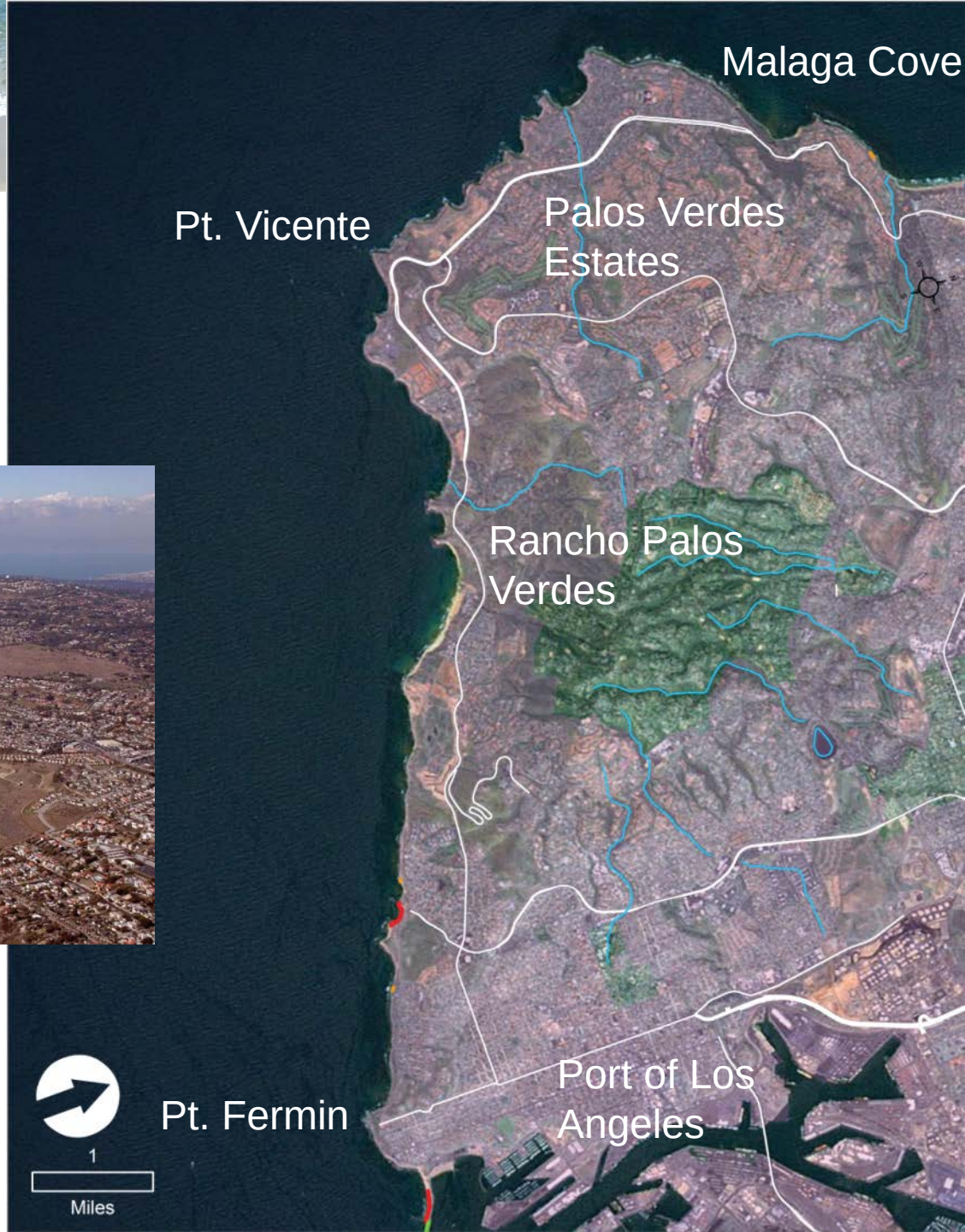
Sediment Inventory (cont'd)



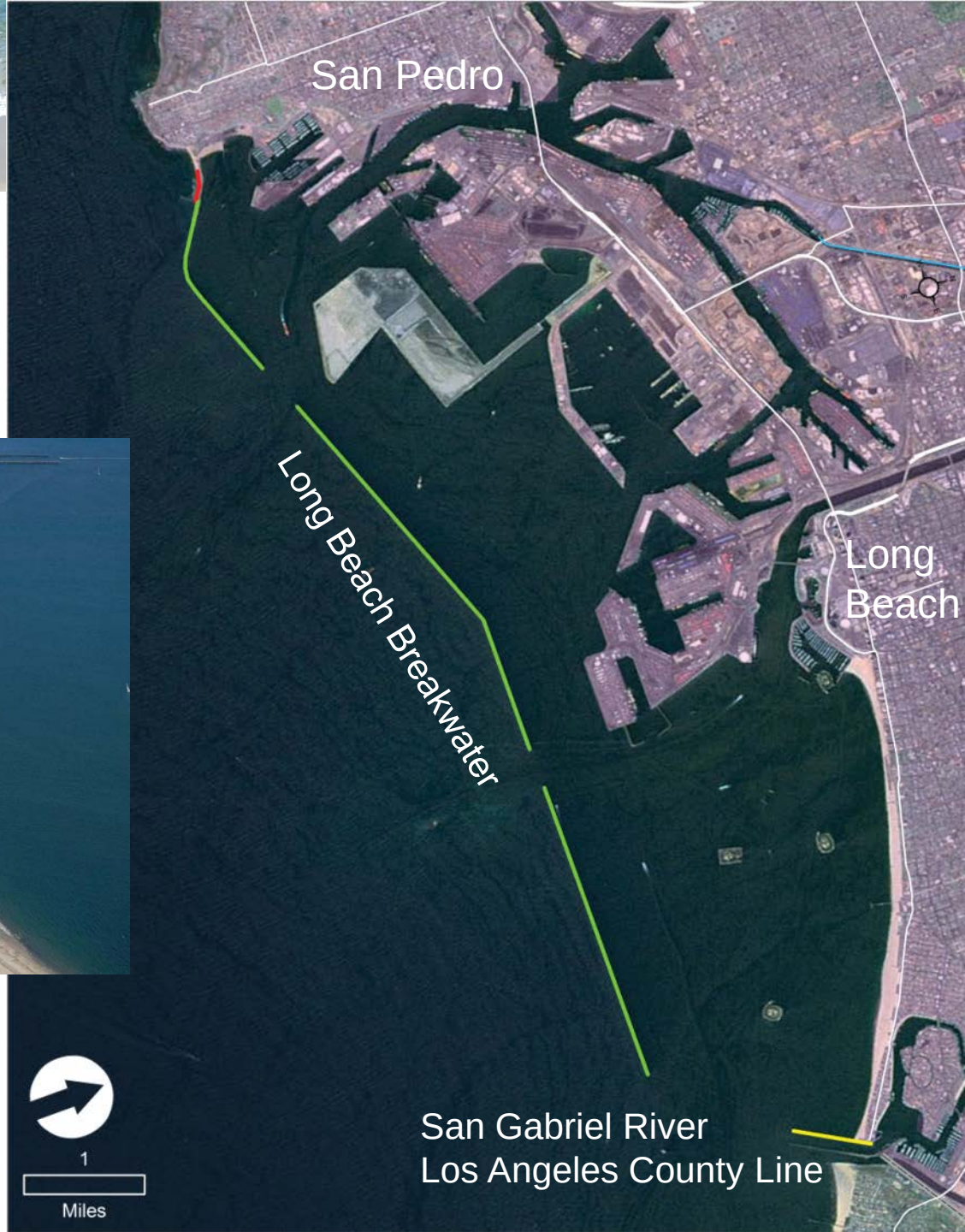
Malibu Sediment Issues

Santa Monica Bay
Sediment Issues

Palos Verdes Peninsula Sediment Issues



Long Beach Sediment Issues



Draft Recommendations

❖**LA County Regional Maintenance Agreement**

Establish pre-approved beach maintenance programs that allows for relocation and transfer of sand, infrastructure repair, and other related activities in order to maintain public access and safety at recreational beach areas.

❖**Beach Monitoring Program**

Continue historical surveys of beach widths along Los Angeles County

❖**Offshore Sand Source Sea Level Rise Strategic Reserve**

Identify, quantify, and dedicate offshore sand resources to restore public beaches in the future as needed.

Sediment Management Activities Overview

- Projects
  - Construction activities to manage sediment
  - Usually lead by government but some private
- Studies
  - Studies to improve (plan) sediment management
  - Usually lead by government but also NGOs
- Research
  - Research to better understand (unknown) processes
  - Usually lead by academia but some private

Sediment Management Activities Projects

- Large-Scale Beach Nourishment
  - Sand Diego Regional Beach Sand II (SANDAG)
  - CSMW assisted via SCOUP, RSM Plan, MLPA
- Opportunistic Sand Placement
  - Pacific Station Project (Encinitas)
  - CSMW assisted via SCOUP
- Medium-Scale Beach Nourishment
  - Broad Beach Shore Protection/Nourishment
  - Privately funded

Sediment Management Activities Studies

- Environmental Review/Permitting Process
  - Biological Impacts Assessment Phase I (BIA)
  - BIA Phase II – Resource Protection Guidelines (Peer Review)
  - CSMW funded
- Sediment Management Planning
  - LA & SG River Sediment Management Plan (LAC)
  - CSMW involvement (Reviewed plans)
  - CSMW member (USACE) involvement

Sediment Management Activities Research

- Sand Processes Investigations
  - So. California Beach Processes Study (SIO)
  - CSMW involvement
  - Applied research w/real world field conditions
- Mud Processes Investigations
  - Sources, Dispersal, and Fate Fine Grained Sediment Supplied to Coastal California (USGS)
  - CSMW funded
  - Helping address “sediment as a pollutant” issue

Sediment Management Activities Hybrid

- Project, Study, and Research
  - Tijuana Fate & Transport (SCC - SWIA)
  - CSMW assistance
  - Involves government, NGO, and academia
  - Moves sediment, advances implementation, and performs applied research

GIS Web Mapper Tools

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Stakeholder Input

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Next Steps

- Public Outreach Stakeholder Meetings
  - San Diego County: Summer 2014
  - Santa Barbara/Ventura County: Summer 2014
  - Eureka: Fall 2014
  - Monterey: Fall 2014
  - San Francisco: Fall 2014
- Plan Formulation
  - Sediment Management Activity List: Fall 2014
  - Implementation Framework: Winter 2014

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Thank You
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