



# Resiliency Port of San Diego

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**PORT of  
SAN DIEGO**  
Environment



**PORT** of  
**SAN DIEGO**

## Jurisdiction

**5** member cities

**22** public parks

**2** cargo terminals

**2** cruise ship terminals

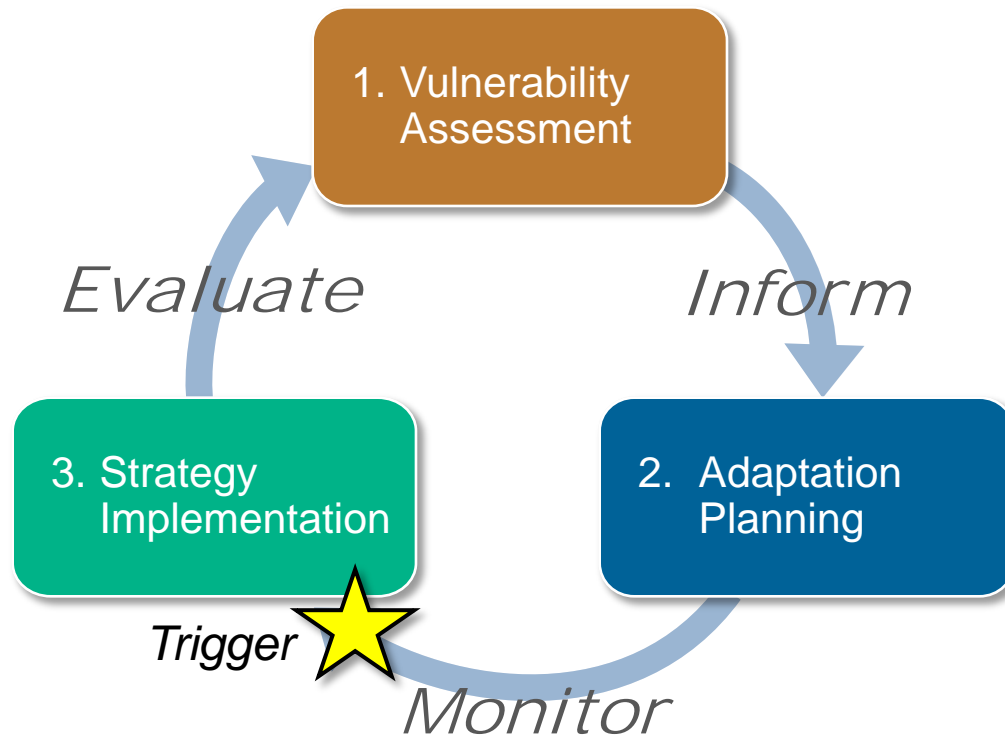
**34**  
miles of  
waterfront

**2,403**  
acres of  
land

**3,535**  
acres of  
water



# Sea Level Rise Planning Process



Plan and prepare for potential coastal flooding and inundation related to sea level rise.

# Sea Level Rise Ad-Hoc Committee

## Members

- Department of Navy
- Center for Sustainable Energy
- BAE Systems
- Port Tenants Association
- San Diego State University
- University of California, San Diego
- Shelter Island Marina
- US Fish and Wildlife
- Environmental Health Coalition
- Southwest Wetlands Interpretative Association

## Advisors

*Scripps Institution of Oceanography*  
Dr. Julie Kalansky

*United States Geological Survey*  
Dr. Juliette Finzi-Hart

*ICF International*  
Dr. Robert Kay

*Nexus Planning & Research*  
Dennis Larson

# Sea Level Rise Ad-Hoc Committee

2017

- Background on sea level rise science
- Review recommended sea level rise projections
- Review recommended coastal model
- Identify assets to be analyzed

2018

- Review vulnerability assessment hazard maps
- Review adaptive management approach
- Review adaptation planning process including adaptation scenario decision criteria
- Review recommended monitoring performance metrics

# Memorandum of Agreement Coordinate on Sea Level Rise Planning



# Port & Navy Partnerships

The Integrated Natural Resource Management Plan sets forth a coordinated plan for natural resource management in San Diego Bay.



# Planning Initiatives



- Port is evaluating impacts of sea level rise pursuant to Assembly Bill 691.
- Planning for nature-based solutions to protect coastal resources.
- DOD has conducted over 700 assessments of flooding at coastal installations worldwide.
- Navy has forged partnerships with state and local governments to advance sea level rise planning.



# Memorandum of Agreement

First MOA between Navy and Port on the West Coast.  
Appoints qualified staff to:

- Coordinate sea level rise planning initiatives
- Share sea level rise policies, assessments, and guidance
- Re-evaluate science every five years
- Identify complimentary adaptation strategies
- Implement pilot projects as feasible

# Restoration & Enhancement Projects South San Diego Bay

Restoration & Enhancement Projects  
for resiliency South San Diego Bay

- **Restoration & Enhancement 280 acres**
- **Pond 20**
- **Living Shoreline**



# Restoration & Enhancement 280 acres

# Chula Vista Wildlife Reserve



# Fish & Wildlife Refuge

Pond 11

Pond 10

Pond 10A

## Restoration & Enhancement Projects for resiliency South San Diego Bay

### Grant Funding provided by:

- US Environmental Protection Agency
- Port Environmental Fund
- California Coastal Conservancy
- US Fish & Wildlife Service
- NOAA – stimulus funds



## Restoration & Enhancement Projects for resiliency South San Diego Bay

### Volunteer Assistance provided by

- SD Audubon Society
- SD Oceans Foundation
- Ocean Discovery Institute
- Coronado Rotary Club





# Living Shoreline

# Living Shoreline



“Living shorelines utilize natural habitat elements to protect shorelines from erosion while providing critical habitat for fish, wetlands and aquatic plants, as well as wildlife”

**Partners include:**

- Port of San Diego
- California Coastal Conservancy
- US Fish & Wildlife Service Coastal Program
- Technical Advisory Committee

## Native Oyster Reefs

# Living Shoreline

- Climate change and sea level rise pose a threat to both developed coastal lands and remaining undeveloped coastal habitats
- Prevent large scale engineered armoring of shorelines
- Increase ecological value



E Street Marsh Chula Vista

# Living Shoreline

## Native Oyster Reefs

- Native oyster recruitment
- Unarmored shoreline
- Adjacent to marshland
- Moderate to high wave energy environment
- 2,300 linear feet of shoreline



# Living Shoreline

## Native Oyster Reefs

Resiliency for storm surge  
Erosion protection for shoreline  
Water Quality filtering by oysters

### Status

90% Design  
Need construction funding - \$750,000



# Mitigation Bank at Pond 20

# Mitigation Banking

- 95 acres
- Former salt evaporation pond
- Coordinating mitigation bank with adjacent FWS restoration
- Create tidal wetlands



# Mitigation Banking

- Public comments on Prospectus
  - August 2018
- EIR - Notice of Preparation
  - in the Fall 2018
- Construction
  - Fall 2020





A nighttime photograph of a city skyline across a body of water. The buildings are illuminated with warm lights, and a full moon is visible in the dark sky. The water in the foreground reflects the lights from the buildings and the moon.

# *Questions / Discussion*

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