

South Orange County Beach Coalition
August 12, 2026
OC Sailing & Events Center



Katrina
FOLEY
SUPERVISOR - FIFTH DISTRICT



South Orange County Beach Coalition



II. Roll Call

South Orange County Beach Coalition



III. Land Acknowledgement

Orange County is within the unceded traditional territory of the Acjachemen and Tongva Peoples. The Acjachemen share territory with their relatives and neighbors: Tongva to the north and south to Newport Beach as well as the Luiseño to the east and south.

These native peoples are still here and remain as Nations with international relationships. With this acknowledgment, we pay respect to and honor the original traditional stewards of what is now known as Orange County, the Acjachemen and Tongva past, present, and future.

IV. Consent Calendar

1. Minutes April 15, 2026



V. Discussion Items

5.A. OCTA Draft Coastal Rail Resiliency Study Report, Emergency Track Stabilization, And Sand Delivery

South Orange County Beach Coalition





Coastal Rail Resiliency Study Update



Coastal Rail Remediation Efforts

Emergency Rail Projects *past projects*

- **Cyprus Shore** (September 2022 – April 2023) Slope secured with ground anchors
- **Casa Romantica** (April 2023 – July 2023)
Temporary catchment wall built
- **Mariposa Point** (January 2024 – March 2024)
Temporary catchment wall built
- Remove temporary catchment walls at Casa Romantica and Mariposa Point when appropriate
- Mitigation discussion are ongoing for the Cyprus Shore

Coastal Rail Stabilization Priority Project *immediate needs*

- Four priority reinforcement areas identified as imminent threats
- Actions include armoring, catchment wall, trail restoration, and sand replenishment
- \$305 million in state and federal funds secured
- Accomplishments to date include riprap repair and sand placement in Areas 1-2, and catchment wall and trail restoration construction (60 percent complete) in Area 3
- Ongoing alternatives analysis and permitting in Area 4

Coastal Rail Resiliency Study *short- to mid-term solutions*

- Evaluate concepts to protect seven miles of coastal rail infrastructure with a 30-year design life
- Scoring and selection of short-listed concepts
- Two to four short-listed concepts per category (i.e., bluffside, rail, and beachside) carried forward into further design and future implementation

Coastal Rail Long-Term Solutions Study *long-term solutions*

- State-led study
- Develop options for long-term solutions including potential rail line relocation
- Create an action plan for key elements
- Partner with Los Angeles-San Diego-San Luis Obispo Rail Corridor Agency, state, and federal agencies
- Engage key stakeholders



Feasibility Study Overview

- Study Approach
- Alternative Concept Development
 - o Rail Concepts (3) - improve structural stability of the track foundation and extend useful life of rail infrastructure
 - o Bluffside Concepts (9) - prevent bluff erosion, sliding, and debris hazards originating east of the corridor from blocking the tracks
 - o Beachside Concepts (11) - address coastal erosion, flooding, and wave overtopping hazards west of the corridor impacting track stability
- Screening and Evaluation Process
- Shortlisted Concepts
- Community, Environmental, and Recreational Considerations
- Funding Strategy and Federal Partnership Opportunities
- Next Steps



Community Input

Most Recent Public Meetings Held:

- October 28, 2025, virtual meeting via Zoom
- October 29, 2025, San Clemente City Hall
- Shared information regarding refined range of alternative concepts for the short- to mid-term with a 30-year design life
- Meeting notifications were distributed via newspaper ads, bilingual flyers, email blasts, project website updates, social media ads, social media posts, and press releases
- Public participants:
 - 48 (virtual)
 - 26 (in-person)

Community Comments on Short-listed Concepts:

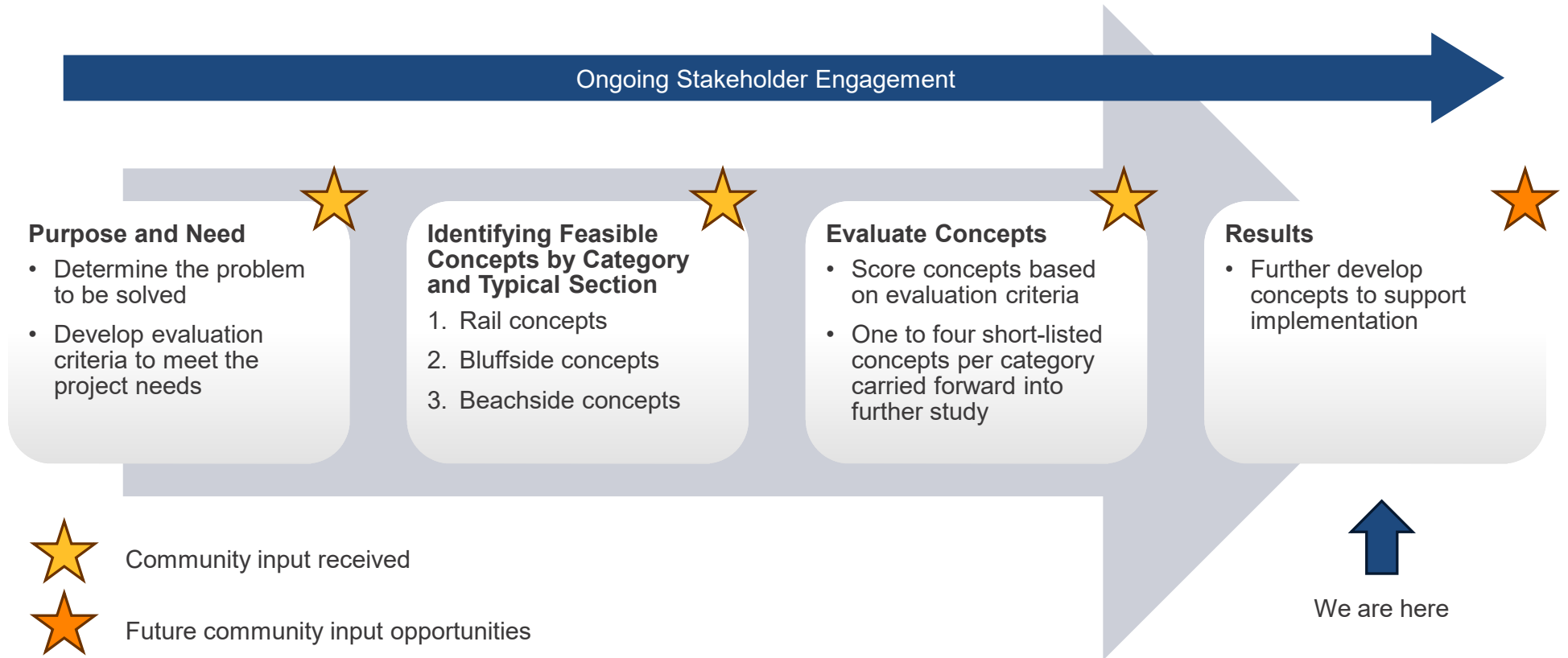
- Strong support for sand nourishment and desire for recurring placement to be integrated into sand retention strategies
- Concern that shoreline protections structures will permanently eliminate sandy beaches
- Desire for more clarity on long-term planning and rail relocation

Action Taken to Respond to Comments:

- One-time sand nourishment has been added to all shoreline protection structure concepts
- Provide additional conceptual design to public and include in the Draft Coastal Rail Resiliency Study (CRRS) Feasibility Report
- Provide public with information on next steps after CRRS completion



Alternative Concept Development Process





Short-Listed Concepts

Two Rail Concepts Carried Forward:

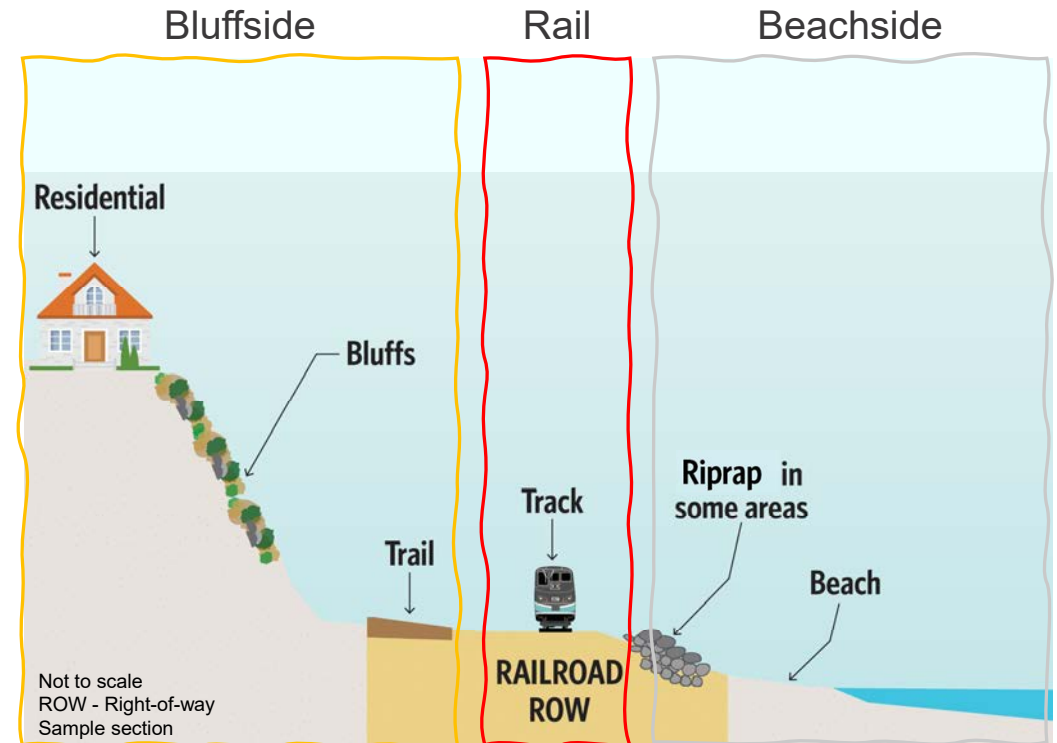
- Alternative materials for critical railroad infrastructure to reduce lifecycle costs
- Ground improvement

Two Bluffside Concepts Carried Forward:

- Catchment walls
- Tieback/soil nail/pin-pile walls

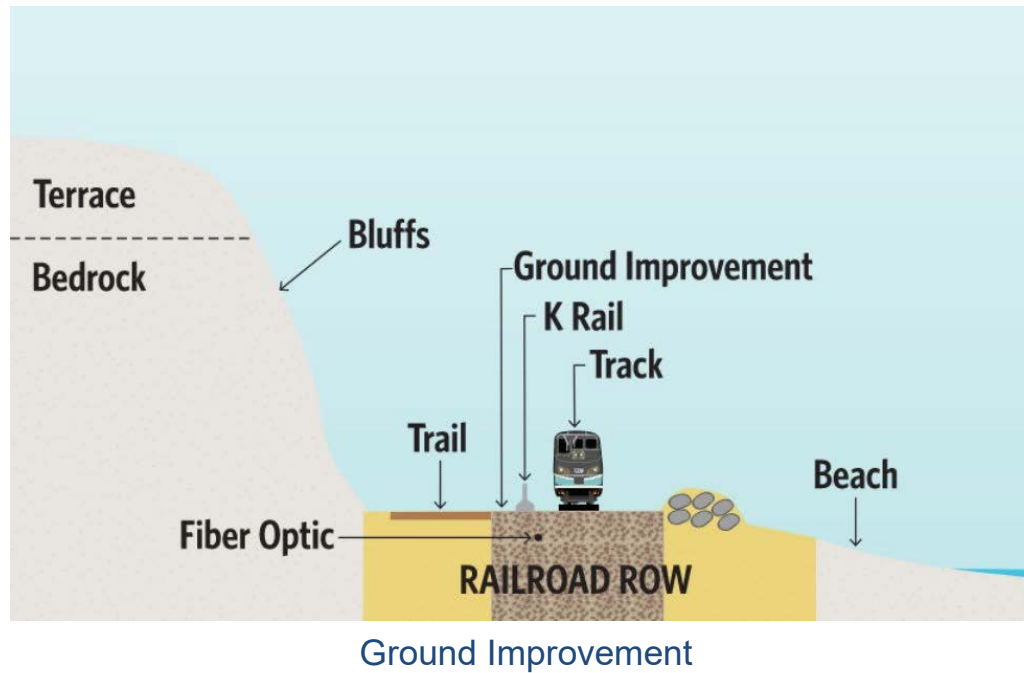
Four Beachside Concepts Carried Forward:

- One-time beach nourishment with shoreline protection structure:
 - o Riprap
 - o Engineered rock revetment
 - o Seawall
 - o Combination (seawall and rock)

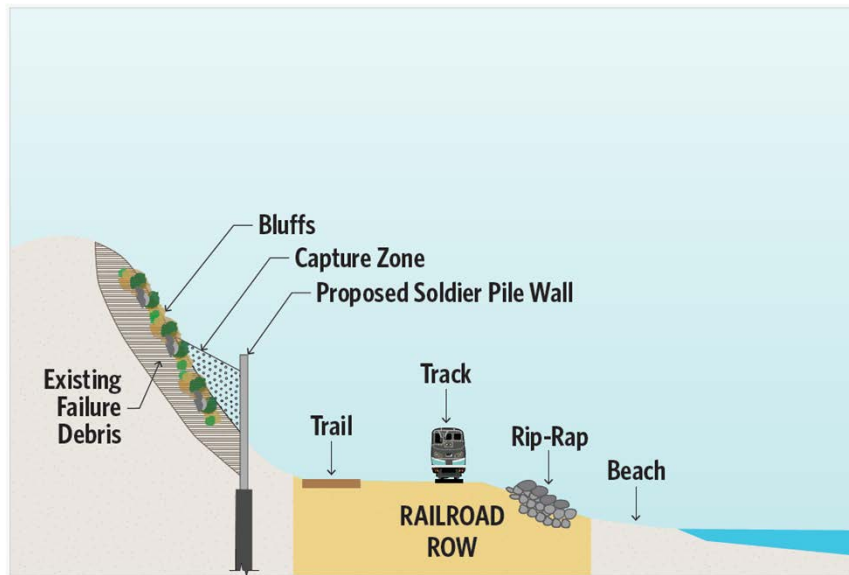




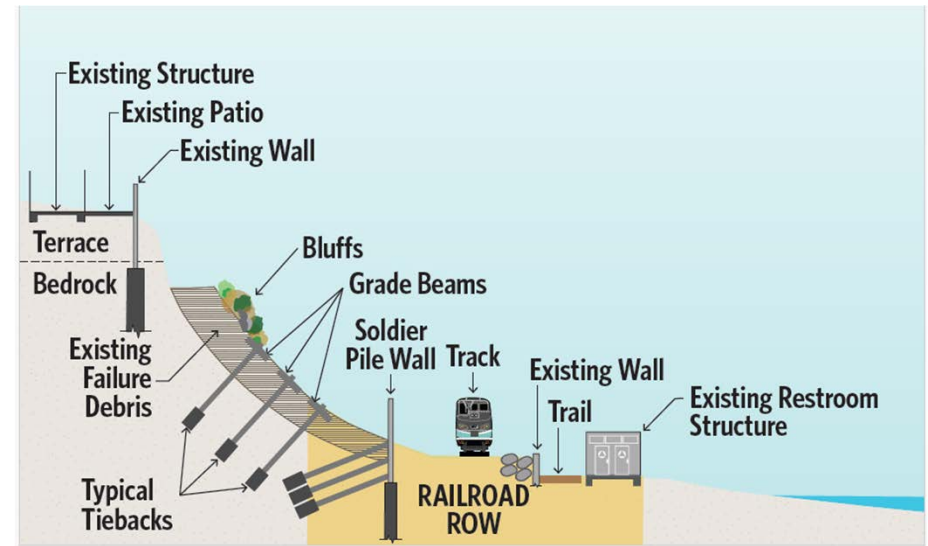
Short-Listed Rail Concepts



Short-Listed Bluffside Concepts



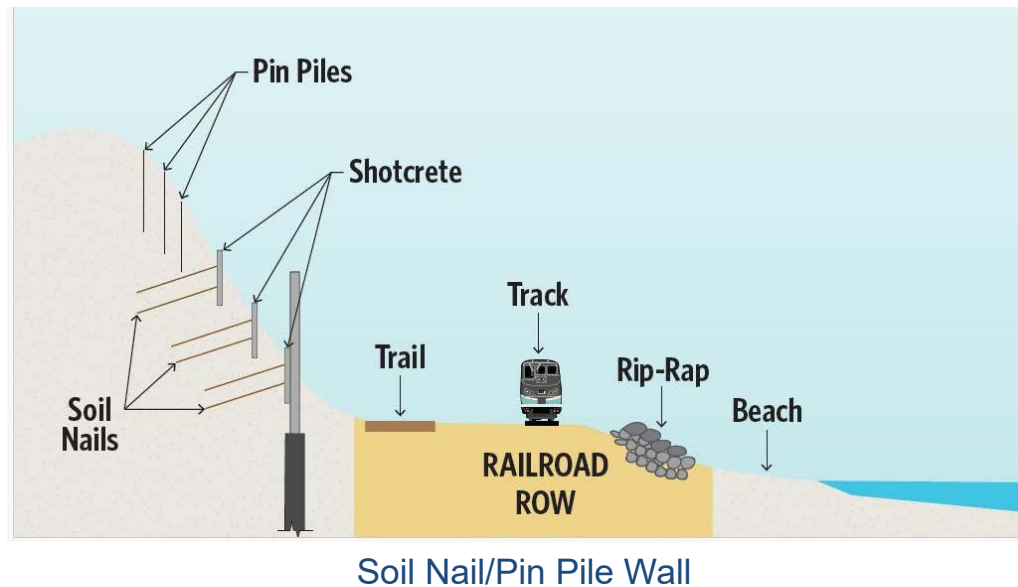
Catchment Wall



Tieback Wall

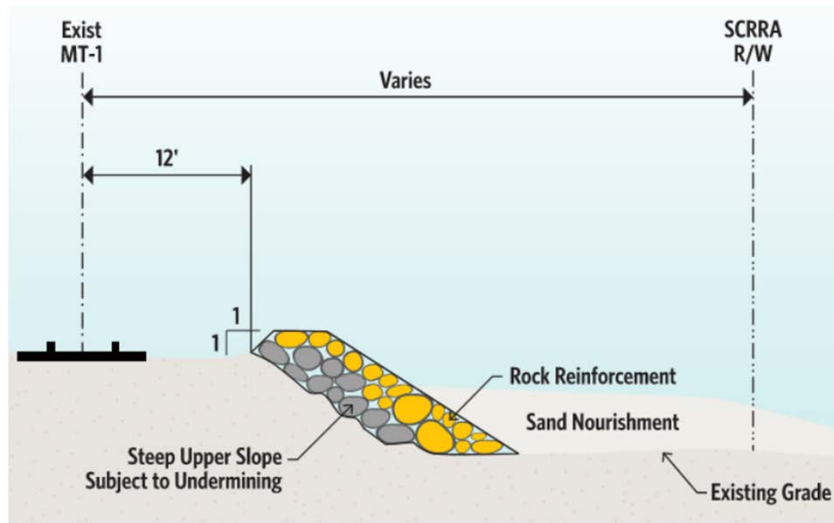


Short-Listed Bluffside Concepts (Cont.)

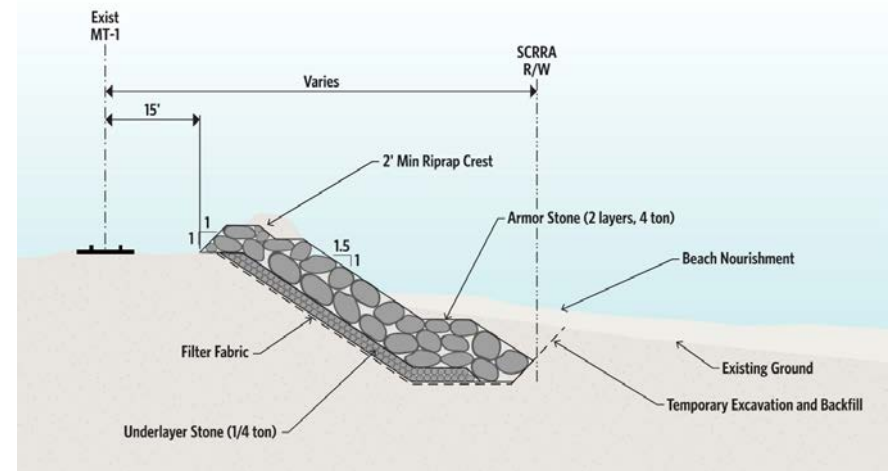




Short-Listed Beachside Concepts



Riprap Repair Restoration

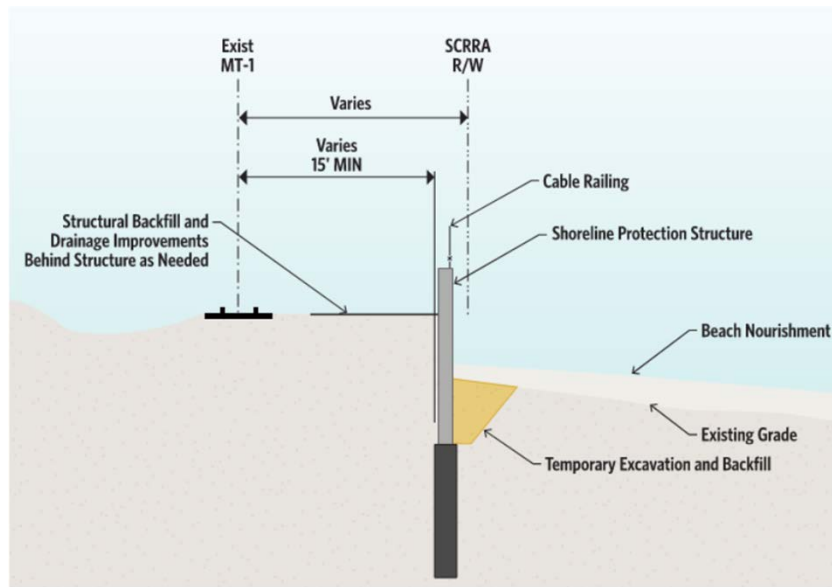


Engineered Revetment Shore Protection

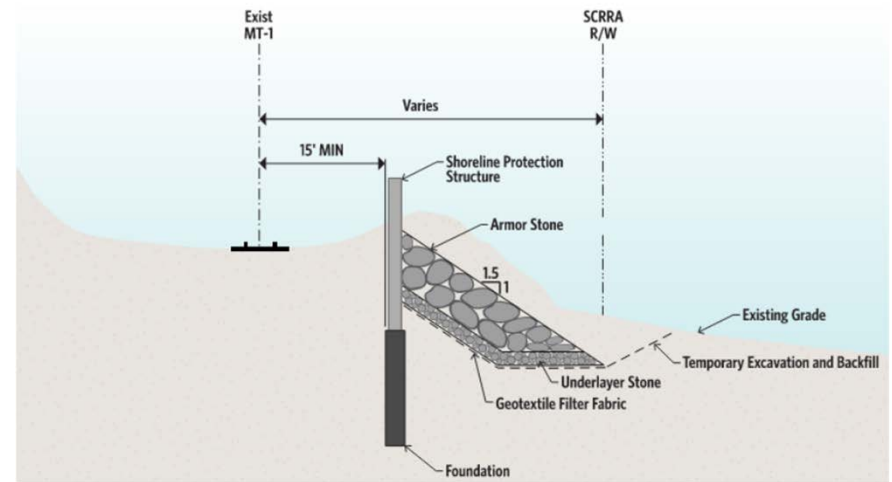
Min - Minimum
MT - Metrolink Track 1
R/W - Right-of-Way
SCRRA - Southern California Regional Rail Authority



Short-Listed Beachside Concepts (Cont.)



Seawall Shore Protection



Combination Seawall/Revetment Shore Protection



Bluff Risk Hazard Assessment



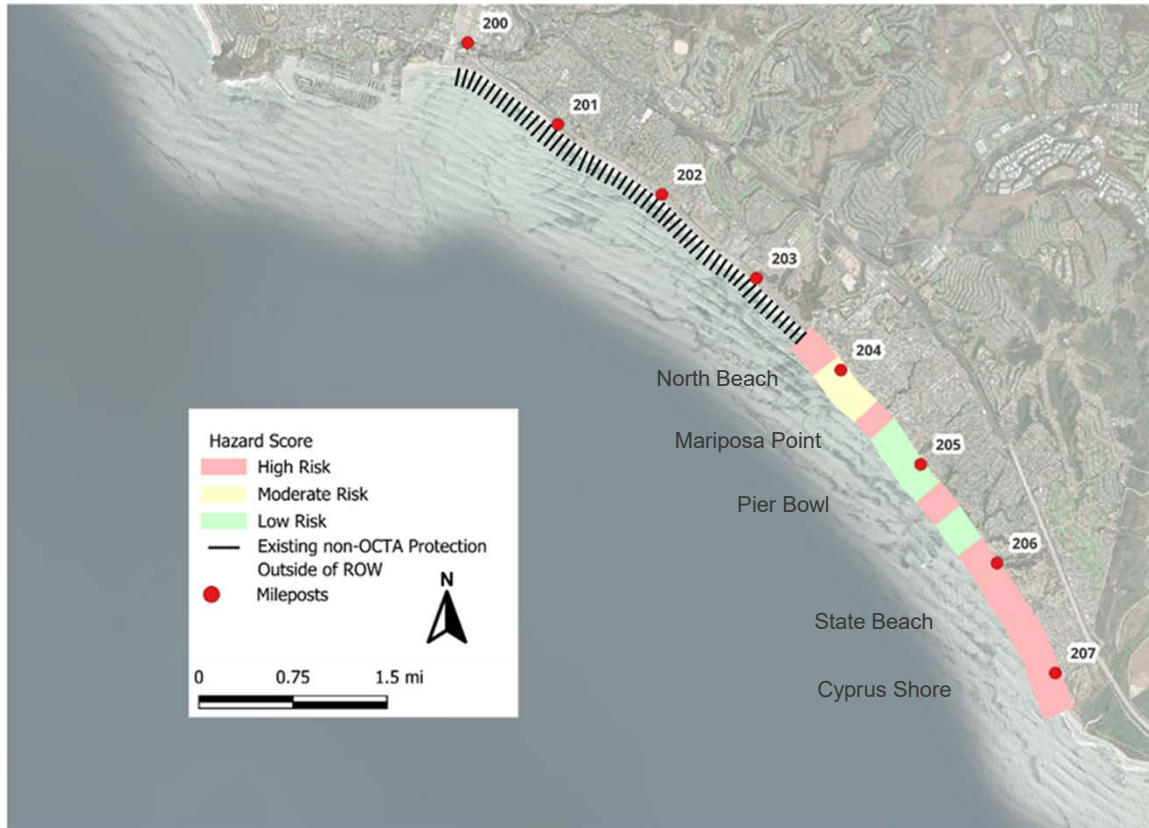
Source: Feasibility Study – Coastal Rail Resiliency Study – HDR July 2026

Hazard Score Components:

- Bluff proximity to railroad
- Historical geotechnical data
- Existing bluff erosion



Coastal Rail Hazard Risk Assessment



Source: Feasibility Study – Coastal Rail Resiliency Study – HDR July 2026

Hazard Score Components:

- Current beach width
- Shoreline change trend
- Existing level of protection



Sand Placement Projects Inventory

Historical (Pre-1970)

- 1,300,000 CY – Doheny from San Juan Creek (1964-1969)
- 900,000 CY – Doheny from Camp Pendleton Terrace Deposits (1966)
- 125,000 CY – Doheny from Dana Point Harbor (1970)

Recent (2000-Present)

- 113,000 CY – USACE - Capo Beach Nearshore (2009, 2016)
- 54,000 CY – City of San Clemente - North Beach (2005, 2016, 2024)
- 65,000 CY – OC Parks - Doheny/Capo Beach (2023, 2024)
- 196,000 CY – USACE San Clemente (2024)
- 2,500 CY – OCTA - North Beach (2025)



CY – Cubic Yards
OC – Orange County
OCTA – Orange County Transportation Authority
USACE – United States Army Corporation of Engineers



Sand Placement Projects Inventory (Cont.)

Planned (2026+)

- Approximately 45,000 CY – USACE Capo Nearshore from Dana Point Harbor
- 251,000 CY every 6 years – USACE San Clemente project
- Approximately 540,000 CY – OCTA
- 1,600,000 CY – SANDAG RBSP III
- SCoup City of San Clemente (up to 300k CY per year as available)
- SCoup OC Public Works (up to 300k CY per year as available)



K - Thousand

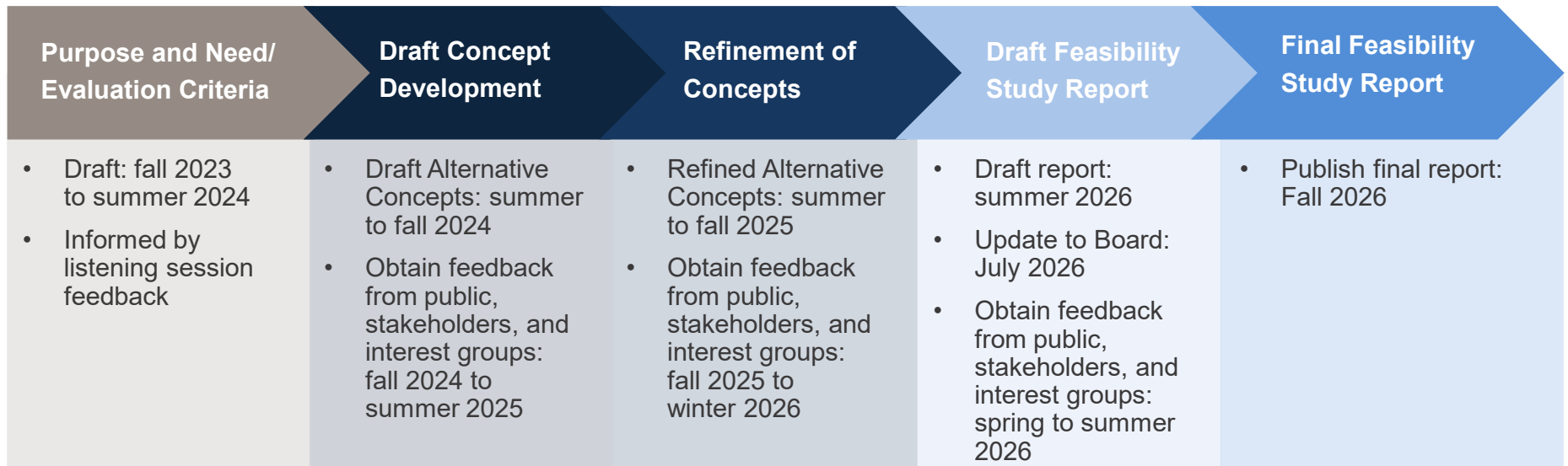
SANDAG – San Diego Association of Governments

RBSP – Regional Beach Sand Project

SCoup – Sand Compatibility and Opportunistic Use Program



Coastal Rail Resiliency Study Schedule



We are here

Board - Board of Directors



Coastal Rail Resiliency Study Schedule (Cont.)

CIP	CIP Prioritization Plan	PSR	PA&ED	PSE and Construction
• Project specific locations to implement short-listed concepts • Initial project budgets • Identify funding sources	• Prioritize projects • Prioritize funding opportunities • Overall CIP schedule	• Individual PSR for specific projects • Alternatives analysis of short-listed concepts • Conceptual engineering • Cost estimates • Funding plan • Project schedule	• Individual PA&ED for specific project • Environmental compliance (CEQA/NEPA) • Preliminary engineering • Outreach • Permits identification • Project approval	• Final design • Engineer's estimate • Obtain permits • Specifications • Construction procurement • Construction

CEQA - California Environmental Quality Act

CIP - Create Capital Improvement Program

NEPA - National Environmental Policy Act

PA&ED - Project Approval and Environmental Document

PSE - Plans, Specifications and Estimates

PSR- Project Study Report



Coastal Rail Emergency Repairs (Monitoring Mile Post 206.6 – 207.4) and Sand Placement Updates



2026 King Tide Emergency Repairs Overview

- High tide events occurred in late July and early August
 - o Up to 8-foot swells overtopped rail line
 - o Freight service suspended intermittently
 - o Slow-speed order issued for passenger rail service during high tide events
 - o Displaced existing material and threatened to undermine the rail subgrade
- Riprap placement in strategic areas
 - o Notified California Coastal Commission of emergency repair work
 - o Necessitated immediate stabilization to protect track integrity and public safety
 - o Careful placement of riprap in voids and repair of ballast to support the track
 - o Maintained a minimal riprap placement approach
 - o Approximately 1,200 tons of riprap placed to restore and stabilize areas affected by recurring erosion and riprap displacement
- Next Steps



Affected Monitoring Area



MP – Mile Post



Affected Area Photos





Affected Area Photos (Cont.)





Affected Area Photos (Cont.)





Affected Area Photos (Cont.)





Sand Placement Update

STATE/FEDERAL INTERAGENCY CONSULTATIONS AND APPROVAL PROCESSES ^W	Start	Finish
Section 106 Consultation (Tribes/State Historic Preservation Office)	Summer 2026	Spring 2027
Essential Fish Habitat Consultation (National Marine Fisheries Service)	Fall 2026	Summer 2027
Endangered Species Act Section 7 Consultation (United States Fish and Wildlife Service)	Fall 2026	Summer 2027
OCTA Submits Technical Studies and Categorical Exclusion to Federal Railroad Administration (FRA)	Summer 2027	
FRA Approves Categorical Exclusion	Summer 2027	
California Coastal Commission Coastal Development Permit	Summer 2027	
California State Lands Commission Lease		
United States Army Corps of Engineers (USACE) Standard Individual Permit		
California State Water Resources Control Board Permit		
OCTA Initiates Dredge Hopper Procurement*	Winter/Spring 2028	
Sand Placement Construction	Fall 2028	

*Predicated on USACE West Coast Hopper Maintenance Dredging contractor selection



Next Steps

- Emergency Repair Work
 - o Continue working with Southern California Regional Rail Authority to monitor the rail line
 - o Super El Niño anticipated this coming winter
 - o Work with the California Coastal Commission permitting process
 - o Continue developing concepts from the Coastal Rail Resiliency Study to protect the rail line
- Sand Placement
 - o Continue identifying opportunities to streamline environmental documentation, permitting, and implementation processes

5.B. El Niño Forecast and Implications

South Orange County Beach Coalition



UCI

USGS
science for a changing world



Prado Basin

Reach 1
(Natural)

Reach 2
(GW Recharge)

Santa Ana River
Reach 3
(Armored)



Reach 4
(Tidal)



Newport Point



Dana Point



San Mateo Point



Healthy Coasts Project

7.38 mi

Image © 2026 Airbus
Image Landsat / Copernicus
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Objective

Engineer and evaluate a set of sediment response measures (river & beach nourishments) capable of transitioning Orange County to a more sustainable system state.

Google Earth



Stakeholders with needs and concerns

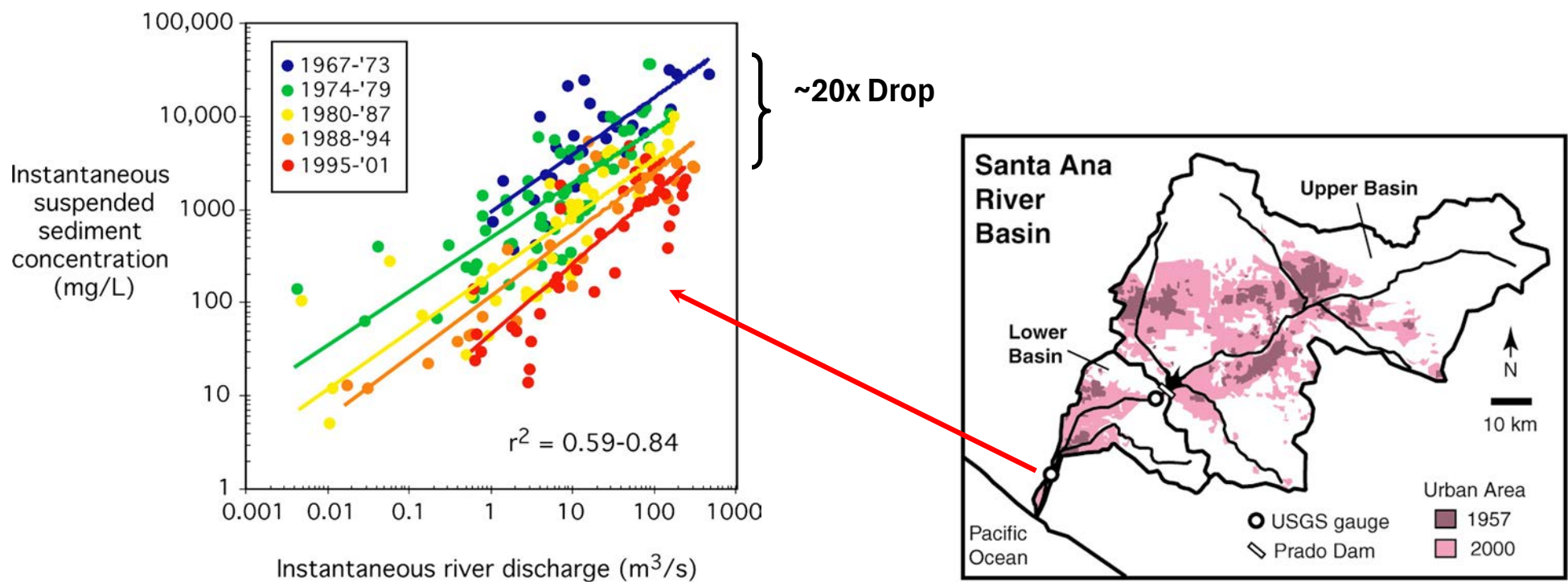
STAKEHOLDERS	NEED	CONCERN
Coastal Cities & OC Parks	Beach sand supplies	<i>Costs of nourishment</i> <i>Complexity/timeline of federal projects</i>
State Parks	Public access and enjoyment, natural resource conservation	<i>Costs of a moving shoreline (e.g., maintaining access, moving infrastructure)</i>
OCWD	Capture and store stormwater	<i>Costs of sediment removal</i> <i>Risks to groundwater recharge</i> <i>Constraints imposed by resource agencies</i>
CFW, USFW	Habitat for sensitive species	<i>Impacts to sensitive species</i>
USACE	Flood control responsibility, compliance with Acts of Congress	<i>Unacceptable flood risks</i>
OCPW	Flood control district responsibilities, limit costs to taxpayers	<i>Increased sediment management costs</i> <i>Increased flood risk</i>
Inland Cities	Parks & Green spaces	<i>Increased flood risk</i>

What we don't understand well enough...

1



Santa Ana River Sediment Discharge Changing Over Time



Warrick and Rubin (2007)

Illustration Credit: Jon Warrick



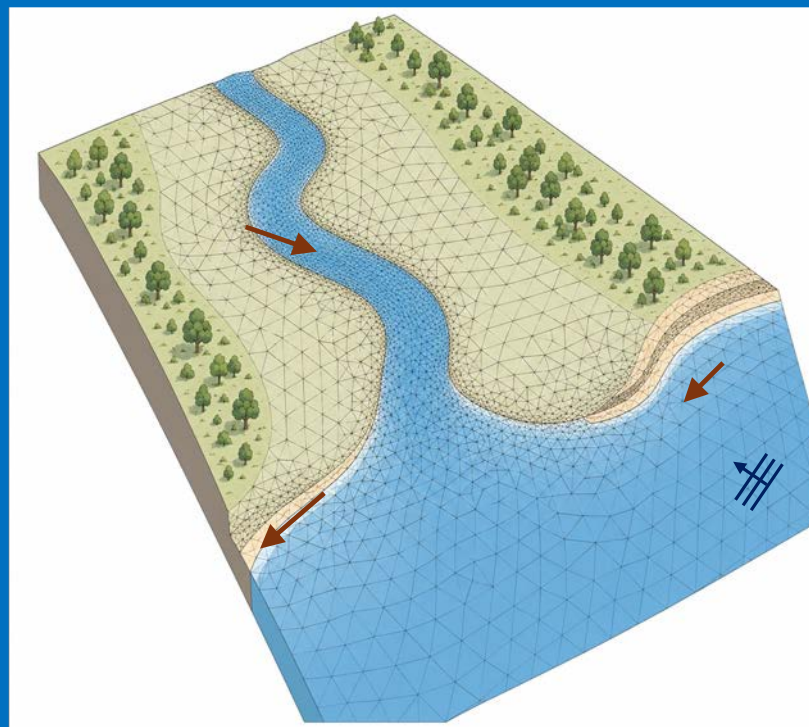
Healthy Coasts Project Elements

MONITORING

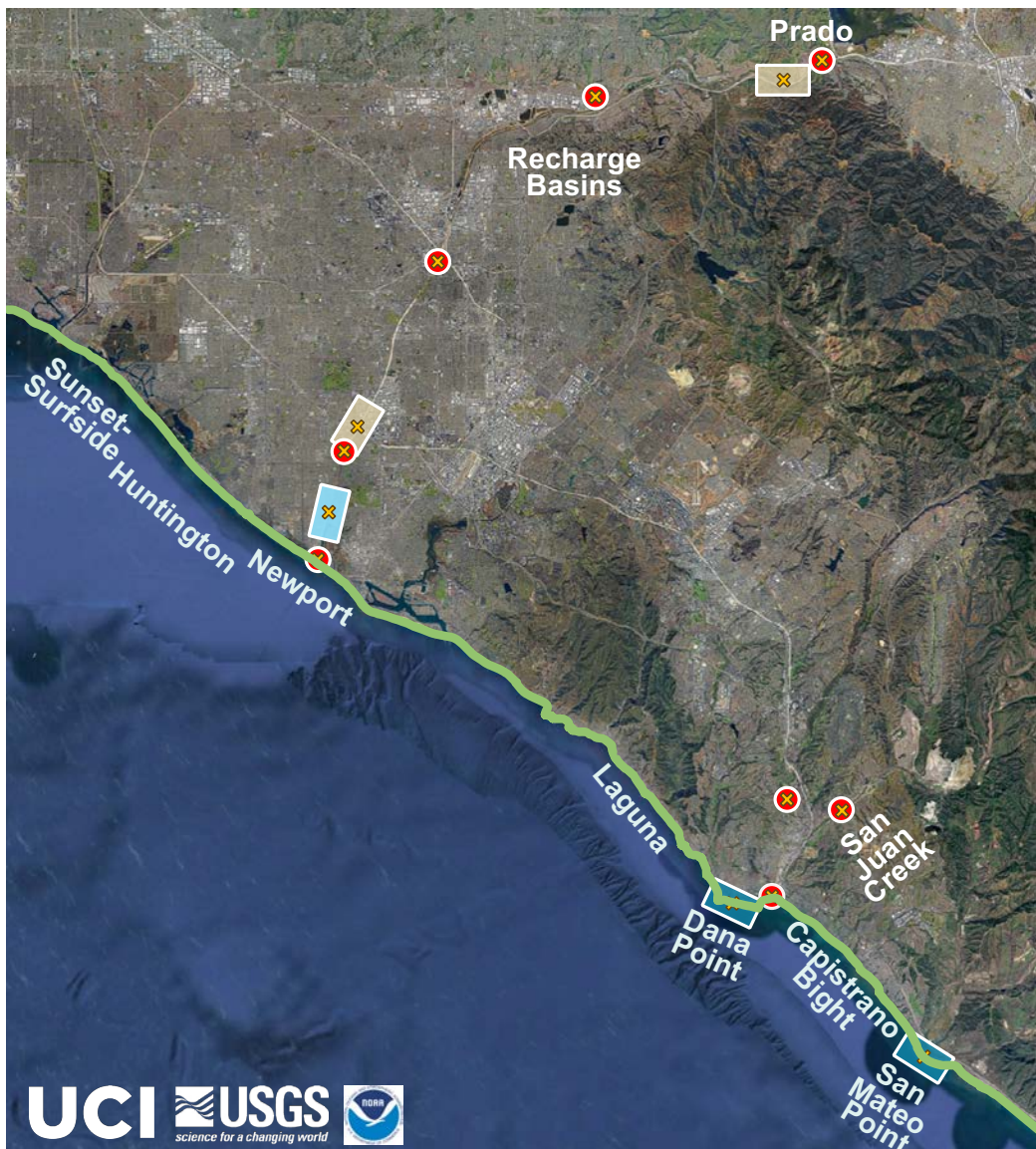


Measurements build understanding of the patterns and dynamics of the river and coastal systems

MODELING



Simulations allow for evaluations of new scenarios and management options



Healthy Coasts El Niño Monitoring Plan

Data Collection Methods



Suspended Sediment Station

Collected @ hourly intervals during storm events throughout the season (ideally) with US DH-95 Sampler



LiDAR Survey

Collected 2-3 times during dry weather throughout the season



Topobathy Survey in Tidal Reach

Collected 2-3 times during dry weather/low-tide throughout the season with drone-based LiDAR and BathyCat surveys



Bathymetric Surveys

Collected once during spring, a snapshot of conditions



High-Resolution Satellite Imagery

Collected daily or sub-daily by the Planet Earth observing satellite



Sediment Sample

Collected during sampling / surveying events



Information Generated

Sediment delivery to the coast

- Sediment rating curve
- Sediment wave evolution
- Tributary contributions

Morphology of various channel types (concrete, vegetated, etc.)

- Volumes and location of sediment erosion and deposition

Morphology of tidally-influenced channel

- Volumes and location of sediment erosion and deposition

Near & Off-shore Bathymetry

- Sediment deposits/erosion
- Littoral cell boundaries and sand retention

Channel morphology and beach erosion patterns

- Locations of sediment erosion and deposition in channels
- Time series of beach change

Sediment characteristics

- Grain size distribution

Team

UCI
USGS
☐ OCWD
☐ OCPW

UCI
☐ OCPW

UCI
☐ OCPW

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USGS

UCI

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USGS
☐ OCWD

5.C. South Orange County Beach Maintenance Index Updates

South Orange County Beach Coalition



Draft Beach Maintenance Index: Sand Nourishment

Beach (North to South)	Fall 2025 Beach Width	Historical Range	Goal Beach Width/ Volume (CY Per Decade)	Long-Term Maintenance Targets	Need (per draft OC SCOUP) **	Draft OC SCOUP Maximum Fill Extent (Over Multiple Events) **	Historical Sand Nourishment Projects (since 2016)	% of Goal Per Decade Already Placed	Planned/ Ongoing Sand Nourishment Projects	TOTAL Planned Volume	% of Goal Volume per Decade (Planned)
Baby Beach	97' Average***		100' / 10,000 CY		LOW	10,000 CY	2016 (8,000 CY)	80%	None	N/A	0%
Doheny State Beach [SC-1850]	151' (Near Historical Minimum)	150'-340'			HIGH	300,000 CY	2023 (25,000 CY)		45k-62k CY (nearshore) USACE Breakwater Repair Project, 35k CY Nature-Based Shoreline & SANDAG RBSP III (450k CY)	530,000	
Capistrano Beach Park [SC-1805]	97' Near Historical Minimum	92' - 303'			HIGH	150,000 CY	2024 (20,000 CY) 2023 (20,000 CY) 2016 (65,000 CY- nearshore)		13.5k CY planned for spring 2026, 35k CY Nature-Based Shoreline & SANDAG RBSP III (50k CY)	98,500	
Capistrano Bay District	110' *** Near Historical Minimum	92' - 303'			Not Included	N/A	None	0%	None	N/A	0%
Poche Beach	146' *** Near Historical Minimum	146' -198'	250'/		HIGH	1,000 CY	None	0%	None	N/A	0%
Shorecliffs Beach Club [SC-1720]	143' Near Historical Minimum	146'-198'	250'/		Not Included	N/A	None	0%	None	N/A	0%
Capistrano Shores [SC-1705]	1' Near Historical Minimum	0-42'	250'/		HIGH	300,000 CY	None	0%	None	N/A	0%

Draft Beach Maintenance Index: Sand Nourishment

Beach (North to South)	Fall 2025 Beach Width	Historical Range	Goal Beach Width/ Volume (CY Per Decade)	Long-Term Maintenance Targets	Need (per draft OC SCOUP) **	Draft OC SCOUP Maximum Fill Extent (Over Multiple Events) **	Historical Sand Nourishment Projects (since 2016)	% of Goal Per Decade Already Placed	Planned/ Ongoing Sand Nourishment Projects	TOTAL Planned Volume	% of Goal Volume per Decade (Planned)
North Beach [SC-1700]	138' Average	130' - 163'	250'/		HIGH	150,000 CY	2025 (2.5k CY) 2024 (37k CY) 2016 (12k CY) 2005 (5k CY)		OCTA nourishment (240k CY) & RBSP III (250k CY)	490,000	
Djie (Marisposa Point) [SC-1695]	0' Near Historical Minimum	0'-28'	250'/		HIGH	300,000 CY	None	0%			
Linda Lane ** [SC-1680]	110' Average	59'-124'	250'/		HIGH		2023/2024 (196k CY)		USACE 50-Yr Project (2 million over 50 years, in 6 year increments)	496,664	
San Clemente Pier **	206' *** Above Average	131' - 210'	250'/		HIGH						
TStreet/Boca Del Canon ** [SC-1660]	179' Above Average	97'-209'	250'/		HIGH						
Lost Winds [SC-1645]	206' Above Average	131' - 210'	250'/		Not Included	N/A	None	0%	None	N/A	0%

Draft Beach Maintenance Index: Sand Nourishment

Beach (North to South)	Fall 2025 Beach Width	Historical Range	Goal Beach Width/ Volume (CY Per Decade)	Long-Term Maintenance Targets	Need (per draft OC SCOUP) **	Draft OC SCOUP Maximum Fill Extent (Over Multiple Events) ***	Historical Sand Nourishment Projects (since 2016)	% of Goal Per Decade Already Placed	Planned/ Ongoing Sand Nourishment Projects	TOTAL Planned Volume	% of Goal Volume per Decade (Planned)
San Clemente State Beach	157' Above Average	98'-173'	250'/		MEDIUM	300,000 CY	None	0%	OCTA nourishment (300k CY) & RBSP III (500k CY- 800k CY)	650,000- 950,000	
Cyprus Shore/ Cottons	0' Near Historical Minimum	0' - 154'	250'/		HIGH	300,000 CY	None	0%	None	N/A	
San Onofre/ Trestles *****	Near Historical Minimum		250'/		Not Included	N/A	None	0%	None	N/A	0%

Footnotes

Footnotes:

*Based on Coastal Frontiers Shoreline Monitoring Program of Historical Beach Width for the City of San Clemente.

Legend:

Beach Width Relative to Historical Range
Near Historical Minimum
Average
Above Average

** OC SCoup Need is based on analysis provided within the document with a variety of sources listed in Section 10.0 (References) and generally analyzes storm surge, existing beach width, and usage factors. SCoup Volumes are based on draft OC SCoup dated June of 2025. San Clemente beaches at Linda Lane, San Clemente Pier, and TStreet/BocaDel Canon have benefited from 251,000 CY of sand nourishment as part of USACE 50-Yr Project since the HIGH need condition was identified in the draft SCoup.

***Anecdotal beach width noted , not based on Coastal Frontiers transect monitoring or interpolated between adjacent transects.

**** Based on CA State Parks Beach Topography Monitoring Progress Report April 2020 - January 2022 prepared by University of CA, Irvine, Dept of Civil and Environmental Engineering

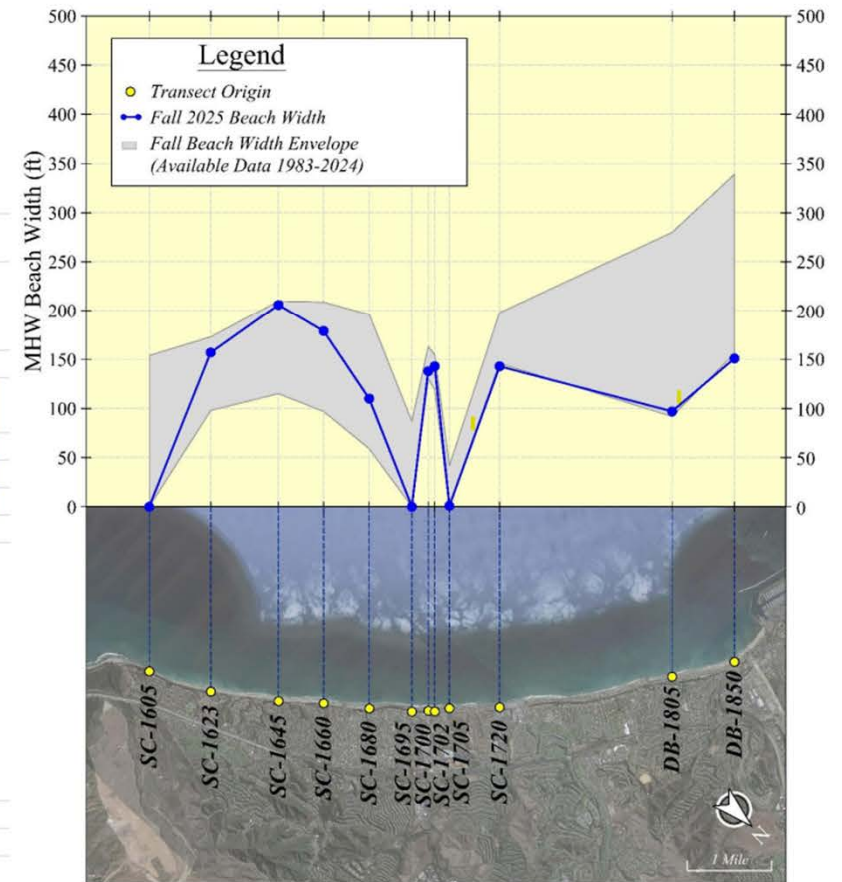


Figure 3. Fall 2025 MHW Beach Widths Relative to 1983-2024 Historical Fall Beach Width Envelope

South Orange County Beach Coalition



Decision Making Points

1. Establish a goal beach width
 - Remember: more beach width = more projects and \$
2. Calculate accompanying sand volume to achieve goal width
3. Study and identify sand volume to maintain goal beach width

Goal Beach Width Factors (250' baseline)

- Historical maximum beach width (does not include sand replenishment from the 1970's harbor and San Onofre construction)
- A 200-ft beach width is the base beach width for planning purposes in the San Diego region (SANDAG).
- A 200-ft width is an important width to plan for a living dune system, an important tool for SLR adaptation
- An additional 50-foot of beach width provides space for recreational user space, intertidal habitat, buffer to the dune system, and seasonal variation in beach width

5.D. Logos and Projects, Grants, and Initiatives Support Letter Template

South Orange County Beach Coalition



Beach Coalition Logos – Version 1



South Orange County Beach Coalition



Beach Coalition Logos – Version 2

Color variations



B&W



South Orange County Beach Coalition



Beach Coalition Logos – Version 3

Color variations



B&W



South Orange County Beach Coalition



Beach Coalition Logos – Version 4

Color variations



B&W



South Orange County Beach Coalition



Beach Coalition Logos – Version 5



South Orange County Beach Coalition



Beach Coalition Logos – Version 6



South Orange County Beach Coalition



RBSPIII Support Letter



SOUTH ORANGE COUNTY BEACH COALITION

Katrina Foley
Chair
District 5, Board of
Supervisors

Andy Hall
Member
City of San Clemente

Donal Russell
Member
Capistrano Bay District

March 13, 2026

The Honorable Mike Levin
United States House of Representatives
2352 Rayburn House Office Building
Washington, D.C. 20515

Re: FY2027 Community Project Funding Request — San Diego Regional
Beach Sand and Nearshore Habitat Studies



SOUTH ORANGE COUNTY BEACH COALITION

Respectfully,

A handwritten signature in blue ink that reads "Katrina Foley".

Katrina Foley
Chairwoman, South Orange County Beach Coalition
5th District Supervisor, County of Orange

South Orange County Beach Coalition



Template Support Letter

[BRANDING/LOGO PENDING]

SOUTH ORANGE COUNTY BEACH COALITION

Dear [FORMAL TITLE]:

As Chairwoman of the South Orange County Beach Coalition and Supervisor of the Fifth District, which encompasses the coastal cities of Dana Point and San Clemente within the Oceanside Littoral Cell, I write in support of [AGENCY NAME]'s [FUNDING SOURCE REQUEST] of [REQUEST AMOUNT \$00.000] for [DESCRIPTION OF FUNDING ACTIVITIES/TASKS] needed to advance the [PROJECT NAME]. [LEAD AGENCIES] have contributed [STAFF TIME AND FUNDING RESOURCES] toward this project. These [DESCRIPTION OF FUNDING ACTIVITIES/TASKS] are necessary for [REFERENCE SUBSEQUENT PROJECT PHASE].

The requested funding supports [DETAILED DESCRIPTION OF FUNDING REQUEST TASKS/ACTIVITIES]. Without these tasks, the region cannot proceed with [REFERENCE SUBSEQUENT PHASE OR STEP IN THE PROJECT].

South Orange County and San Diego's coastline within the Oceanside Littoral Cell are some of the region's most significant economic and environmental assets, and beach erosion remains an ongoing challenge. This is a modest request for [DESCRIPTION OF FUNDING ACTIVITIES/TASKS] that will [PROJECT NEED]. The South Orange County Beach Coalition respectfully urges [FORMAL TITLE] to [FUNDING SOURCE REQUEST]. Thank you for your consideration.

South Orange County Beach Coalition



List of Board of Supervisors Authorized Projects, Grants, and Initiatives Eligible for Support Letters

1. Regional Beach Sand Project III (RBSP III) – SANDAG
2. Capistrano-Doheny Nature-Based Shoreline – OC Parks and California State Parks

VI. Public Participation

South Orange County Beach Coalition

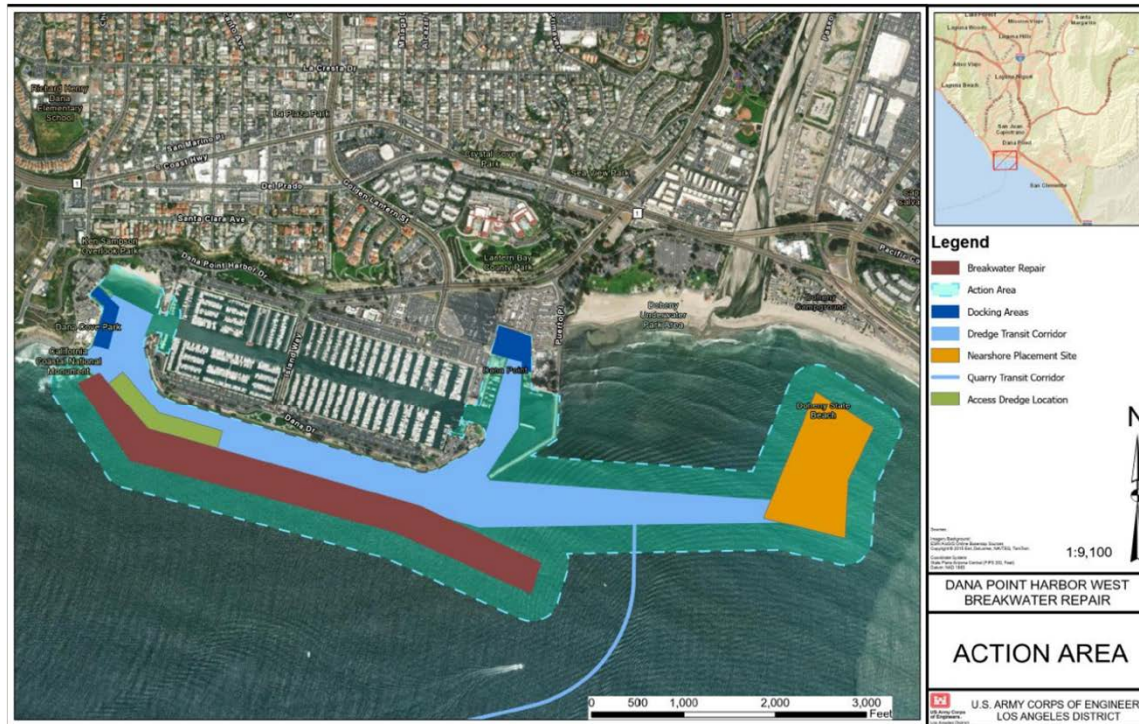


VII. Executive Officer Comments

South Orange County Beach Coalition



USACE Breakwater Repair



South Orange County Beach Coalition



VIII. Coalition Member Comments and Report

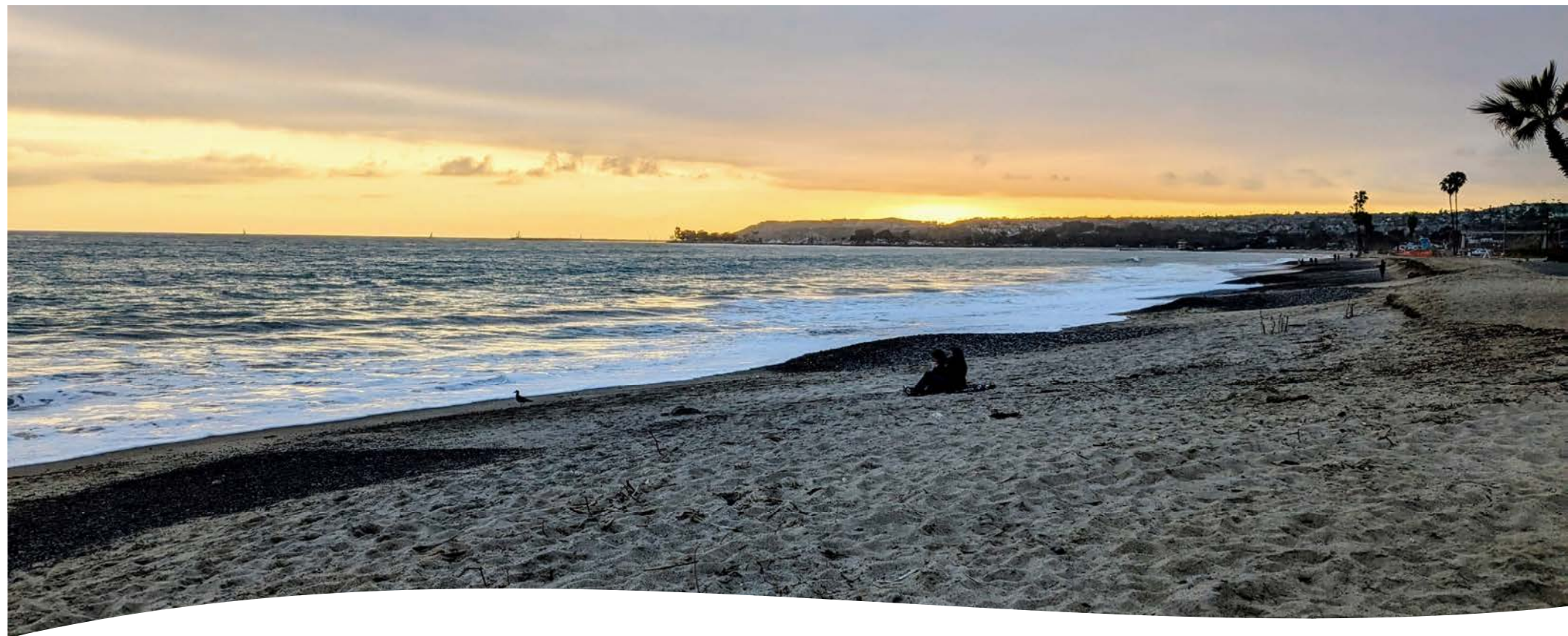
South Orange County Beach Coalition



IX. Adjournment

South Orange County Beach Coalition





Thank you!

SouthCoastalResilience@ocparks.com

South Orange County Beach Coalition

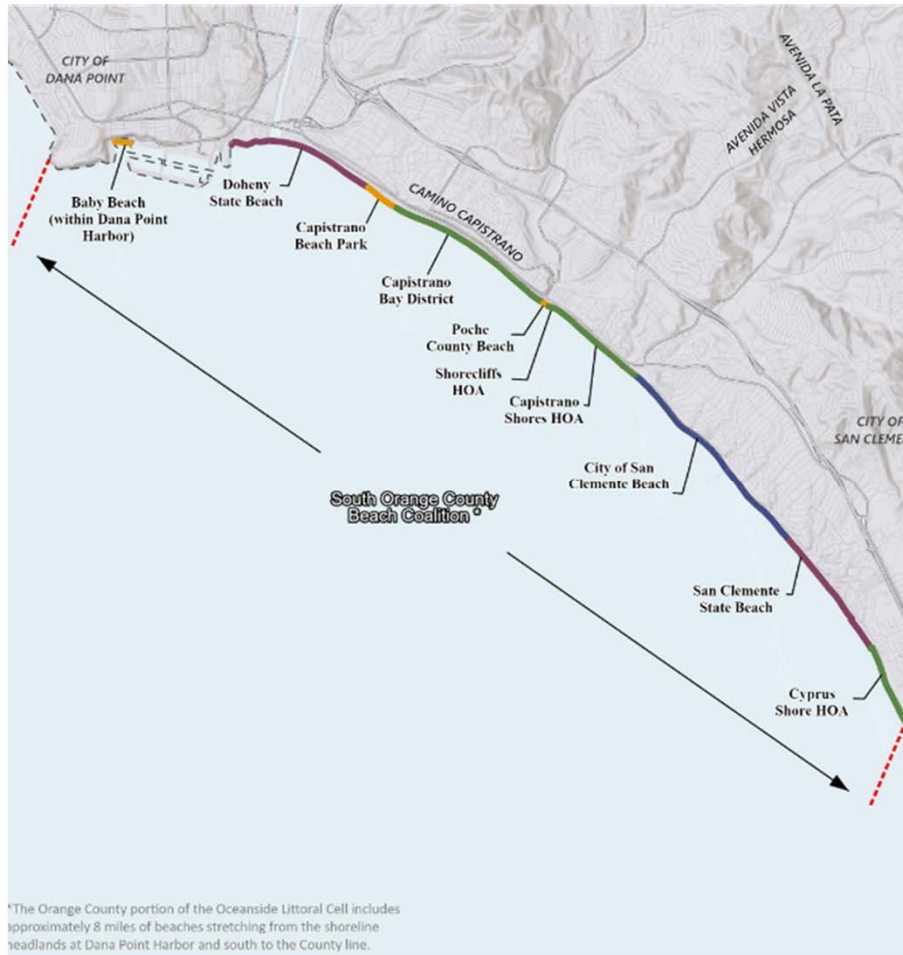


Draft Beach Maintenance Index: Sand Nourishment

Beach (North to South)	Fall 2025 Beach Width Relative to Historical Range*	Need (per draft OC SCOUP) **	Historical Sand Nourishment Projects (since 2016)	% of Goal Per Decade Already Placed	Planned/ Ongoing Sand Nourishment Projects	TOTAL Planned Volume	% of Goal Volume per Decade (Planned)	Draft OC SCOUP Maximum Fill Extent (Over Multiple Events) **	Goal Beach Width/Volum e (CY Per Decade)	Future Retention Projects	Future Shoreline Protection Projects	Future Managed Retreat Projects	San Clemente SCOUP
Baby Beach	Average***	LOW	2016 (8,000 CY)	80%	None	N/A	0%	10,000 CY	10,000	N/A	N/A	N/A	N/A
Doheny State Beach	Near Historical Minimum	HIGH	2023 (25,000 CY)		45k-62k CY (nearshore) USACE Breakwater Repair Project, 35k CY Nature-Based Shoreline & SANDAG RBSP III (450k CY)	530,000		300,000 CY		OC Parks/CA State Parks Capistrano- Doheny Nature- Based Shoreline	N/A	Doheny Campground and Doheny Parking Area Projects	N/A
Capistrano Beach Park	Near Historical Minimum	HIGH	2024 (20,000 CY) 2023 (20,000 CY) 2016 (65,000 CY- nearshore)		13.5k CY planned for spring 2026, 35k CY Nature-Based Shoreline & SANDAG RBSP III (50k CY)	98,500		150,000 CY		OC Parks/CA State Parks Capistrano- Doheny Nature- Based Shoreline	N/A	N/A	N/A
Capistrano Bay District	Near Historical Minimum	Not Included	None	0%	None	N/A	0%	N/A		N/A	N/A	N/A	N/A
Poche Beach	Near Historical Minimum	HIGH	None	0%	None	N/A	0%	1,000 CY		N/A	N/A	N/A	N/A
Shorecliffs Beach Club	Near Historical Minimum	Not Included	None	0%	None	N/A	0%	N/A		N/A	N/A	N/A	N/A
Capistrano Shores	Near Historical Minimum	HIGH	None	0%	None	N/A	0%	300,000 CY		N/A	N/A	N/A	N/A
North Beach	Average	HIGH	2025 (2.5k CY) 2024 (37k CY) 2016 (12k CY) 2005 (5k CY)		OCTA nourishment (240k CY) & RBSP III (250k CY)	490,000		150,000 CY		City of SC Nature- Based Coastal Resiliency Project - Off-Shore Pilot Project	N/A	N/A	125k CY

Draft Beach Maintenance Index: Sand Nourishment

Beach (North to South)	Fall 2025 Beach Width Relative to Historical Range*	Need (per draft OC SCoup) **	Historical Sand Nourishment Projects (since 2016)	% of Goal Per Decade Already Placed	Planned/ Ongoing Sand Nourishment Projects	TOTAL Planned Volume	% of Goal Volume per Decade (Planned)	Draft OC SCoup Maximum Fill Extent (Over Multiple Events) **	Goal Beach Width/Volum e (CY Per Decade)	Future Retention Projects	Future Shoreline Protection Projects	Future Managed Retreat Projects	San Clemente SCoup
Dje (Marisposa Point)	Near Historical Minimum	HIGH	None	0%						N/A		N/A	N/A
Linda Lane **	Average	HIGH	2023/2024 (196k CY)		USACE 50-Yr Project (2 million over 50 years, in 6 year increments)	496,664		300,000 CY		N/A	N/A	N/A	75k CY
San Clemente Pier **	Above Average	HIGH								N/A	N/A	N/A	N/A
TStreet/Boca Del Canon **	Above Average	HIGH								N/A	N/A	N/A	105k CY
San Clemente State Beach	Above Average	MEDIUM	None	0%	OCTA nourishment (300k CY) & RBSP III (500k CY- 800k CY)	650,000- 950,000		300,000 CY		N/A	OCTA, Area 4 Shoreline Protection (Revetment, Seawall, Etc.)	N/A	N/A
Cyprus Shore/ Cottons	Near Historical Minimum	HIGH	None	0%	OCTA nourishment (150k CY)	150,000		300,000 CY		N/A		N/A	N/A
San Onofre - Trestles	N/A	N/A	None	0%	None	N/A	0%	N/A		Surfrider Nature- Based Shoreline Project		San Onofre Managed Retreat	N/A



Vision

Restore, protect, and preserve sandy public beaches and the critical infrastructure located along the coastline of south Orange County.

Mission

Foster greater cooperation toward the maintenance and enhancement of beaches. Decrease jurisdictional silos and increase collaboration for coastal resilience.

South Orange County Beach Coalition



Goals

- A. Increase collaboration across jurisdictions, agencies, and stakeholders for
- B. Identify green, grey, and hybrid solutions to replenish and retain sand and minimize coastal erosion. while preserving, reestablishing, and enhancing the natural coastal habitat where possible.
- C. Support regional projects and collaborations to increase sand supply, mitigate the impacts of sea level rise, protect critical infrastructure, and decrease coastal erosion.
- D. Identify funding opportunities to increase efficiency of financial resources and decrease the individual financial burden for jurisdictions, agencies, and beachfront communities.
- E. Develop a coastal resiliency maintenance and enhancement plan and implementation strategy.
- F. Maintain, preserve, and enhance coastal recreation, heritage & culture, as well as public access to the coastline.

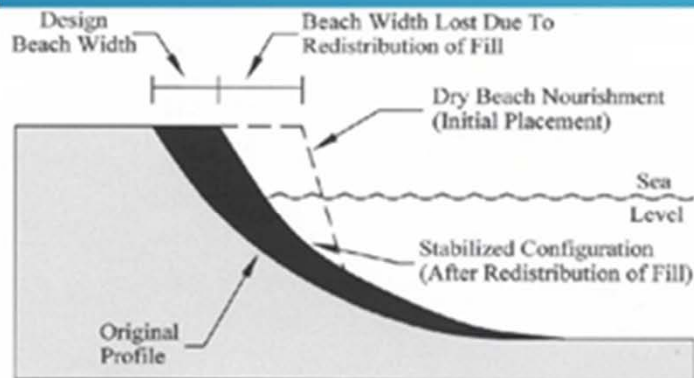
Objectives

- A. Develop a robust understanding of sediment dynamics to enable recommendations and activities to enhance coastal resiliency. Collect, share and analyze relevant data and recommend activities to enhance coastal resiliency.

Estimate Volume Requirements

Simple Volume Estimate

- Grain size is compatible
- Pre- and Post-Nourishment profiles have same shape
- Profile reaches equilibrium immediately



$$V = \Delta y (h_* + B) L$$

where V = Volume
 Δy = Beach Width Change
 h_* = Depth of Closure
 B = Berm Height
 L = Length of Fill

(Dean, 2002)

<i>Reach</i>	<i>Shoreline Length</i>	<i>Nourishment Volume Required to Yield 50 ft Beach Width Increase</i>	
		<i>Volume per Foot of Shoreline</i>	<i>Total Volume</i>
Oceanside	16,500 ft	69 cy/ft	1,139,000 cy
North Carlsbad	9,000 ft	54 cy/ft	432,000 cy
South Carlsbad	20,500 ft	41 cy/ft	841,000 cy
Leucadia/Encinitas	20,000 ft	80 cy/ft	1,600,000 cy
Cardiff	6,000 ft	74 cy/ft	444,000 cy
Solana Beach	6,500 ft	48 cy/ft	312,000 cy
Del Mar	12,000 ft	74 cy/ft	888,000 cy
La Jolla	7,500 ft	52 cy/ft	390,000 cy
Mission Beach	18,500 ft	72 cy/ft	1,332,000 cy
Imperial Beach	6,000 ft	74 cy/ft	444,000 cy

South Orange County Beach Coalition



Example of Sand Nourishment Intervals

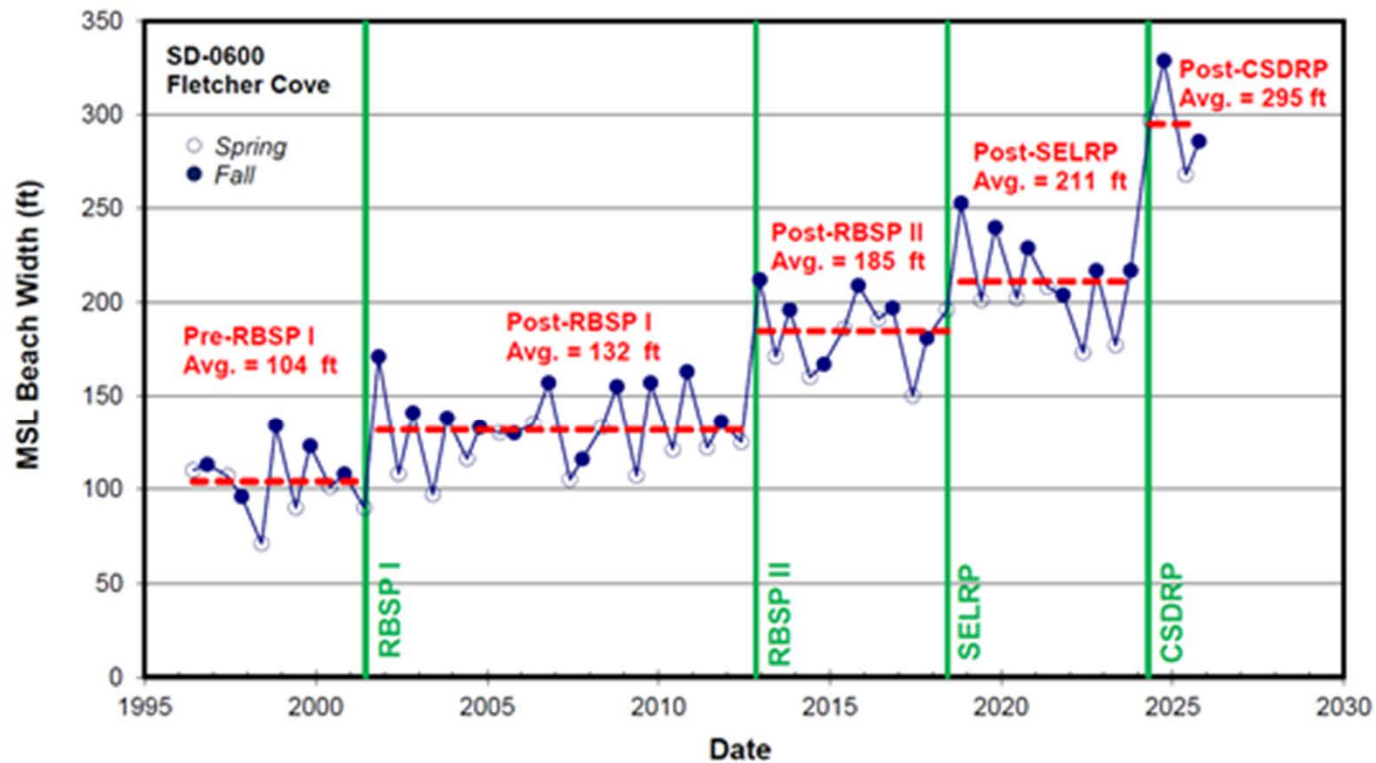


Figure 6. Fletcher Cove Beach Widths (1996 through 2025)