

Orange County Coastal Regional Sediment Management Plan Stakeholder Meeting May 16, 2011

Presented By:
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Susan Brodeur, P.E. (County of Orange)
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US Army Corps
of Engineers
Los Angeles District



Susie Ming, P.E., PMP.

Regional Sediment Management Plan Development Throughout California



**US Army Corps
of Engineers**
Los Angeles District

California Coastal Sediment Master Plan



A “Super-Regional” Approach





CSMW



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.

Master Plan Goals

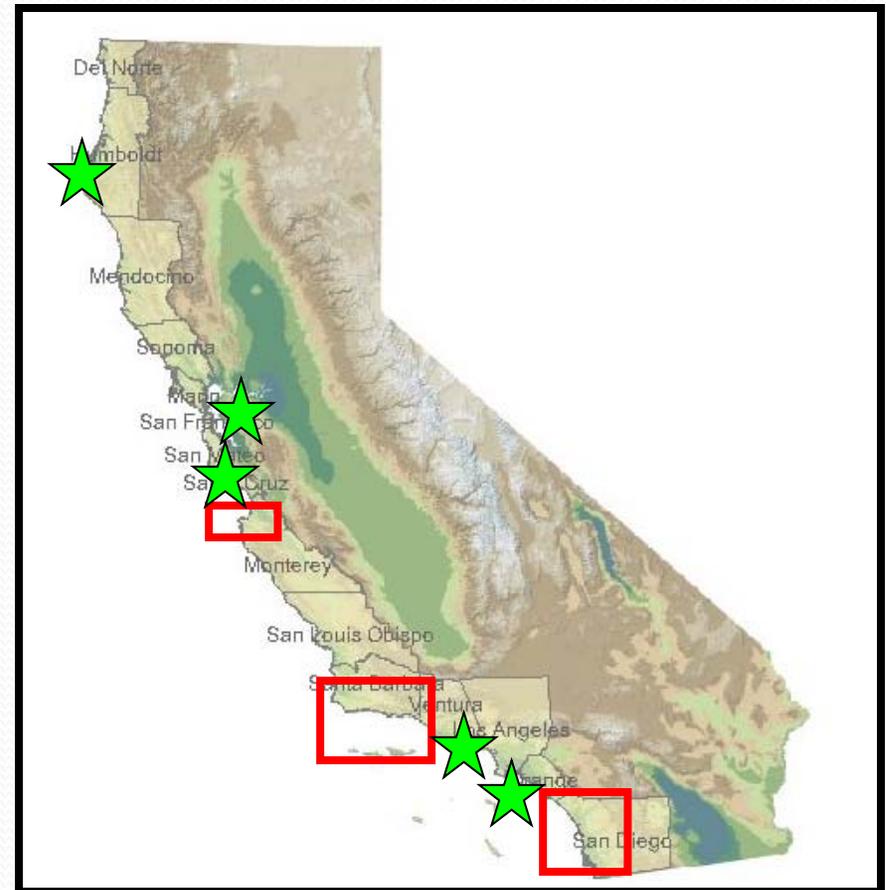


- Prioritize regional sediment management needs
- Streamline the process
- Make information widely available
- Connect areas in deficit and those with excess sediment.
- Implementation Strategy

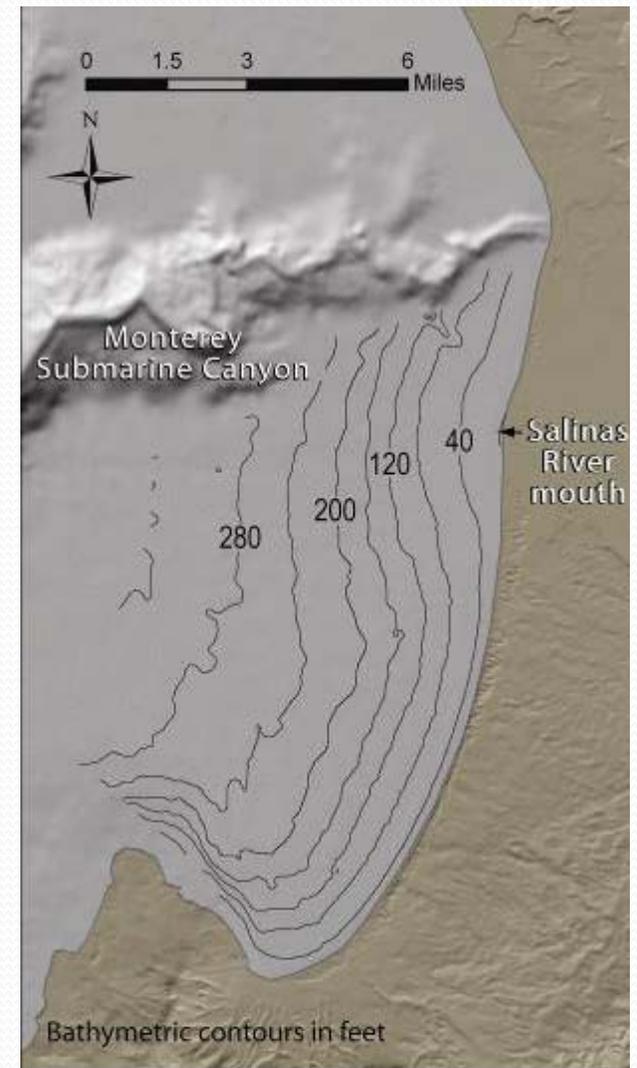
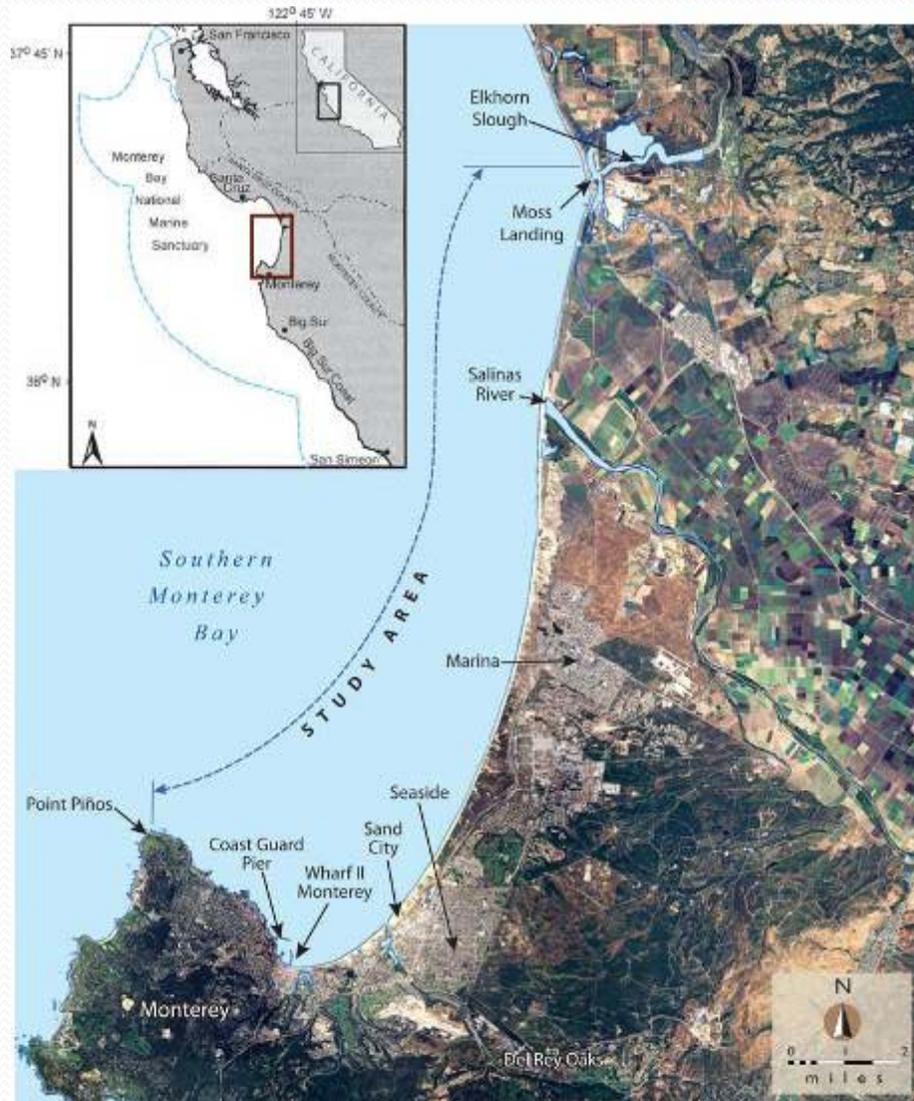


RSM Plan Development

- 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; and, restore coastal sandy habitats.

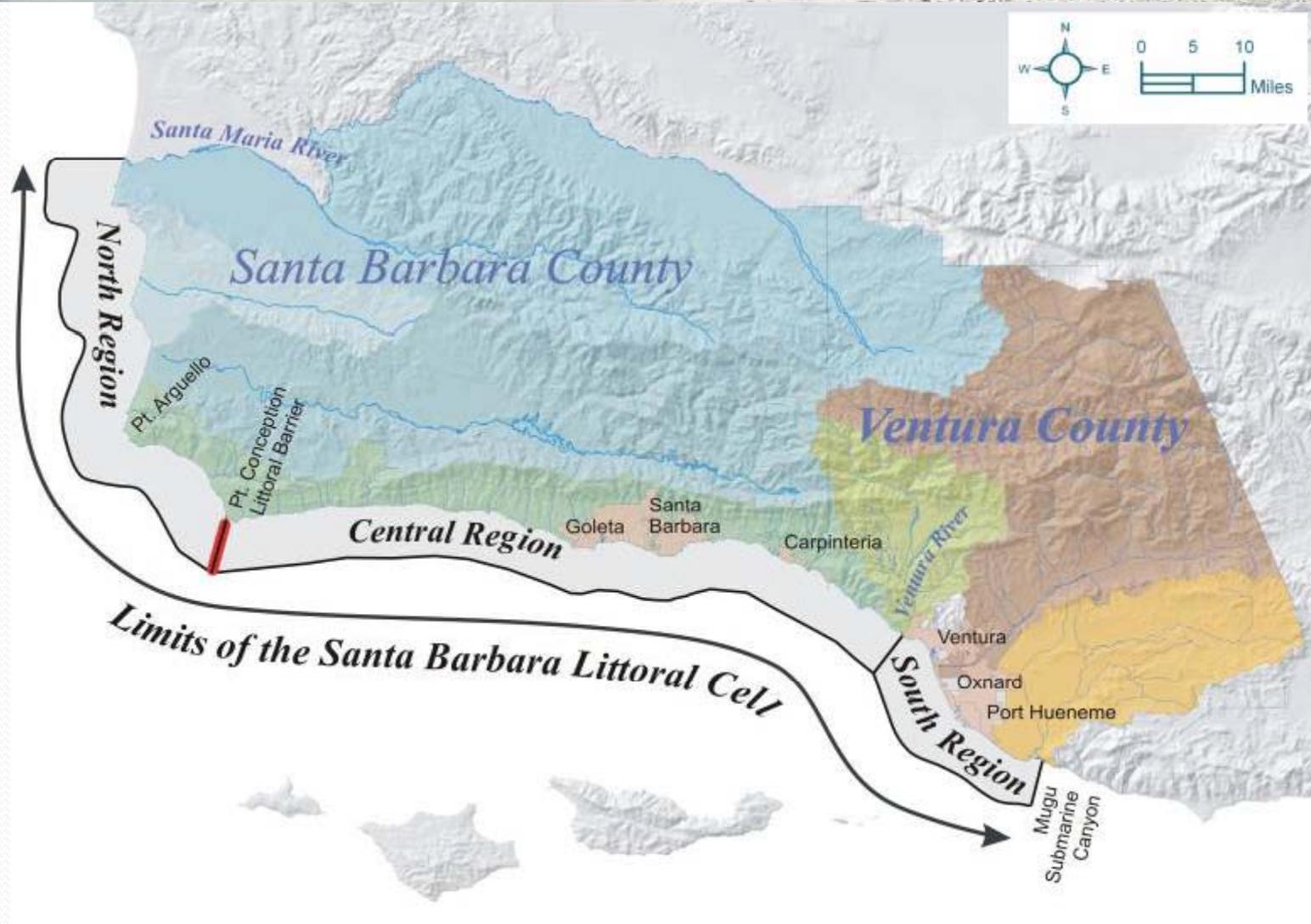


Southern Monterey Bay



Courtesy: Doug Smith (CSUMB)

Santa Barbara and Ventura Counties



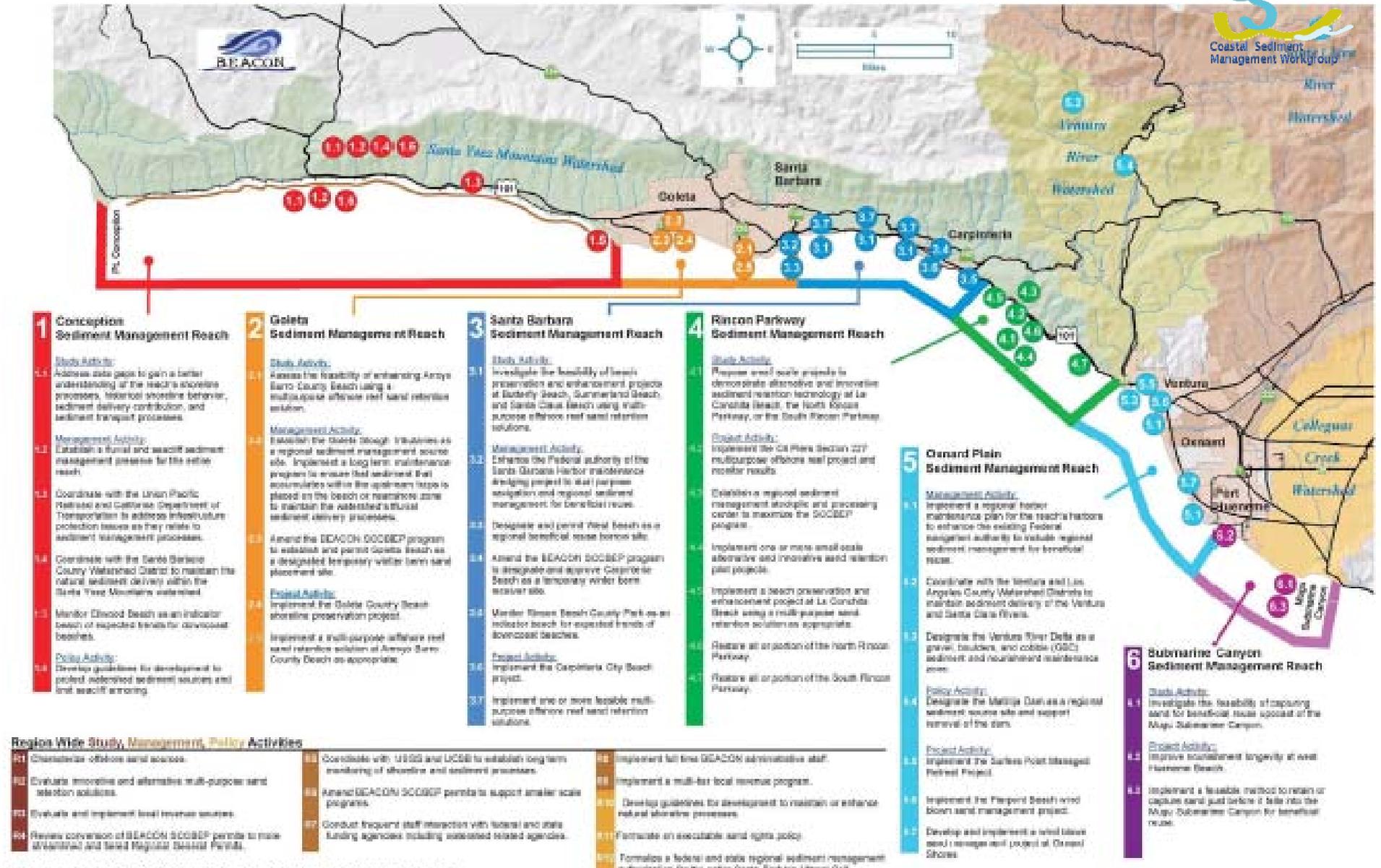
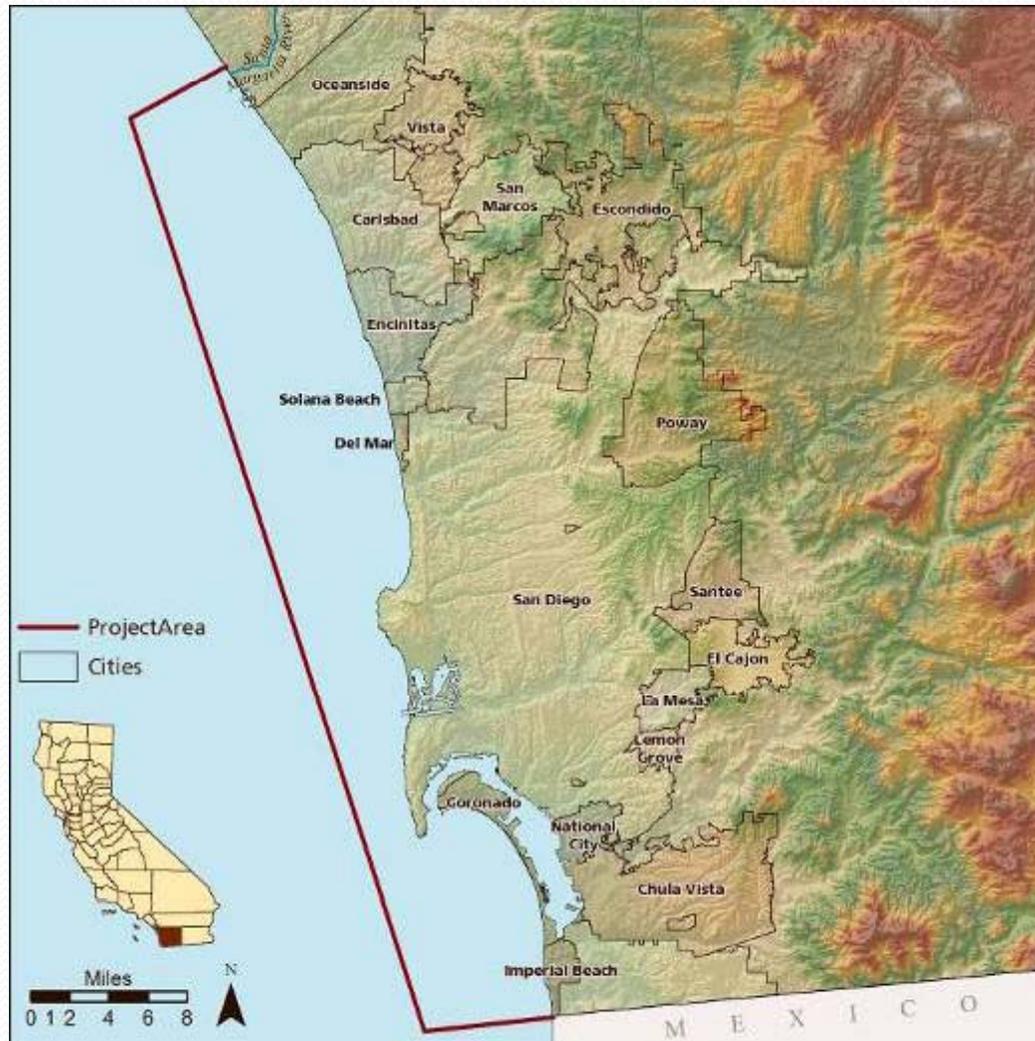
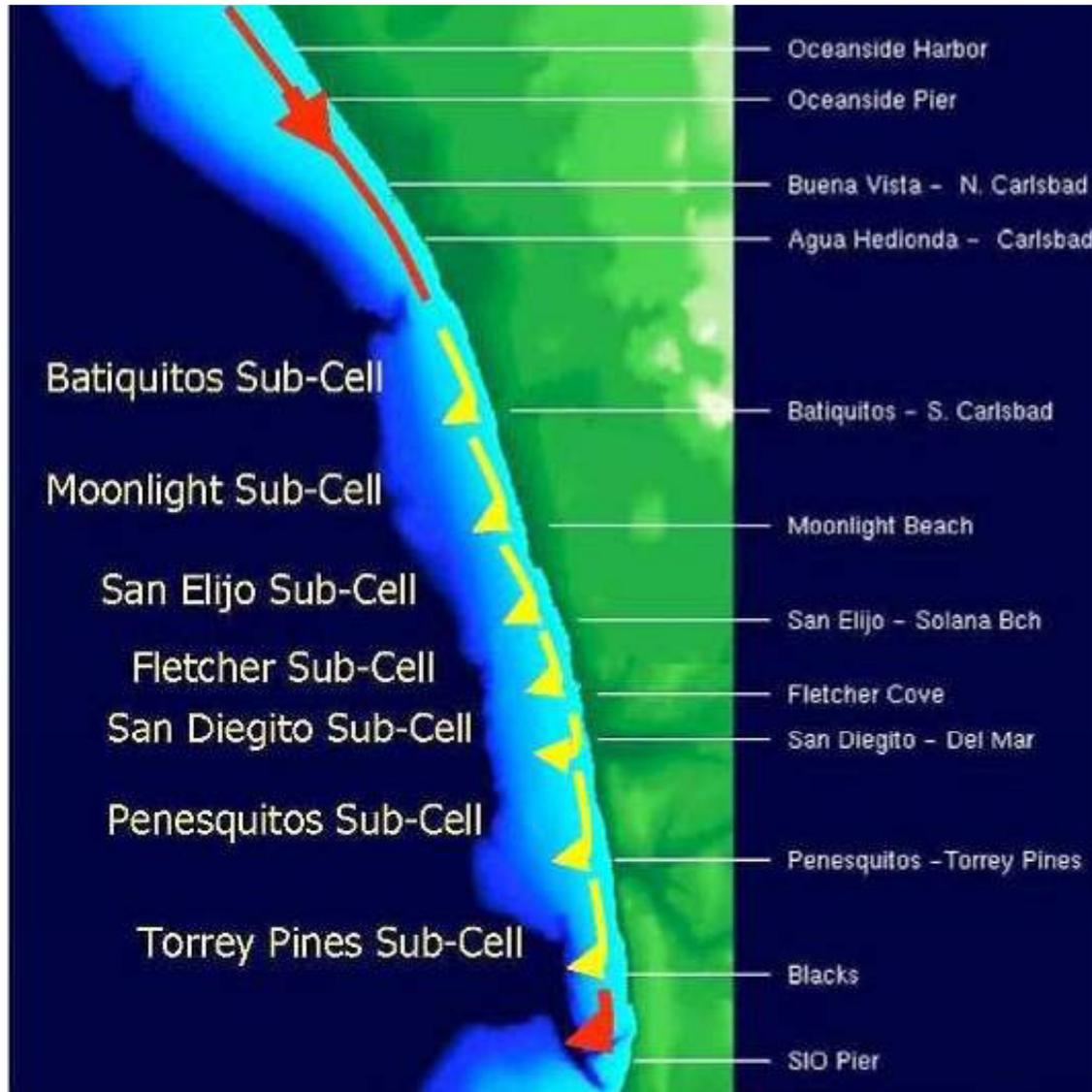


Figure 3. The BEACON Coastal Regional Sediment Management Plan

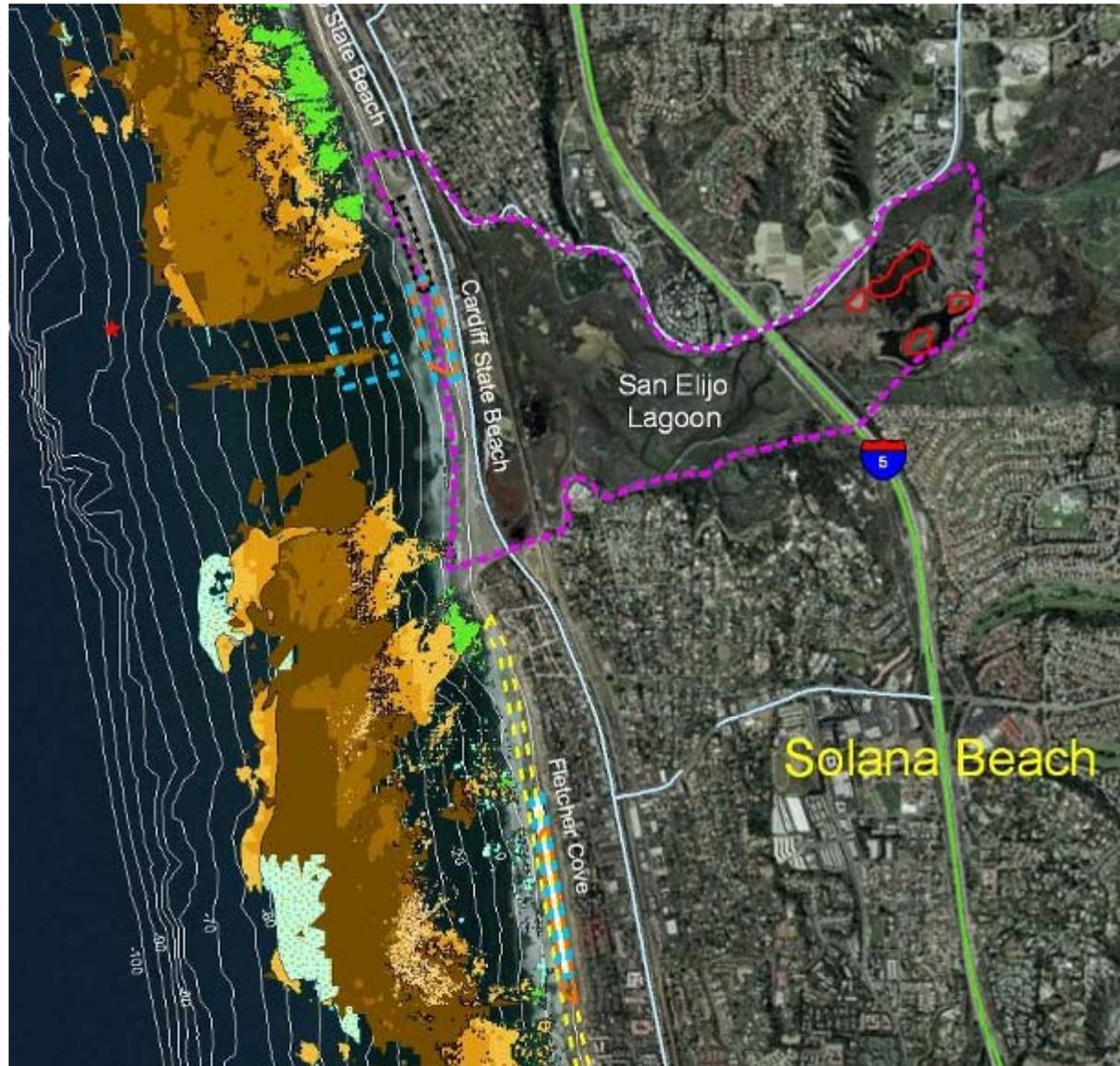
San Diego Coastal RSM Plan



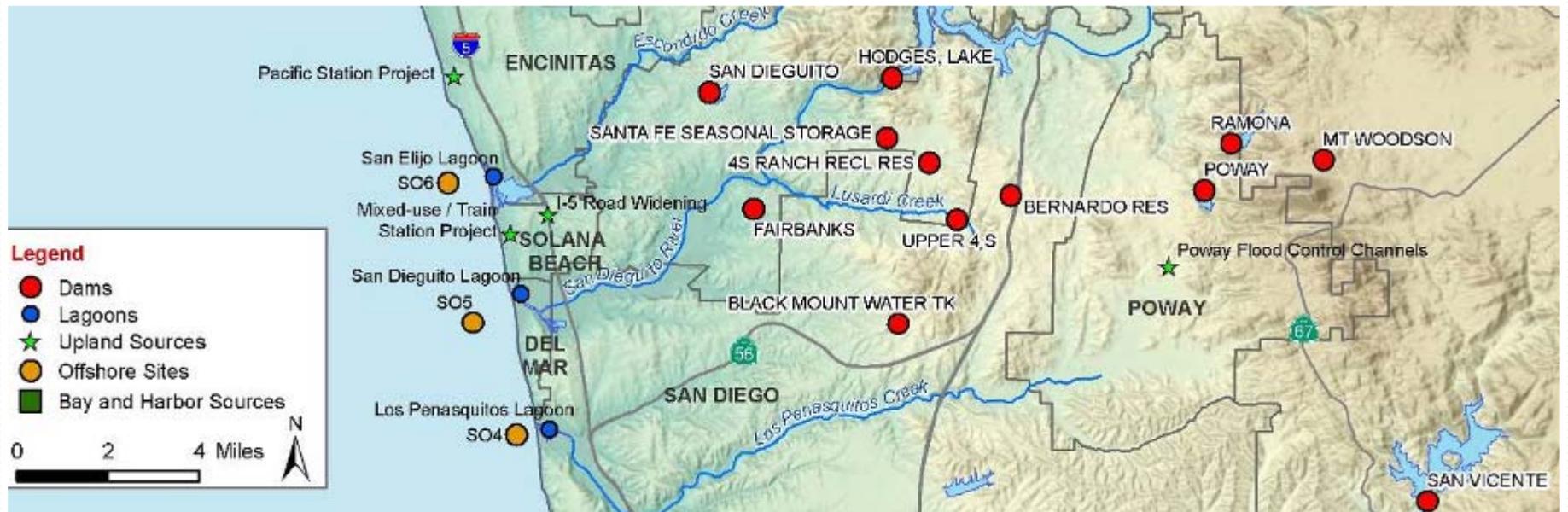
Coastal Processes



Biological Constraints Guide Coastal Source and Receiver Site Locations



Inland Sources



Examples of Plan Recommendations



- Implement Opportunistic Beach Fill Programs
- Continue maintenance dredging operations
- Implement large-scale projects (SANDAG, USACE, Harbor By-Passing)
- Strongly consider Sediment Management Devices, such as artificial submerged reefs

Lessons Learned from RSM Plans



- Involve all local jurisdictions at the beginning of the process.
 - Effective Plan implementation requires MOU/other agreement covering entire littoral cell: regional permits, funding, project assistance
- Stakeholders ID sediment issues of concern at early stages and provide thoughts on possible solutions
- Incorporate Plan, when developed, into Local Coastal Plans and General Plans
- Focus on the 80% of the points that everyone agrees on rather than on the 20% that people didn't agree upon.
- Important to emphasize soft solutions.
- Data gaps
 - Benefitted from original RSM plan developed in the early 90s
 - Sediment transport/budget groundwork was already laid out
 - Greatly benefitted from regional USGS studies
- Having an easily readable Plan is important to getting buy-in from public and local managers and politicians.

David Cannon, MCE. , P.E.

Orange County Regional Sediment Management





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 Orange County beaches and shoreline areas.



Objectives (1 of 2)

- Obtain/Compile Existing Data/Information
 - Studies, reports, plans, CEQA/NEPA docs
 - Spatial data and information
- Engage Stakeholders
 - Obtain input, data, and information
 - Update them on progress



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 CRSMP 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

Scope of Work/Deliverables (1 of 2)

- Data Collection and Compilation
 - Project database (GIS, MS Excel, MS Access)
- Outreach Facilitation and Coordination
 - Attendance/participation at 3 to 4 meetings
 - Documentation for 3 to 4 meetings
 - Documentation of ongoing coordination

Scope of Work/Deliverables (2 of 2)

- Plan Formulation
 - Memorandums outlining progress
- CRSMP Preparation
 - Draft CRSMP
 - Final CRSMP

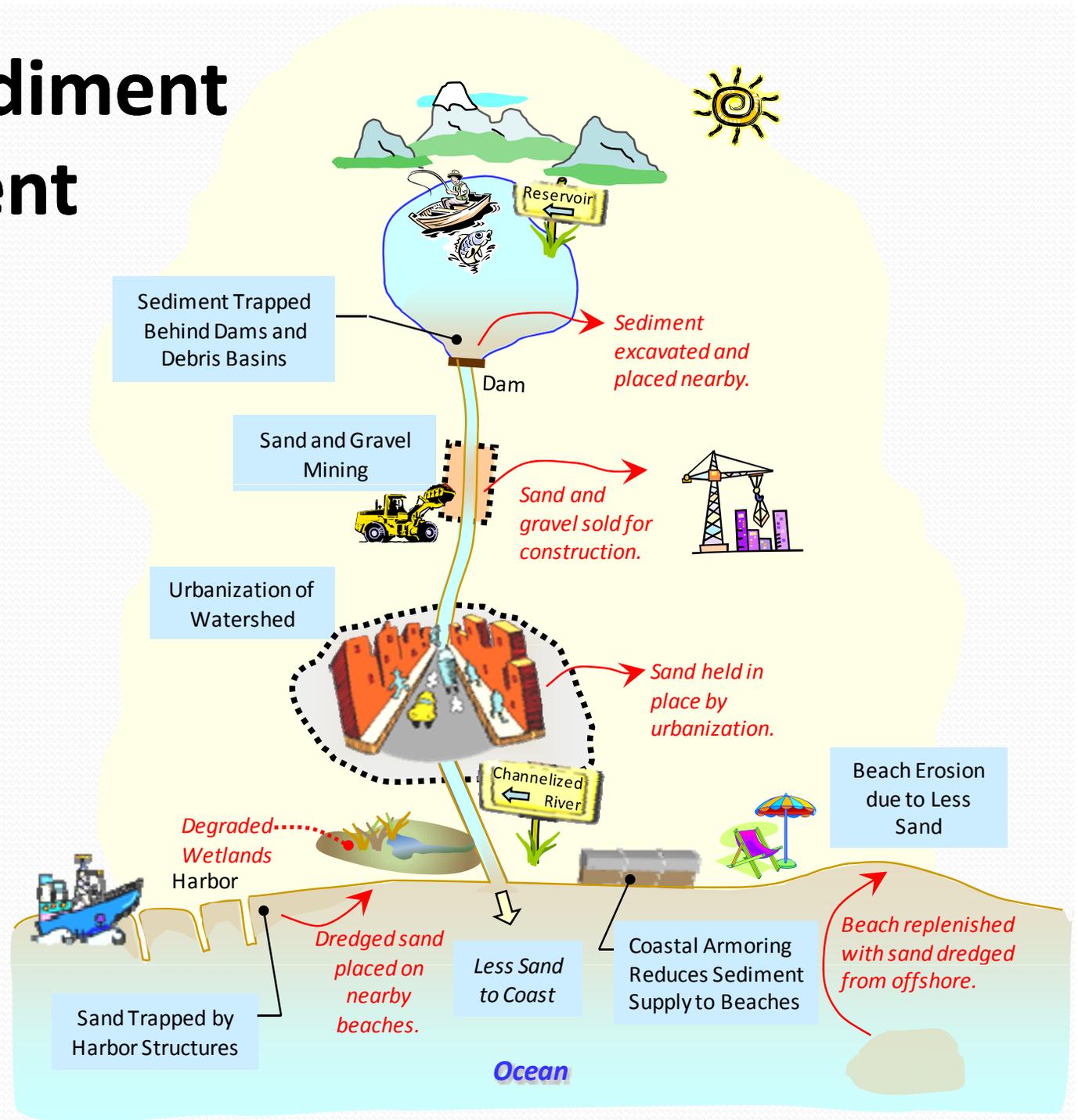


Schedule

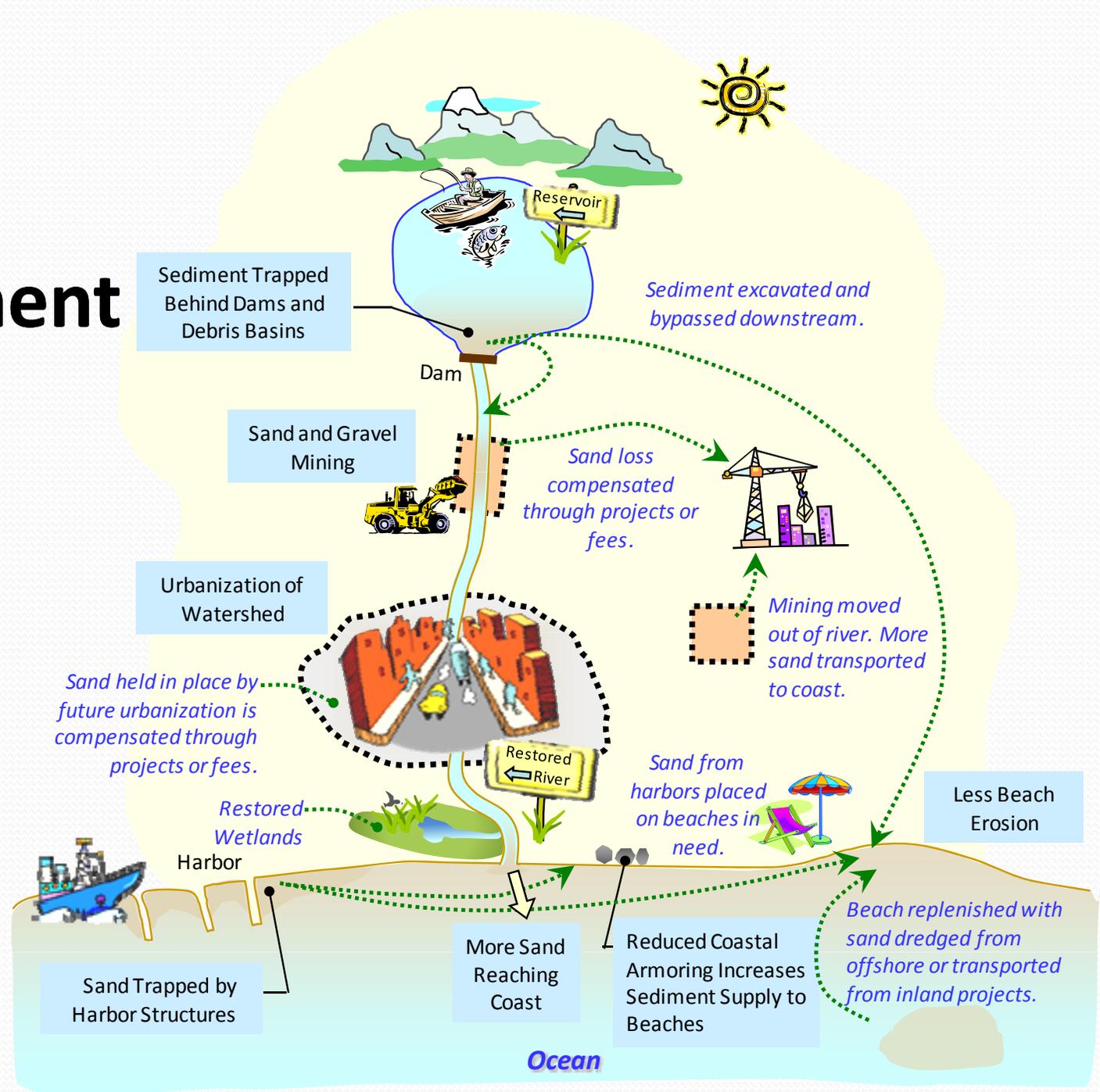
- Data Collection and Compilation
 - Completion = February 2011
- Draft CRSMP Preparation
 - Completion = June* 2011
- Final CRSMP Preparation
 - Completion = August* 2011
- Outreach Facilitation and Coordination
 - Completion = August* 2011

* To be verified

Existing Sediment Management



Regional Sediment Management

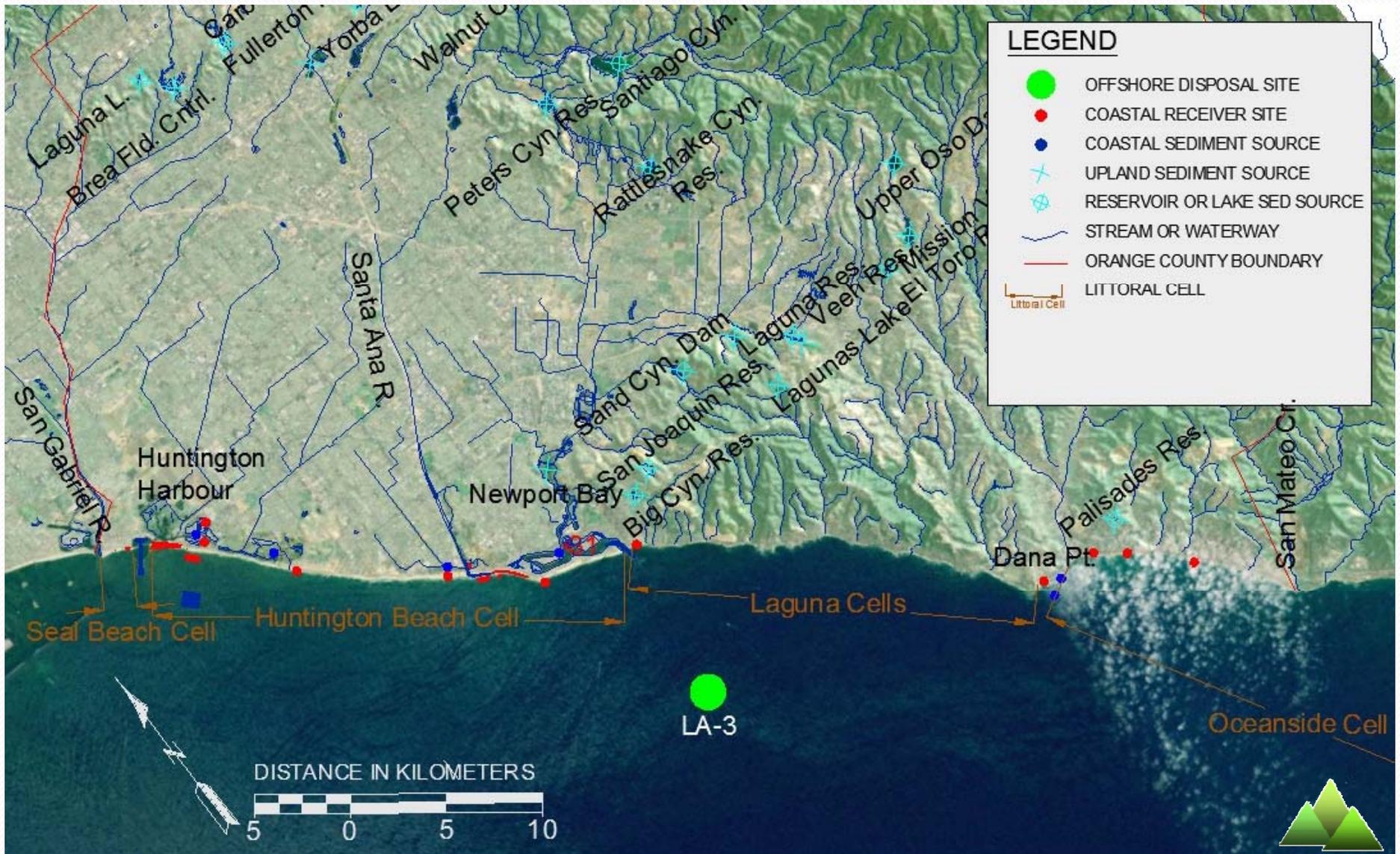


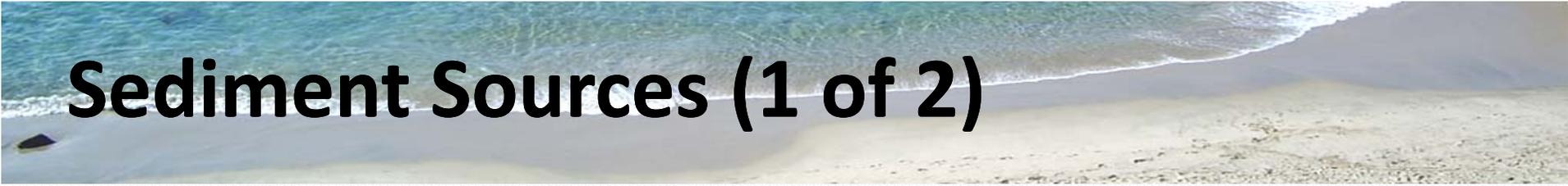
Seamus Ian Innes, M.S. , P.E.

Data Collection & Compilation: Coastal



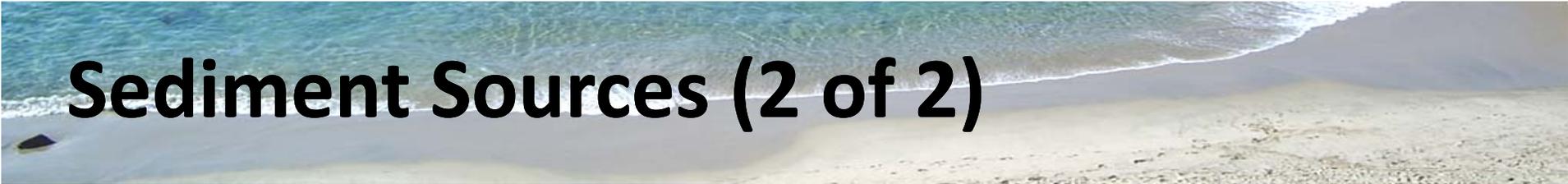
Littoral Cells





Sediment Sources (1 of 2)

- Upland Sources
 - 50 Mile Limit, OC Watershed
 - Dams, Reservoirs, Debris Basins (38)
- Coastal Sources (15)
 - Nearshore
 - Surfside-Sunset
 - East of LB Breakwater
 - Offshore Dana Point
 - Harbors
 - Alamitos Bay Entrance
 - Huntington Harbour, Anaheim Bay
 - Newport Harbor, Newport Dunes
 - Dana Point Harbor



Sediment Sources (2 of 2)

- Coastal Sources (cont.)
 - River Mouths
 - San Gabriel
 - Santa Ana
 - Wetlands
 - Bolsa Chica
 - Huntington Beach Wetlands
 - Talbert Marsh
 - Upper Newport Bay

Receiver Sites

- Reviewed 73 Ocean Beaches + 34 Harbor Beaches.
 - Identified (3) BECAs
 - Identified Potential Projects
- Beach Erosion Concern Areas (BECA)
 - Surfside-Sunset
 - Huntington Cliffs
 - San Clemente

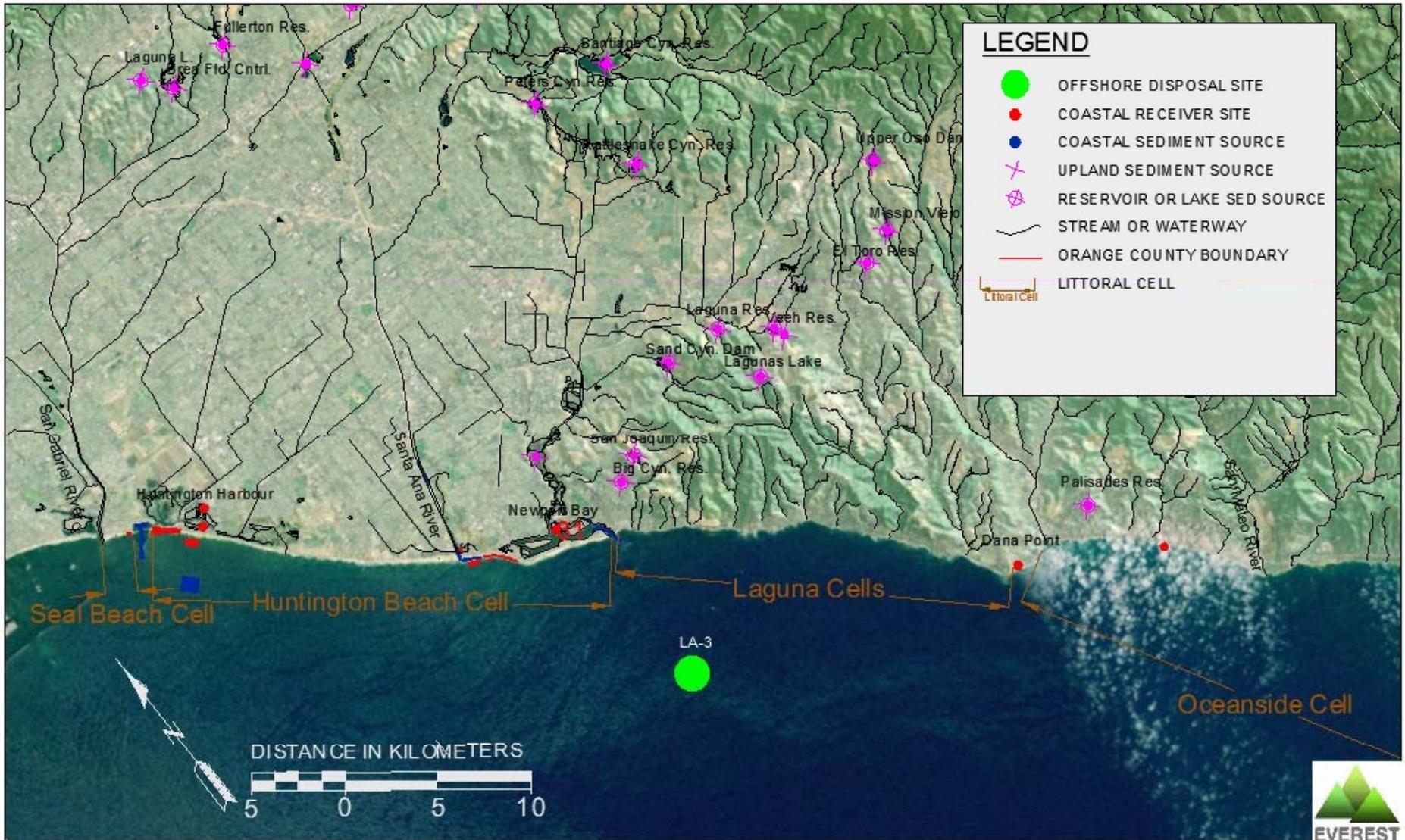




Receiver Sites

- OC Past Projects
 - Seal Beach, East Beach
 - Huntington Harbour (2)
 - Talbert & Newport Beach
 - Newport Bay (32)
 - Baby Beach, Dana Point
 - Capistrano Beach (Capo Beach)
- Offshore Disposal
 - LA-2
 - LA-3

Receiver Sites



Key Upland Plans And Regulations

- Master Plans
 - San Gabriel River Corridor
 - Santa Ana River Recreational
 - Santa Ana River Trail
 - Prado Basin
- Santa Ana River Basin Water Quality Control Plan
- Newport Bay Sediment TMDL
- Upcoming Sediment TMDLs

Key Coastal Plans And Regulations

- USACE & ESEPA Sediment Compatibility
 - <20% Fines Rule
 - Within 10% of existing fines concentration
- Turbidity: <20% above ambient
- Burial
- Agencies: USACE, USEPA, NMF, USFWS, CCC, CDFG, CA State Lands, CA State Parks, RWQCB
- Local: Coastal Dev. Permit & Special Use Permits
- Opportunistic Permits (SCOUP)

A scenic view of a coastline. The foreground shows a sandy beach with some rocks and sparse, dry vegetation. The middle ground features a rocky breakwater extending into the ocean, with waves breaking against it. The background is a vast expanse of blue ocean under a clear sky.

Karen Green, M.S.

Data Collection & Compilation: Biological

Orange County Sensitive Resources

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



Environmental Objectives

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





Resource Protection Considerations

Regulations

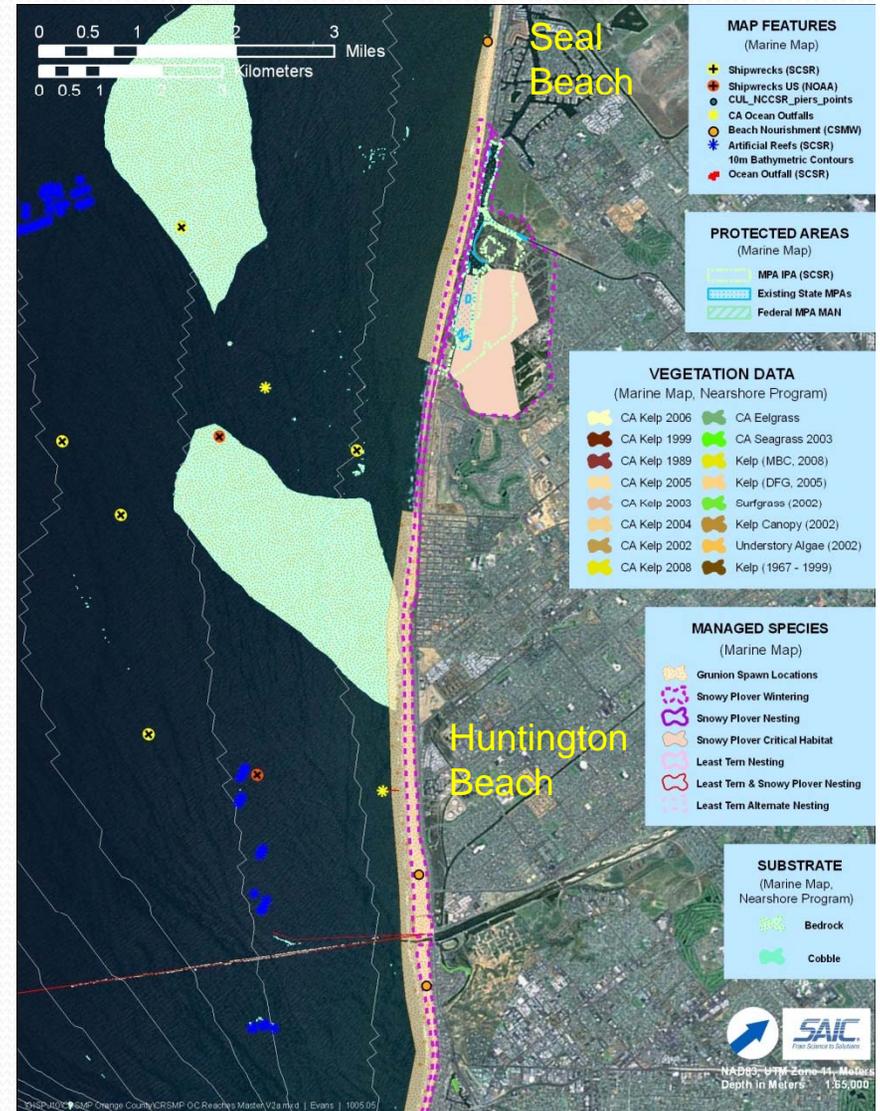
- Clean Water Act
- Endangered Species Act
- Magnuson-Stevens Fishery Management and Conservation Act
- Marine Life Protection Act
- Coastal Zone Management Act
- Migratory Bird Treaty Act
- Marine Mammal Protection Act

Resources

- Beach Sediments,
Clean Water*
- Sensitive Species*
- Essential Fish Habitat*
- Marine Protected Areas*
- Coastal Habitats*
- Migratory Birds*
- Marine Mammals*

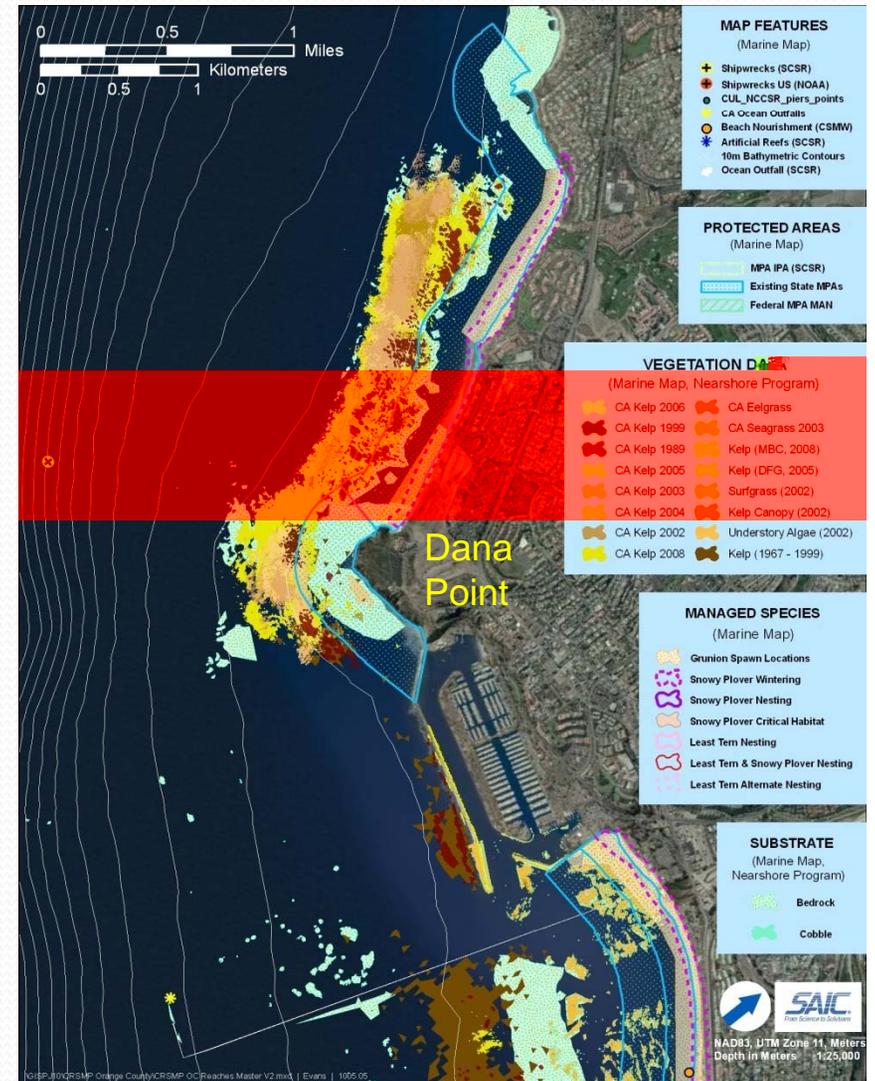
Resource Mapping Tools – Sensitive Resources

- Estuaries
- Eelgrass
- Grunion Spawning
- Overwintering Habitat
- Sensitive Nesting Areas
- Snowy Plover Critical Habitat



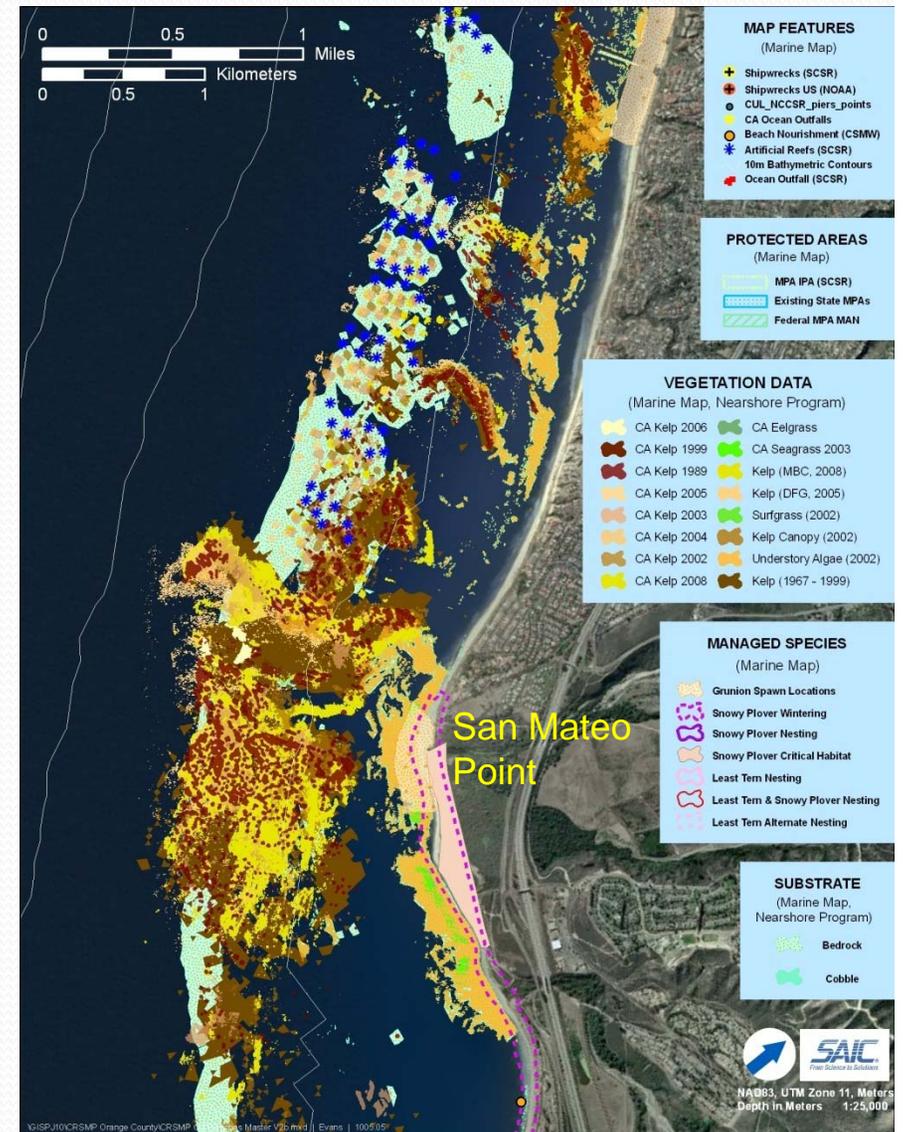
Resource Mapping Tools – Other Biological Relevance

- Harbors
- Marine Protected Areas
- Ocean Outfalls
- Shipwrecks



Resource Mapping Tools – Nearshore Habitats

- Artificial Reefs
- Piers
- Historical-Recent Kelp
- Near shore Habitats





CRSMP Approach

- Constraints & Opportunities
 - Prepare Habitat Resource Map Tools
 - Lessons Learned (Relevant Projects)
- Maintain & Protect Resources
 - Buffer Sensitive Resources/Piers
 - Enhance Sandy Beach
- Adaptive Management
 - Focused Monitoring- Feedback



Philip King, Ph.D.
pking@sbcglobal.net

Data Collection & Compilation: Economics

What do we know?

- There are known knowns.
 - These are things we know that we know.
 - There are known unknowns. That is to say, there are things that we know we don't know.
 - But there are also unknown unknowns. There are things we don't know we don't know.
- Donald Rumsfeld**



So what do we really know?

- Official attendance estimates at major beaches
 - King/McGregor find that official estimates are too high by a factor of 2-6 times!
 - Smaller beaches often have no data
- Spending data from King/Symes
 - Need to know overnights/day trippers
- My model allows us to estimate how spending and recreational value changes with beach width
- Example: If we nourish San Clemente beach, how will spending/taxes increase?



What has been done so far ?

- Made site visits to 46 (!) beaches beach (2010)
- Collected official attendance data where available
- Estimated Parking Capacity
- Preliminary estimates of % breakdown
 - Type of recreation
 - Overnight/day-tripper
- Evaluation of Amenities at each site
- GIS coordinates
- All data entered into Excel sheets



Example of Data Collected

- Collected data on Access and Parking Capacity
- Free Parking vs. fee parking distinguished
- Other demand for parking identified
- Geo-referenced

Beach	Access	Bus Access	Train Access	Number Of Official Parking Spots	Parking Fee	Official Parking Geo-reference	Metered Street Parking	% Available for Beach Tourism	Parking Fee	Free Street Parking	% Available for Beach Tourism
Seal N.	3	n	n	119	0	33°44'34.14"N 118° 6'50.37"W	0	n/a	n/a	246	60
Seal Main Beach	3	y	n	286	5/day	33°44'23.04"N 118° 6'25.83"W	0	n/a	n/a	582	60
Surfside	2	y	n	0	n/a		0	n/a	n/a	0	n/a
Sunset	3	y	n	623	0	33°42'44.08"N 118° 3'53.93"W	0	n/a	n/a	610	70
Bolsa Chica State	3	y	n	2136	15/day	33°41'13.11"N 118° 2'22.73"W (north end) and	0	n/a	n/a	0	n/a
Huntington City N. ("Dog Beach")	3	y	n	248	1.5	33°40'14.74"N 118° 1'16.40"W and 33°40'28"	0	n/a	n/a	0	n/a
Huntington City	4	y	n	3102	15/day	33°38'59.16"N 117°59'27.27"W (south end) and	914	50	1.5	4830	30
Huntington State	4	y	n	2676	15/day	33°38'0.80"N 117°57'43.93"W (north end) and	0	n/a	n/a	0	n/a
Newport Harbor Beaches	1	y	n	892	y different lots	33°37'29.96"N 117°53'39.25"W / 33°37'1.19"	0	n/a	n/a	715	15
N. Newport Beach	2	y	n	104	1	33°37'30.00"N 117°56'49.92"W and 33°37'33"	150	90	1	1357	30
Newport Beach (Main & Pier)	3	y	n	387	1	33°36'32.42"N 117°55'47.12"W	470	50	1	605	10
Balboa Beach	3	y	n	762	1	33°36'5.08"N 117°54'6.46"W	270	70	1	1700	30
China Cove	2	n	n	0	n/a		0	n/a	n/a	100	70
Corona Del Mar State Beach	3	n	n	545	8/day	33°35'38.18"N 117°52'32.78"W	0	n/a	n/a	610	70
Little Corona Del Mar	2	n	n	0	n/a		0	n/a	n/a	240	70

Collected Data on Amenities at 46 Beaches

- Looked as Access, lifeguards, surfing, other recreation
- Pier, boardwalk, etc.
- You can help me make sure my data is accurate !

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	4
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	0
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		n	0
Doheney State	33°27'49.46"N 117°41'19.20"W	3	y	y	y	n	n	y	y	y		y	4
Capistrano	33°27'18.51"N 117°40'5.75"W	3	y	y	y	n	n	y	y	y	basketball	n	0
Poche	33°26'28.18"N 117°38'41.30"W	3	n	n	y	n	n	n	n	n		n	1
San Clemente City N.	33°25'51.41"N 117°37'53.90"W	3	y	y	y	n	y	y	y	y		n	3
San Clemente City (South & Main)	33°25'12.14"N 117°37'11.41"W	4	y	y	y	y	y	y	y	y		n	3
San Clemente State Beach	33°24'25.36"N 117°36'11.77"W	3	y	y	y	n	y	y	n	y		y	3
San Onofre/Trestels N. (Cotton's Point)	33°23'41.60"N 117°35'37.56"W	2	y	n	jeep patrol	n	n	n	n	n		n	4

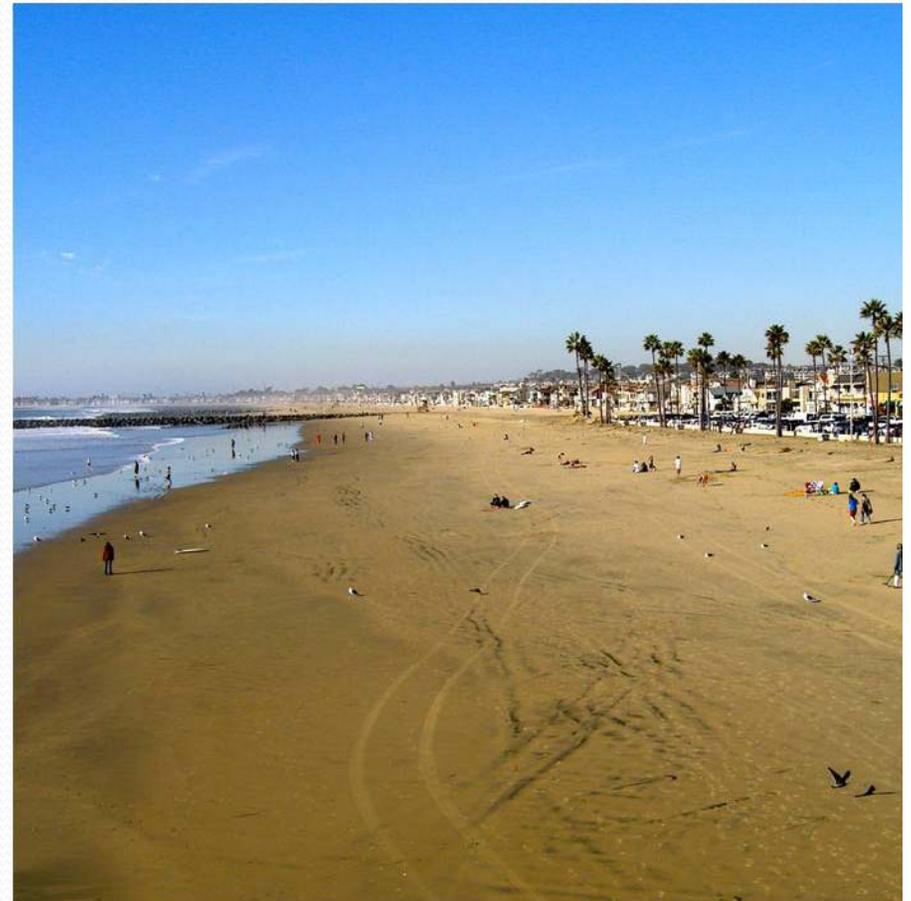
Newport Balboa Beach Survey

- Conducted detailed survey at Newport/Balboa beaches—n=250 so far
- Conducted numerous counts
 - “Sand” people
 - Pier people
 - Boardwalk people



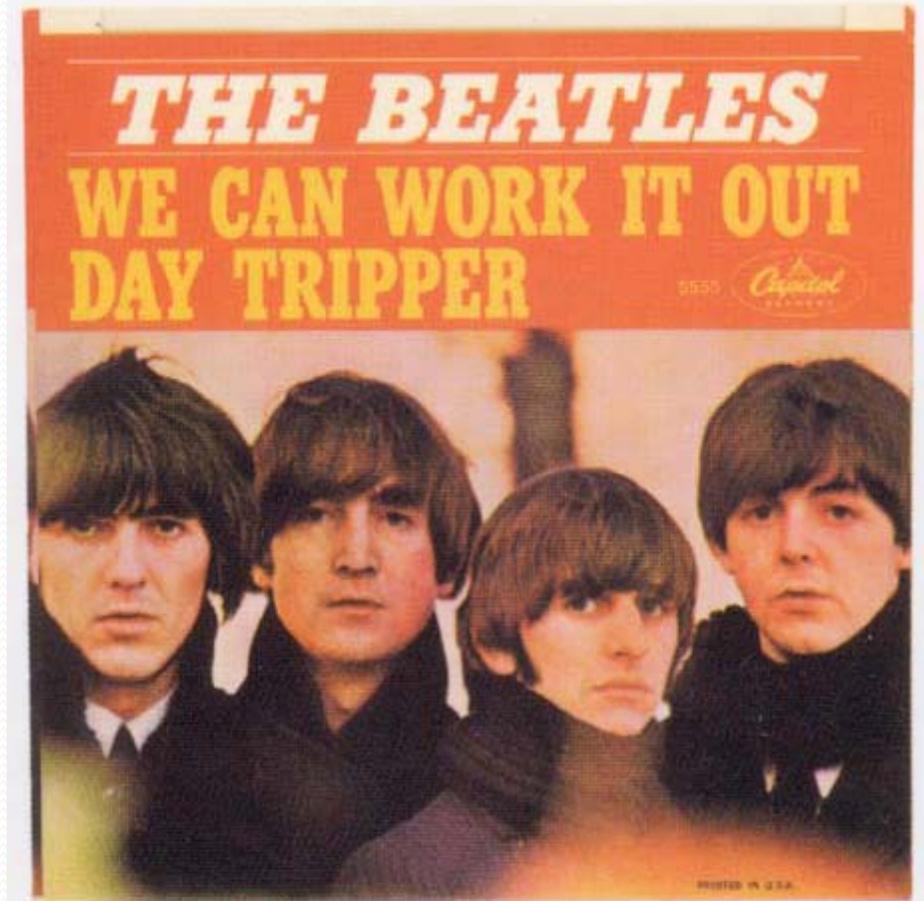
What is to be Done?

- Estimate increased/decreased spending/taxes due to nourishment/erosion
 - Wider beaches can bring more visitors under right circumstances
 - More spending/taxes
- Refine data collection further?
- Examine needs for sediment management



We can work it out with free-riding Day-Trippers

- Sediment Management is Costly and has environmental impacts
- OC can Leverage State and Federal Dollars
- Local tax benefits of increased tourism can exceed local costs
- Difficult to raise taxes; Options:
 - Make people pay for parking
 - Many out of town Day Trippers Free Ride—generate no taxes
 - Can exempt residents/TOT payers
 - TOTs
 - Sales tax?



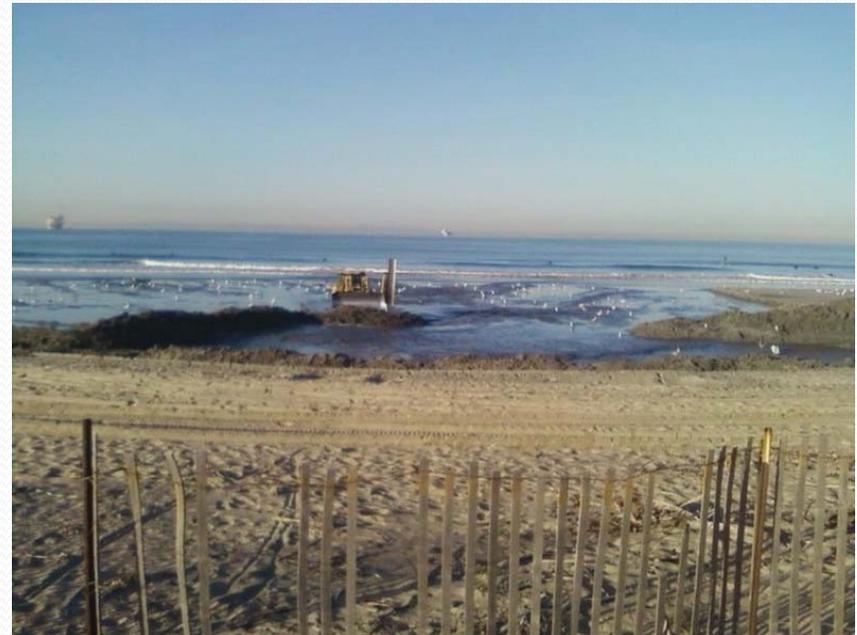
David Cannon, MCE, P.E.

The Coastal Regional Sediment Management Plan



The Plan: Existing Projects

- Seal Beach Backpassing
- Surfside-Sunset
- Bolsa Chica/Huntington Cliffs
- Santa Ana River/Newport Beach
- Seal Beach, East Beach
- Newport Harbor Boat Slips & Beaches
- Dana Point/Capistrano Beach





The Plan: Potential New Projects

- Dam/Reservoir Bypassing, Sluicing, and Trucking:
 - Immediately Downstream
 - To Capistrano Beach
 - To San Clemente Beach
- Huntington Harbour Dredging
 - Beach Placement
 - Nearshore Placement
- Newport Harbor Dredging
 - Beach Placement
 - Nearshore Placement

The Plan: Potential New Projects

- Sand Sources for Newport Harbor
 - Santa Ana River Dredging
 - Newport Bay & San Diego Creek Debris Basins
- Prado Dam Bypassing to Santa Ana River
- Aliso Sewer Tunnel Construction Project
- Sand Retention/Management Devices
 - Breakwaters
 - Groins
 - Reefs
 - Beach Face Dewatering



The Plan: Governance, Management, Outreach, And Education

- Governance Suggestions (Implementation Focus)
 - Regional Coastal Planning Entity
 - Joint Powers Authority
 - Represent beaches when developing MLPA & TMDLs
 - Examples: SANDAG, AMBAG, BEACON
- Orange County Dredge Ownership
- Public Outreach
- Education



The Plan: Regulatory

- General Permit – Streamline Environmental Review
- Rules Refinement
 - TMDL sediment requirements
 - Sand Compatability Limitations
 - Turbidity Limitations



The Plan: Funding

- Sediment Impoundment Fee (Dams/Debris Basins)
- Transient Occupancy Tax
- Real Estate Transfer Tax
- Sporting Goods Tax
- Cost Sharing Among Beneficiaries
- Special Assessments
- User Fees
- Sales Tax



The Plan: Prioritization

- Projects
- Governance
- Management
- Outreach
- Education
- Regulatory
- Funding