



Shoreline Preservation Working Group Agenda

Thursday, September 4, 2025, 11:30 a.m.

SANDAG Board Room

1011 Union Street, First Floor

San Diego, CA 92101

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1. Call to Order

2. Non-Agenda Public Comments/Member Comments

Members of the public shall have the opportunity to address the Shoreline Preservation Working Group on any issue within the jurisdiction of SANDAG that is not on this agenda. Public speakers are limited to three minutes or less per person. Public comments under this agenda item will be limited to five public speakers. If the number of public comments under this agenda item exceeds five, additional public comments will be taken at the end of the agenda. Members and SANDAG staff also may present brief updates and announcements under this agenda item.

3. Consent

3.1 Approval of Meeting Minutes

Michael Garcia, SANDAG

ACTION: APPROVE

The Shoreline Preservation Working Group is asked to approve the minutes from its June 5, 2025, meeting.

4. Distribution of Funds – City of Encinitas' Public Recreational Beach Impact Mitigation Fund

Courtney Becker, SANDAG; Ben Stryker, City of Encinitas

ACTION: RECOMMEND

The Shoreline Preservation Working Group is asked to recommend that the Regional Planning Committee approve the release of funds from the City of Encinitas' Public Recreational Beach Impact Mitigation account to the City of Encinitas.

5. West Coast Beach Nourishment Dredging Panel Discussion

Keith Greer, SANDAG

ACTION: DISCUSSION

The Shoreline Preservation Working Group members will participate in a panel discussion amongst representatives from the dredging industry, the U.S. Army Corps of Engineers and coastal engineers focused on beach nourishment dredging to provide insight into current practices, challenges, and opportunities to raise efficiencies and minimize costs.

6. Adjournment

The next Shoreline Preservation Working Group meeting is scheduled for Thursday, December 4, 2025 at 11:30 a.m.



Shoreline Preservation Working Group

MEMBERSHIP

The Shoreline Preservation Working Group (SPWG) advises the Regional Planning Committee on issues related to the implementation of the Shoreline Preservation Strategy, Regional Comprehensive Plan, and Coastal Regional Sediment Management Plan. It has 13 voting members who are elected officials from the coastal and bayfront cities and County of San Diego and representatives from the Port of San Diego and U.S. Navy. Additionally, the SPWG has several non-voting advisory members who are representatives from community groups and organizations, environmental groups, state and federal agencies, and other interested stakeholders.

The SPWG generally meets quarterly at 11:30 a.m. on the first Thursday of the month.

Staff contact: Courtney Becker, (619) 699-6942, courtney.becker@sandag.org

MEMBERS

Kristi Becker, Chair

Deputy Mayor, City of Solana Beach

Priya Bhat-Patel

Mayor Pro Tem, City of Carlsbad

Michael Inzunza

Councilmember, City of Chula Vista

Amy Steward

Councilmember, City of Coronado

John Spelich

Councilmember, City of Del Mar

Bruce Ehlers

Mayor, City of Encinitas

Carol Seabury

Mayor Pro Tem, City of Imperial Beach

Jose Rodriguez

Councilmember, National City

Eric Joyce

Deputy Mayor, City of Oceanside

Jennifer Campbell

Councilmember, City of San Diego

Paloma Aguirre

Supervisor, County of San Diego

Dan Malcolm

Commissioner, Port of San Diego

ALTERNATES

David Zito

Councilmember, City of Solana Beach

Keith Blackburn

Mayor, City of Carlsbad

Carolina Chavez

Councilmember, City of Chula Vista

Mark Fleming

Councilmember, City of Coronado

Terry Gaasterland

Mayor, City of Del Mar

Tracy Martinez

Deputy Mayor, City of Del Mar

Luke Shaffer

Councilmember, City of Encinitas

Vacant

City of Imperial Beach

Marcus Bush

Councilmember, National City

Esther Sanchez

Mayor, City of Oceanside

Joe LaCava

Council President, City of San Diego

Vacant

County of San Diego

Eileen Maher

Port of San Diego

Jason Golumbskie-Jones
U.S. Navy

TECHNICAL ADVISORS

Kanani Leslie
California Coastal Commission

Bryant Chesney
National Marine Fisheries Service

Leslie Hart
State Department of Fish and Wildlife

Darren Smith
State Department of Parks and Recreation

Kenneth Foster
State Lands Commission

Heather Schlosser
U.S. Army Corps of Engineers

Vacant
State Department of Boating and Waterways

Jessica Curran
U.S. Navy

COMMUNITY ADVISORS

Steve Aceti
California Coastal Coalition

Vacant
California Lobster and Trap Fishermen's Association

Marco Gonzalez
Coastal Environmental Rights Foundation

Reinhard Flick
Scripps Institute of Oceanography

Michael Connolly
Southern California Tribal Chairmen's Association

Tom Cook
Surfrider Foundation

Reece Allen
Caltrans

Vacant
Cross-Border Community Organization

Vacant
Environmental Justice Community Organization

September 4, 2025

June 5, 2025, Meeting Minutes

[View Meeting Video](#)

Chair Kristi Becker (Solana Beach) called the meeting of the Shoreline Preservation Working Group (SPWG) to order at 11:30 a.m.

1. Public Comments/Communications/Member Comments

Public Comments: Purita Javier, Cesar Javier, Julia Chunn-Heer, John Conover.

Associate Administrative Analyst Ashley Wiley shared that SANDAG is updating its governance framework and is seeking feedback from working group members through an upcoming survey.

Member Comments: Mitch Silverstein (Surfrider Foundation).

Consent

2. Approval of Meeting Minutes

The SPWG was asked to approve the minutes from its April 3, 2025, meeting.

Public Comments: None.

Action: Upon a motion by Deputy Mayor Eric Joyce (Oceanside), and a second by Chair Becker, the SPWG voted to approve the Consent Agenda.

The motion passed.

Yes: Chair Becker, Mayor Pro Tem Priya Bhat-Patel (Carlsbad), Councilmember Amy Steward (Coronado), Mayor Bruce Ehlers (Encinitas), Mayor Pro Tem Carol Seabury (Imperial Beach), Councilmember Jose Rodriguez (National City), Deputy Mayor Joyce, Eileen Maher (Port of San Diego).

No: None.

Abstain: Jessica Curran (U.S. Navy)

Absent: Chula Vista, Del Mar, City of San Diego, County of San Diego.

Reports

3. Fiscal Year 2026 Work Plan

Associate Regional Planner Courtney Becker presented an overview of the draft SPWG FY 2026 Work Plan.

Public Comments: Cesar Javier.

Action: Discussion.

4. Regional Beach Sand Project III - Phase 1 Finalization

Courtney Becker briefed the SPWG on the feedback received on the draft Regional Beach Sand Project III Phase 1 Report.

Public Comments: Bob Ashton, Cesar Javier, Matthew Caulfield.

Action: Discussion.

5. Identification of Regional Sand Retention Pilot Project - RE:BEACH Recommendation

Deputy Director of Environmental Compliance and Climate Keith Greer and Jayme Timberlake, City of Oceanside, presented this item. The SPWG was asked to discuss and possibly act on staff's recommendation to select the City of Oceanside's RE:BEACH project as the regional sand retention pilot project.

Public Comments: Bob Ashton, Charlie Bowen, Cesar Javier, Jim Jaffee, Carolyn Krammer, John Conover.

Action: Upon a motion by Deputy Mayor Joyce, and a second by Councilmember Steward, the SPWG selected the City of Oceanside's RE:BEACH project as the regional sand retention pilot project.

The motion passed.

Yes: Chair Becker, Councilmember Steward, Mayor Ehlers, Mayor Pro Tem Seabury, Councilmember Rodriguez, Deputy Mayor Joyce, Eileen Maher (Port of San Diego).

No: Mayor Pro Tem Priya Bhat-Patel

Abstain: Jessica Curran

Absent: Chula Vista, Del Mar, City of San Diego, County of San Diego.

6. Adjournment

The next SPWG meeting is scheduled for September 4, 2025, at 11:30 a.m.

Chair Becker adjourned the meeting at 1:03 p.m.

Confirmed Attendance at Shoreline Preservation Working Group Meeting

Jurisdiction	Name	Attended
City of Carlsbad	Mayor Pro Tem Priya Bhat-Patel	Yes
	Mayor Keith Blackburn	No
City of Chula Vista	Councilmember Michael Inzunza	No
	Deputy Mayor Carolina Chavez	No
City of Coronado	Councilmember Amy Steward	Yes
	Councilmember Mark Fleming	No
City of Del Mar	Councilmember John Spelich	No
	Mayor Terry Gaasterland	No
City of Encinitas	Mayor Bruce Ehlers	Yes
	Councilmember Luke Shaffer	No
City of Imperial Beach	Mayor Pro Tem Carol Seabury	Yes
	Vacant	--
City of National City	Councilmember Jose Rodriguez	Yes
	Councilmember Marcus Bush	No
City of Oceanside	Deputy Mayor Eric Joyce	Yes
	Mayor Esther Sanchez	No
Port of San Diego	Commissioner Dan Malcolm	No
	Eileen Maher	Yes
City of San Diego	Councilmember Jennifer Campbell	No
	Council President Joe LaCava	No
County of San Diego	Supervisor Terra Lawson-Remer	No
	Vacant	--
City of Solana Beach	Deputy Mayor Kristi Becker, Chair	Yes
	Councilmember David Zito	No
U.S. Navy	Jason Golumbskie-Jones	No
	Jessica Curran	Yes
Advisory Members		
California Coastal Commission	Kanani Leslie	No
National Marine Fisheries Service	Bryant Chesney	No
State Department of Fish and Wildlife	Leslie Hart	No
State Department of Parks and Recreation	Darren Smith	Yes
State Lands Commission	Kenneth Foster	No
U.S. Army Corps of Engineers	Heather Schlosser	No

State Department of Boating and Waterways	Vacant	--
California Coastal Coalition	Steve Aceti	No
California Lobster and Trap Fishermen's Association	Vacant	No
Coastal Environmental Rights Foundation	Marco Gonzalez	No
Scripps Institute of Oceanography	Dr. Reinhard Flick	Yes
Southern California Tribal Chairmen's Association	Michael Connolly	No
Surfrider Foundation	Mitch Silverstein	Yes
Caltrans	Reece Allen	Yes
Cross-Border Community Organization	Vacant	--
Environmental Justice Community Organization	Vacant	--

September 4, 2025

Distribution of Funds – City of Encinitas’ Public Recreational Beach Impact Mitigation Fund

Overview

In May 2007, the California Coastal Commission (Commission) and San Diego Association of Governments (SANDAG) entered into a Memorandum of Agreement (MOA) establishing a process for the administration of the Public Recreational Beach Impact Mitigation (PRBIM) Fund. The PRBIM Fund consists of fees collected by the Commission to mitigate the adverse impacts on public recreational use of the beaches within the region resulting from construction of shoreline protective structures, or other forms of development that have adverse effects on the beach or shoreline. Mitigation fees are deposited into individual, interest-bearing accounts held by SANDAG on behalf of each coastal city until that jurisdiction requests funding for an eligible project.

The funds held in the PRBIM account can only be used for projects that provide public recreational improvement, such as public beach accessways, blufftop access, viewing areas, public restrooms, public beach parking, and public trail. Prior to disbursement of any funds, the request must be approved by the SANDAG Regional Planning Committee and submitted to the Executive Director of the Commission for authorization. The City of Encinitas (City) is requesting funding from their account to fund their Swami’s Beach Access Staircase Project (Project).

Action: Recommend

The Shoreline Preservation Working Group is asked to recommend that the Regional Planning Committee approve the release of funds from the City of Encinitas’ Public Recreational Beach Impact Mitigation account to the City of Encinitas.

Fiscal Impact:

If approved by the California Coastal Commission Executive Director, San Diego Association of Governments will release \$104,140 from the City of Encinitas’ Public Recreational Beach Impact Mitigation account.

Schedule/Scope Impact:

None.

Key Considerations

- The City is requesting to utilize the entirety of their PRBIM Fund available (\$104,140). This amount will fund the design and construction costs of staircase rehabilitation at Swami’s Beach. The City owns and maintains four unique timber staircases that provide beach access down the coastal bluff along the coast. City staff conduct regular inspections to ensure long-term public access to coastal resources. After examination, the Swami’s Beach staircase, originally constructed in 1990, has been determined to be nearing end-of-life condition, warranting rehabilitation.
- The existing beach accessway at Swami’s Beach consists of four primary segments: an at-grade concrete stairway, a timber beam bridge, a three-flight timber stair tower, and a lower concrete staircase with an integrated shower. The proposed project will replace the structural timber elements in accordance with current Building Code and Coastal Commission Standards, replace portions of the concrete, upgrade the galvanized steel hardware with duplex stainless steel, and identify accessibility improvements.

- The total estimated cost for the project is \$904,140. The City has committed \$800,000 from its Fiscal Year budget toward the rehabilitation. The release of \$104,140 from the PRBIM Fund would complete the full funding of the project.
- These uses are consistent with the SANDAG Shoreline Preservation Strategy objectives, policies, and recommendations that relate to beach access. Furthermore, the project meets the eligibility criteria included in the MOA with the Commission.

The Shoreline Preservation Working Group is asked to recommend that the Regional Planning Committee approve the release of the funds from the Public Recreational Beach Impact Mitigation Fund to the City of Encinitas.

Next Steps

The Regional Planning Committee is scheduled to review this proposal and the Working Group's recommendations at its October 3, 2025, meeting. If the City's proposal is approved by the SANDAG Regional Planning Committee, SANDAG staff will submit the proposal to the Executive Director of the Commission for review and approval.

Antoinette Meier, Senior Director of Regional Planning

Attachment: 1. City of Encinitas Resolution No. 2025-78

RESOLUTION 2025-78

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ENCINITAS, CALIFORNIA, REQUESTING FUNDING FROM THE CALIFORNIA COASTAL COMMISSION'S PUBLIC RECREATIONAL BEACH IMPACT MITIGATION FUND ADMINISTERED BY THE SAN DIEGO ASSOCIATION OF GOVERNMENTS FOR THE SWAMI'S BEACH ACCESS STAIRCASE PROJECT

WHEREAS, the Public Recreational Beach Impact Mitigation (PRBIM) Fund consists of fees collected by the California Coastal Commission through its coastal development permit process pursuant to special conditions of various permits, as mitigation for the adverse impacts on public recreational use of the beaches within San Diego County from development along the beach by shoreline protective structures such as seawalls, revetments, and bluff retaining walls; and

WHEREAS, fees collected are deposited into a special account and administered by SANDAG in cooperation with the California Coastal Commission; and

WHEREAS, the purpose of the fund is to aid local governments, working cooperatively through SANDAG and the Coastal Commission, in providing recreational improvements designed to enhance public recreational beach use within San Diego County; and

WHEREAS, the funds are used for projects that provide public recreational improvements such as public beach access ways, bluff top access, viewing areas, public restrooms, public beach parking and public trail amenities, but not to fund operations, maintenance, research or planning studies; and

WHEREAS, projects eligible for PRBIM funding must be consistent with criteria described in the SANDAG Memorandum of Agreement (MOA) which include the following:

1. The project must be recommended by the SANDAG Shoreline Preservation Working Group, SANDAG Regional Planning Committee, and approved by the SANDAG Board of Directors;
2. Projects must provide public beach recreational improvements;
3. Projects must be capital projects and funds cannot be used for operations, research or maintenance of planning studies;
4. Projects must obtain approval from the California Coastal Commission prior to construction; and

WHEREAS, a formal Resolution is required by the City Council to be submitted to the SANDAG Shoreline Preservation Working Group in order to initiate the process of PRBIM fund allocation; and

WHEREAS, there is currently \$104,140.83 available in the SANDAG Public Recreation Impact Mitigation Fund account held for the City by SANDAG. Receipt of the requested \$104,140.00 will enable the City to complete the proposed Staircase Improvement Project; and

WHEREAS, the Swami's Beach Access Staircase Project (CP26A) will improve the beach access stairway at Swami's Beach to ensure continued long-range public access to coastal resources.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Encinitas, California does, hereby, resolve as follows:

1. That the above recitals are true and correct; and
2. According to the Memorandum of Agreement between the California Coastal Commission and SANDAG, the Public Recreational Beach Impact Mitigation Fund is available for eligible projects that provide public recreational improvements; and
3. That the City Council makes and approves the request for funding from the Public Recreational Beach Impact Mitigation Fund for \$104,140; and
4. That SANDAG's Shoreline Preservation Working Group will evaluate the proposal and determine if the money from the fund should be allocated to this project; and
5. After recommendation by SANDAG's Shoreline Preservation Working Group, the request must be recommended by the SANDAG Regional Planning Committee for approval by the SANDAG Board of Directors and the Executive Director of the California Coastal Commission.

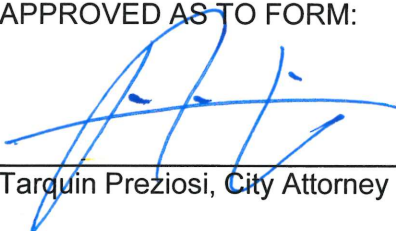
PASSED, APPROVED AND ADOPTED this 13th day of August 2025 by the City Council of the City of Encinitas, State of California:


Bruce Ehlers, Mayor

ATTEST:



Kathy Hollywood, City Clerk

APPROVED AS TO FORM:


Tarquin Preziosi, City Attorney

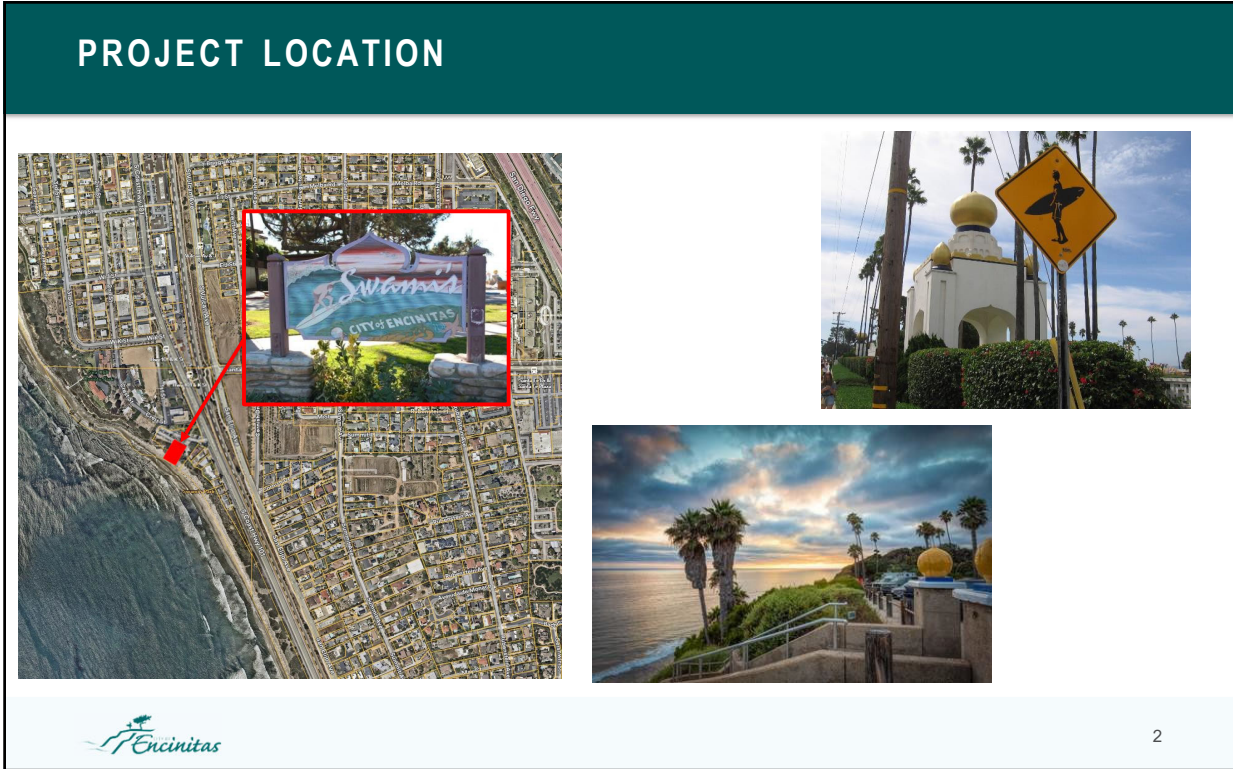
CERTIFICATION: I, Kathy Hollywood, City Clerk of the City of Encinitas, California, do hereby certify under penalty of perjury that the foregoing Resolution was duly adopted at a regular meeting of the City Council on the 13th day of August 2025 by the following vote:

AYES:	Ehlers, Lyndes, O'Hara, San Antonio, Shaffer
NOES:	None
ABSENT:	None
ABSTAIN:	None


Kathy Hollywood, City Clerk



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PROJECT BACKGROUND & SCOPE OF WORK



- **Originally constructed in 1990**
- **Four main segments**
 - Curved at-grade concrete stairway
 - Glulam beam bridge
 - Three flight timber stair tower
 - Lower concrete staircase & shower
- **Staircase is nearing end of life, unless major capital renovations are made**

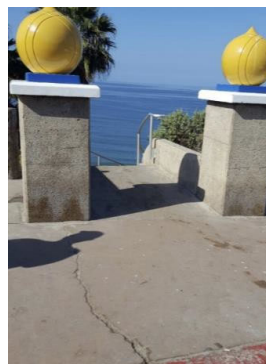


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PROJECT BACKGROUND & SCOPE OF WORK

- **The proposed capital project may include:**
 - Upgrade galvanized steel hardware with duplex stainless steel
 - Replace structural timber elements in accordance with current Building Code & Coastal Commission Standards
 - Replace portions of the concrete stairway.
 - Investigate and identify accessibility improvements



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ESTIMATED PROJECT FUNDING & BUDGET



ITEM	COST ESTIMATE
Design	\$150,000
Construction & Contingency	\$654,140
Construction Inspections	\$100,000
TOTAL COST	\$904,140
SOURCE	AMOUNT
City Local Funds	\$800,000
PRBIMF (request)	\$104,140
TOTAL BUDGET	\$904,140



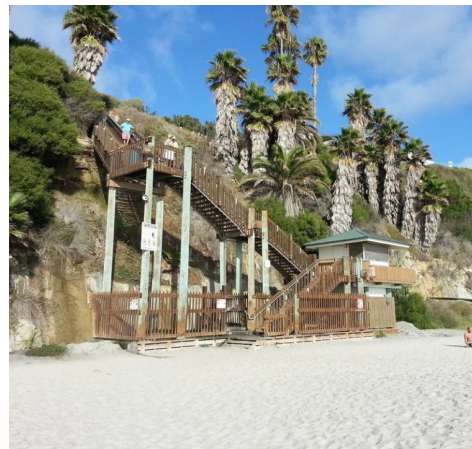
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PROJECT ELIGIBILITY

Public Recreational Beach Impact Mitigation Fund

- ✓ Obtain City Council Resolution formally requesting funds (August 13, 2025)
- ✓ Public shorefront recreational improvement to an existing public beach access stairway
- ✓ Large Capital Project with a \$900,000+ budget
- ✓ Project will obtain a Coastal Development Permit through either City of Encinitas's approved Local Coastal Program (LCP) or directly from Coastal Commission.



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Questions?



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September 4, 2025

West Coast Beach Nourishment Dredging Panel Discussion

Overview

The San Diego Association of Governments (SANDAG) has led two previous Regional Beach Sand Projects (2001 and 2012) placing 3.6 million cubic yards of sand along San Diego's coastline. Based on robust Regional Shoreline Monitoring Program data, a third regional nourishment project is needed. At the request of the coastal jurisdictions, SANDAG has completed the necessary planning and economic feasibility studies for a third Regional Beach Sand Project (RBSP III). SANDAG is currently seeking state and federal grant funding to begin future phases of RBSP III.

The future construction phase of RBSP III will require the use of an oceangoing hopper dredge to move sand from the ocean floor to the beach. Currently hopper dredges are homeported outside of California which adds cost and time for beach nourishment projects. SANDAG will provide a short presentation on beach nourishment dredging followed by a panel discussion amongst dredging industry representatives, the U.S. Army Corps of Engineers (USACE) staff, and coastal engineers to provide insight into current practices, challenges and opportunities to increase efficiencies and minimize costs.

Action: **Discussion**

The Shoreline Preservation Working Group members will participate in a panel discussion amongst representatives from the dredging industry, the U.S. Army Corps of Engineers and coastal engineers focused on beach nourishment dredging to provide insight into current practices, challenges, and opportunities to raise efficiencies and minimize costs.

Fiscal Impact:

None.

Schedule/Scope Impact:

None.

Key Considerations

- The mobilization cost for the hopper dredge that constructed RBSP II in 2012 was \$9.3 million or 37% of the total project cost of \$25 million. The cost to mobilize the dredge that conducted the USACE Encinitas/Solana Beach Coastal Storm Damage Reduction Project in 2024 was \$7.8 million of the total project cost of \$69 million, 11% of the project cost. This high cost is because the dredges needed for large-scale beach replenishment projects are typically not present in California.
- The State of California and the County of Orange have independently explored the idea of purchasing a dredge for beach nourishment to reduce costs. These studies concluded that it was not economically feasible for one government body to buy and operate a dredge given the initial purchase cost, maintenance and repair requirements, specialized expertise required for open ocean marine dredging, investment required to hire, train, and retain the necessary crew, and high liability associated with this type of construction.
- The USACE is responsible for ensuring safe and efficient navigation through waterways by maintaining and improving federal channels and harbors. USACE operates four full-size hopper dredges nationwide, along with a few "special purpose" hopper dredges restricted to the Mid- and South- Atlantic regions. Two of the full-size hopper dredges are managed by the Portland District and are primarily active on the West Coast. The remaining two are based on the East Coast and are subject to strict legal and operational constraints that prevent deployment to the West Coast except under special circumstances.

- The USACE has substantially more dredging work along the West Coast than can be accomplished by the USACE fleet only. As such, the USACE releases annual contracts to dredge approximately 3.3 million cubic yards of sand from Humbolt Bay, California, the Columbia River, Oregon; and Grays Harbor in Washington. In 2024, the USACE expanded the work to include dredging for beach nourishment in the cities of Solana Beach, Encinitas and San Clemente.
- A [2024-2025 Orange County Grand Jury Report](#) examined the on-going railroad disruption in the City of San Clemente due to beach erosion and bluff collapse. Of the many results concluded in the report, one noteworthy conclusion was the lack of dredging companies serving the West Coast.
- In late 2024, the five counties of Southern California formed the Southern California Beach Sand Collaborative (SCSC) to collaborate on beach nourishment projects and shoreline management issues from Point Conception to the U.S. Mexican Border. One goal of the SCSC is to approach beach nourishment projects collectively across Southern California to increase the number and frequency of beach nourishment activities with the hope to lower overall cost through increased demand.

Next Steps

SANDAG will take all recommendations and insights from the panel discussion into consideration when updating the current shoreline policy documents. In addition, these findings will also inform the planning and implementation of future phases of RBSP III.

Antoinette Meier, Senior Director of Regional Planning

Attachment: 1. Beach Nourishment Dredging Panelists

Beach Nourishment Dredging Panel Biographies

Facilitator:

Chris Webb, Principal Coastal Scientist
Moffatt & Nichol

Chris Webb is a Principal Coastal Scientist at Moffatt & Nichol in Orange County, California where he has been with the company for 32 years. Mr. Webb manages beach, wetland, and estuarine restoration projects in Southern Central California. His work includes planning and concept and final engineering designs of beach nourishment and tidal wetland restoration projects. Chris has been involved in planning, design and implementation of SANDAG's Regional Beach Project I and II. Mr. Webb received Bachelor and Master of Arts degrees in Geography from San Diego State University.

Dredging Industry:

Chuck Broussard, Senior Vice President
Weeks Marine, Inc.

Chuck Broussard serves as Senior Vice President for Weeks Marine Dredging, a district of Kiewit. As Senior Vice President, Chuck is responsible for overseeing the estimating department, daily operational support, and coordination of fleet logistics. He has 32 years of dredging experience and has provided project oversight for numerous dredging projects.

Dredging Industry:

Lynn Nietfeld, Senior Vice President
Great Lakes Dredge & Dock Company, LLC

Lynn Nietfeld was named Senior Vice President, East Coast Region in 2023. Ms. Nietfeld previously served as Senior Vice President, Southeast Region since 2022. Prior roles include Vice President – Senior Project Sponsor, Project Area Operations Southeast, and Senior Project Sponsor, overseeing projects in the Southeast and West Coast beginning 2011, including several beach renourishments on the east and the SANDAG Beach Project in 2012. Prior to this role, she worked as a Project Manager on several Great Lakes projects, including a deepening project in Long Beach, California and the Columbia River. Ms. Nietfeld joined Great Lakes in 1995 as a Field Engineer and brings over 30 years of engineering and operations leadership. Ms. Nietfeld received a Bachelor of Science degree in Civil Engineering from the University of Minnesota.

U.S. Army Corps of Engineers:**Chuck Mesa, Chief Coastal Engineering**
USACE LA District

Over 37 years' professional engineering experience encompassing a broad and diverse range of coastal engineering projects involving planning, design, construction, and operation and maintenance phases of navigable waterways, harbors, ports, breakwaters, jetties, revetments, groins, beach fills, and wetlands restoration. Design experience includes extensive use of numerical modeling, physical modeling, complex coastal processes analysis, field data collection and instrumentation, field data analysis and interpretation, CAD, and development of plans and specifications. Construction experience includes extensive beach fill projects, and extensive placement of stone and concrete armor units on breakwaters, jetties, groins, revetments, and levees. Mr. Mesa holds a Master of Engineering degree in Coastal Engineering from the University of Florida. Mr. Mesa is a licensed professional civil engineer in the State of California, #46747. In his free time, Mr. Mesa enjoys surfing, scuba diving, and goofing off at the beach.

U.S. Army Corps of Engineers:**Adam Mamrak, National Dredging Technical & Cost SME**
USACE Cost Engineering Center of Expertise

Adam currently serves as the National Dredging Technical & Cost Subject Matter Expert at the USACE Cost Center of Expertise. He has been heavily engaged in the planning of dredging and large marine projects throughout the country and manages instruction, validation, and continuous improvement of the U.S. Corps of Engineers Dredge Estimating Program (CEDEP) used to create all dredging cost estimates throughout USACE. His prior experience includes a decade in the field with a large dredging contractor, primarily as a Production Engineer, where he worked on projects throughout the US, Puerto Rico, and Brazil. He was onsite during the SANDAG beach renourishment project in 2012.

Coastal Engineering:**Alan Alcorn, Vice President**
Moffatt & Nichol

Mr. Alcorn of Moffatt & Nichol provides more than 45 years of extensive experience in civil works projects with a particular focus on dredging and other coastal engineering projects. The first 10 years were with the USACE (Los Angeles District) and last 35 years with Moffatt & Nichol. His dredging experience involved planning, analysis, design, construction document preparation and post-construction-award services for dredging, excavation, landfill, and dredged material disposal projects. Experience ranges from creation of new reclamation land, cleanup of contaminated soil areas, maintenance channel dredging, establishment of wetlands and beach restoration. He is the former President of the Western Dredging Association.

Coastal Engineering:**Jon Finegold, Senior Construction Manager**Moffatt & Nichol

Jon Finegold is a Dredging Specialist with 17 years of experience in the industry out of the Moffatt & Nichol Long Beach office. Jon started his dredging career at Manson Construction Co., working on projects throughout the country from Florida to Alaska. Jon has spent the last decade based in Southern California estimating and managing a wide variety of dredge projects including beach renourishment work, USACE channel maintenance work, port land reclamation projects, and Navy base improvements. After 15 years at Manson, Jon joined Moffatt and Nichol and has helped with design and constructability reviews of various projects involving dredging. Jon received a Bachelor of Science in Civil Engineering from the University of Florida.

Dredging 101

Beach Renourishment in Southern California

Presented By:

Jon Finegold, Coastal Engineer/Dredging Specialist
Moffatt & Nichol



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Dredging 101

Beach Renourishment in Southern California

- Understanding of Dredging is Critical to Successful Project Design and Implementation
- Major Factors in the Cost of a Dredging Project
 - Types of Dredges and Applicability
 - Placement Methods
 - Borrow Site Location and Design
 - Environmental Constraints / Weather-Wave Conditions
 - Execution Factors – Pipeline, Attendant Plant
 - Historic Success, Lessons Learned
 - Factor to Control Costs



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Dredging Methods – Types of Dredges

Trailing Suction Hopper Dredge



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Placement Methods & Required Handling

Trailing Suction Hopper Dredge

- Bottom Dump
- Pump-out / Beach Placement
- Rainbow (rare in USA)

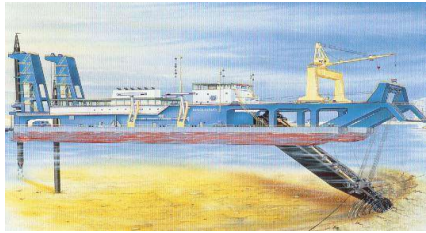


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Dredging Methods – Types of Dredges

Cutter Dredges (also called cutterhead dredges, pipeline dredges, or hydraulic dredges)

- Measured by diameter of discharge pipe
- 30 inch dredge is massive



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Placement Methods & Required Handling

Pipeline Dredges

- Beach Fill
- Land Reclamation
- Wetland Creation



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Dredging Methods – Types of Dredges

Large Cutter Dredges

- 24 inch diameter discharge pipe and up



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Dredging Methods – Types of Dredges

Small Cutter Dredges

- 6 inches to 18 inches discharge pipe diameter
- Often truckable



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Dredging Methods – Types of Dredges

Mechanical Dredges

- Clamshell
- Backhoe
- Ladder/Dipper
- Dragline



Backhoe Dredge



Clamshell Dredge

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Placement Methods & Required Handling

Mechanical Dredges

- Barges/Scows towed to disposal location with tugboat
- Material Bottom Dumped, or
- Hydraulic Offload, or
- Mechanical Offload

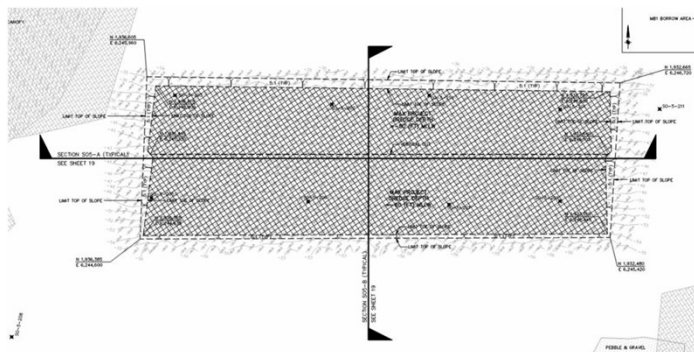


Source: USACE Galveston District

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Borrow Site Design Factors

- Proximity to Disposal Sites
- Material Quality
- Reachable Depth
- Borrow Length to Minimize Dredge Turns during Loading
- Wave Conditions



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Borrow Site Design Factors

- Wide Array of Receiver Sites
- Each site needs a Borrow Source no more than 20 miles away, the closer the better
- Work is currently being done to identify more borrow sites



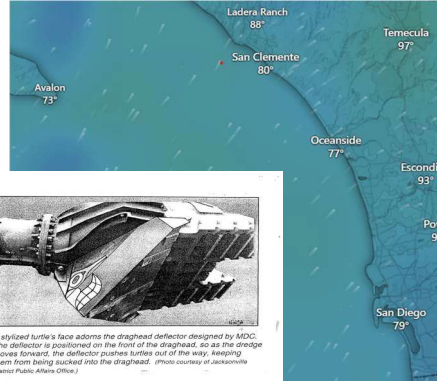
Taken from 2012 SANDAG Presentation

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Environmental Constraints and Weather

Environmental Constraints

- Marine Mammals (Speed, Observers, Time of Year)
- Turtles
- Grunion
- Bird Nesting
- Commercial Lobster Fishing
- Air and Water Quality



Weather

- Wave Conditions, Downtime, Safety

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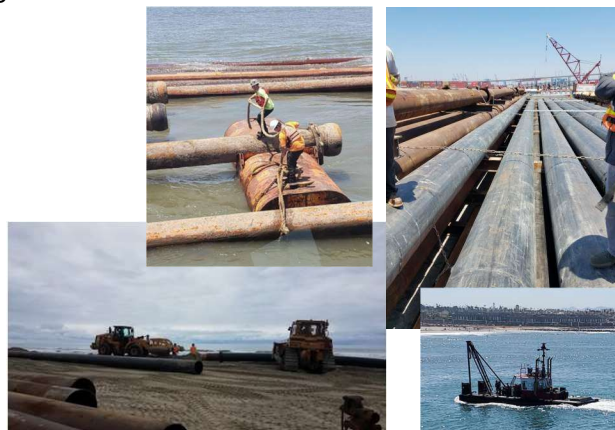
Mobilization and Execution

Offshore Pipeline

- Dedicated Crew - Bullgang
- Crane Barge
- Work Boats
- Floating and Submerged Pipeline
- Pontoons

Shore Pipeline

- Shore Crew with Flagmen for Public Safety
- Bull Dozers
- Front End Loaders
- Excavators



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West Coast Hopper Dredge Market – Past Bids

SANDAG Regional Beach Sand Project II - 2012

Bidder 1	Bidder 2	Bidder 3
\$23,817,200	\$25,558,700	\$28,185,590

SANDAG Regional Beach Sand Project I - 2001

Bidder 1	Bidder 2	Bidder 3	Bidder 4
\$10,827,163	\$16,955,200	\$18,800,200	\$25,300,000



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West Coast Hopper Dredge Market – Past Bids

USACE West Coast Hopper (Columbia River) Bid Results 2015-2025

Year	Bids			Winning Bidder
	Bidder 1	Bidder 2	Bidder 3	
2025		\$32,858,750		Bidder 2
2024		\$30,482,500		Bidder 2
2023		\$68,929,000		Bidder 2
2022		\$26,993,500		Bidder 2
2021		\$32,452,500	\$28,996,369	Bidder 3
2020		\$26,782,500	\$25,815,000	Bidder 3
2019	\$28,558,000	\$22,851,000	\$25,404,000	Bidder 2
2018	\$33,013,750	\$25,787,500	\$23,228,055	Bidder 3
2017	\$19,618,320	\$20,762,500		Bidder 1
2016		\$23,817,000		Bidder 2
2015		\$26,993,500		Bidder 2



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Summary

Factors that Determine Applicable Dredge Plant and Cost

- Dredge Volume, Template, Location, and Adjacent Infrastructure
- Dredged Material Type, Quality and Disposal
- Placement Site, Methods, and Handling
- Applicable Dredge Type Production Capabilities
- Environmental Constraints and Estimated Weather Downtime
- Other Current and Projected Market Needs for Applicable Dredge Type
- Project Frequency (Annual, Every 5 Years?, 10 Years?)

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Summary

Things You Can Do to Help Control Costs

- Early Engagement with Permit Agencies to Negotiate Restrictions, Time of Year Dredging and Placement Allowed and BMPs
- Identify and Permit Nearby Borrow Sources with Desired Material Qualities
- Early Contractor Engagement (Once Likely Dredge Plant Type Determined),
Understand Market and Schedule Constraints
- Allow Contractor Flexibility (Tolerances, Oversized Borrow Areas, Project Delivery Timeline) as Much as Practicable
- Bid Early – allows time for planning

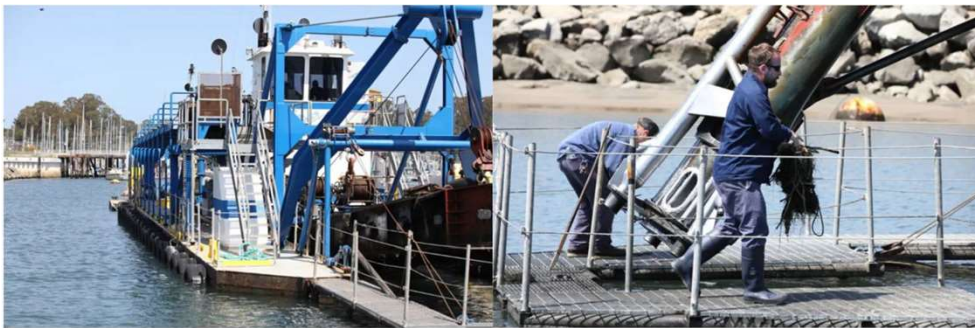
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Thank You, Question?



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Harbor Owned Dredge – Santa Cruz



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Dredge Production Rates

Material Transport To/From Distance Affects Production Rate and Costs

Typical Beach Fill Cost vs. Distance from Borrow Area

