Hawaii CZM Program
Coastal Zone Management
HAWAII STATE OFFICE OF PLANNING

Council on Ocean Resources Meeting

July 1, 2021

Agenda

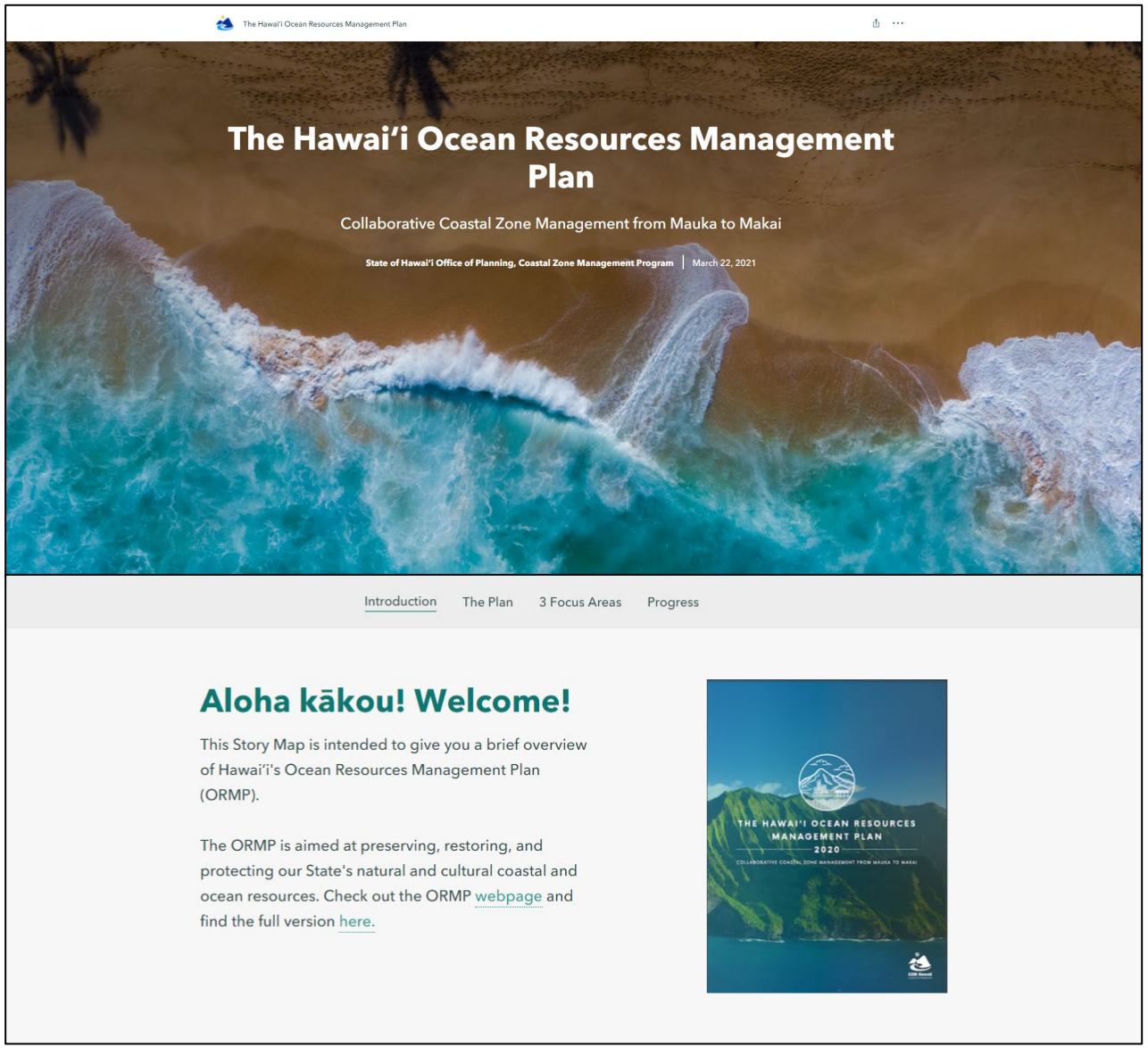
Welcome and Introductions	***Mary Alice Evans**, Director, Hawai'i Office of Planning (OP)*
General ORMP Updates	***Justine Nihipali**, Planning Program Manager, Hawai'i Coastal Zone Management (CZM) Program*
The Ocean Resources Management Plan (ORMP) Implementation Updates Full Council Discussion	***Yusraa Tadj**, Project Analyst, OP-CZM* ***Melanie Lander**, Community Planning and Design Extension Agent, UH Sea Grant* ***Keelan Barcina**, Project Analyst, OP-CZM*
2050 Sustainability Plan Overview	***Danielle Bass**, State Sustainability Coordinator, Hawai'i Office of Planning (OP)*
Next Steps	***Justine Nihipali***

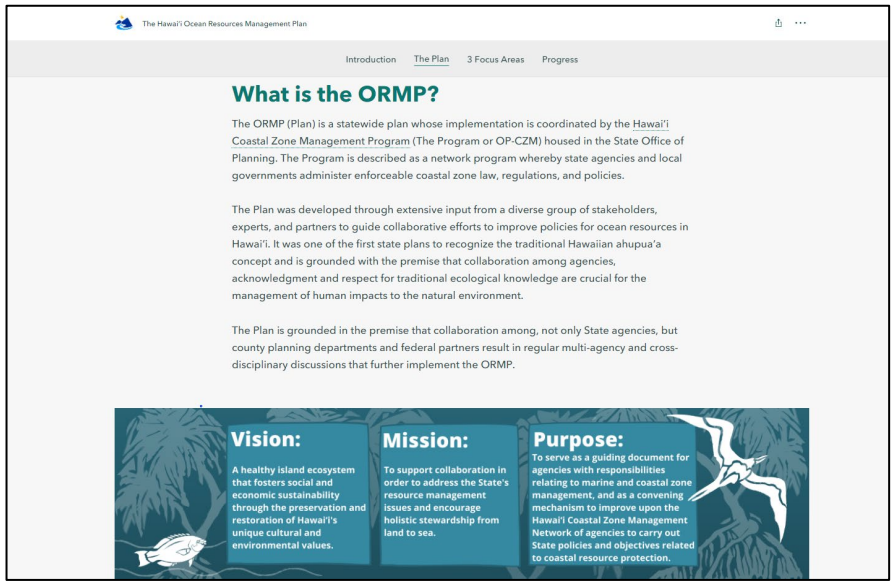
Welcome & Introductions

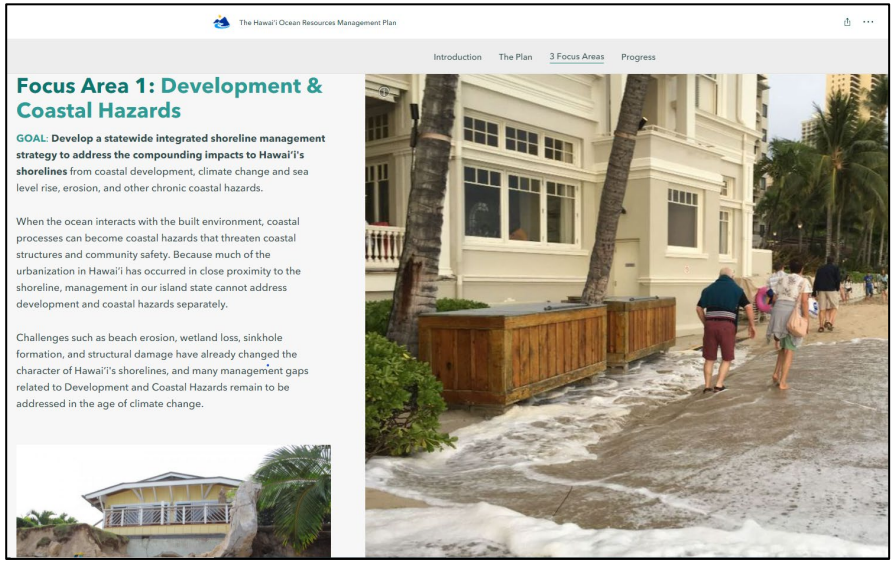
ORMP Updates

- Silver Jackets
- CZM Internal Strategic Planning Process
- Updated ORMP StoryMap

Updated ORMP StoryMap







ORMP Focus Area Implementation

Focus Area #1: **Development & Coastal Hazards** — ***Yusraa Tadj**, Project Analyst, OP-CZM*

Focus Area #2: **Land-Based Pollution** — ***Melanie Lander**, Community Planning and Design Extension Agent, UH Sea Grant*

Focus Area #3: **Marine Ecosystems** — ***Keelan Barcina**, Project Analyst, OP-CZM*

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Full Council Discussion

Please be prepared to share:

- Thoughts and feedback on the implementation projects
- Specific tools, resources, staff, studies, etc. that might support projects
- Potential areas of overlap between your agency initiatives and implementation projects

Focus Area I: Development & Coastal Hazards

Goal: Develop a statewide **integrated shoreline management strategy** to address the compounding impacts to Hawai’i's shorelines of coastal development, climate change and sea level rise, erosion, and other chronic coastal hazards

Regional Shoreline Scoping Study

Current shoreline management: parcel-by-parcel process

HRS 226-109 Climate Change Adaptation Priority Guidelines

Act 45, SLH 2020 OP responsibilities includes sea level adaptation coordination

Varied Shoreline Management Approaches

Land-use and Infrastructure

Codified Zoning

Littoral Cells

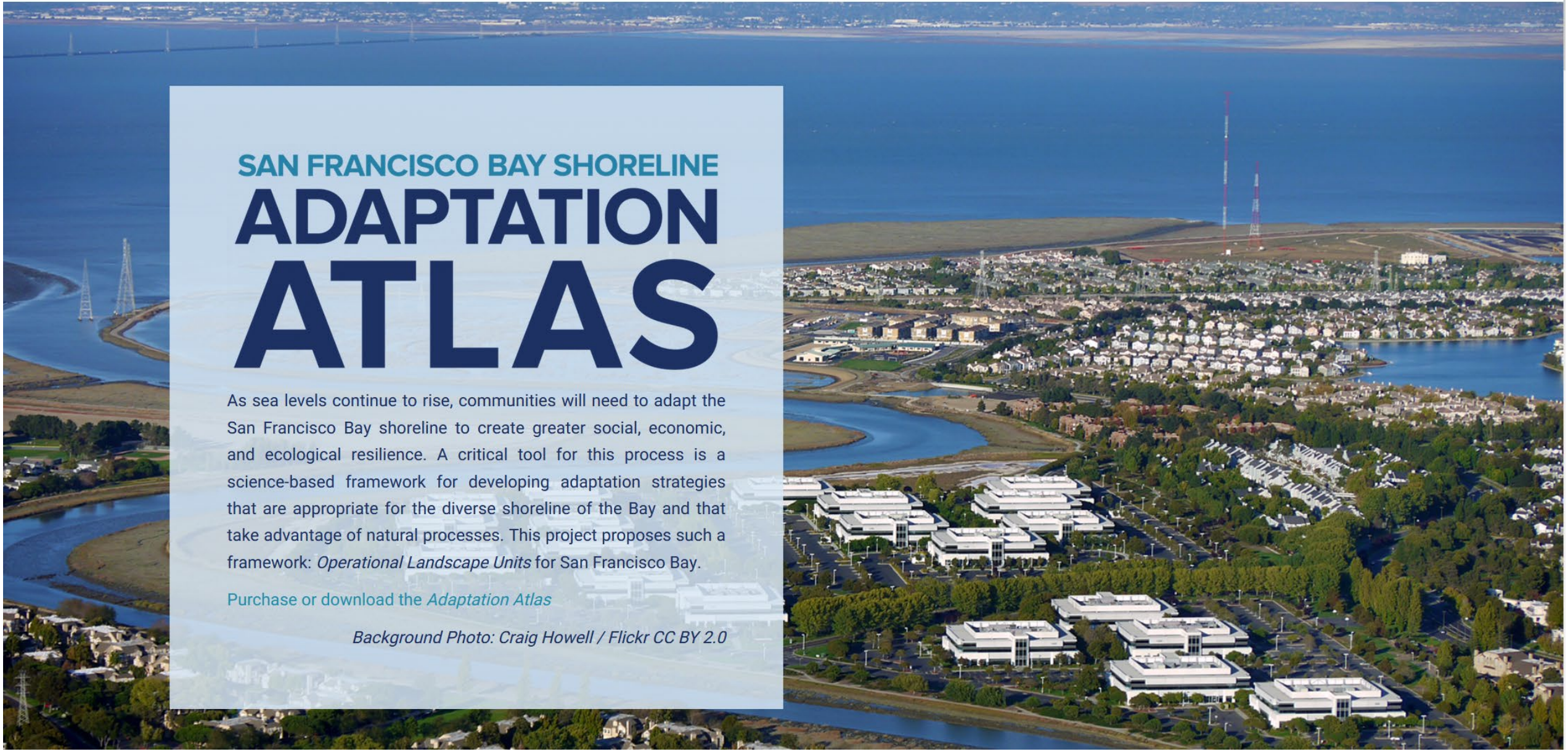
Watershed Approach

Design Planning

Coastal Master Plan

Systems / Science-based Approach

Scenario-based Planning



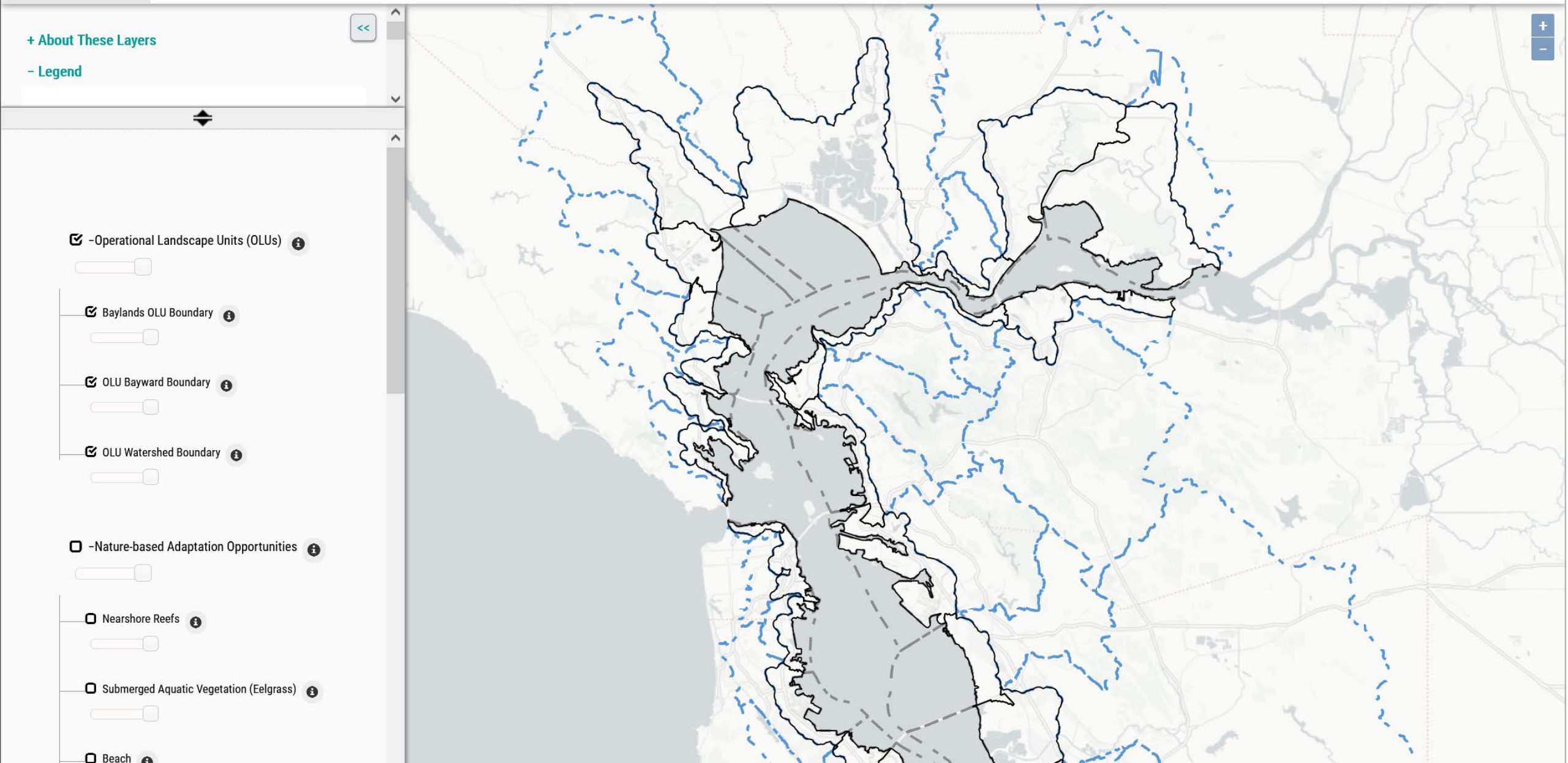
SAN FRANCISCO BAY SHORELINE

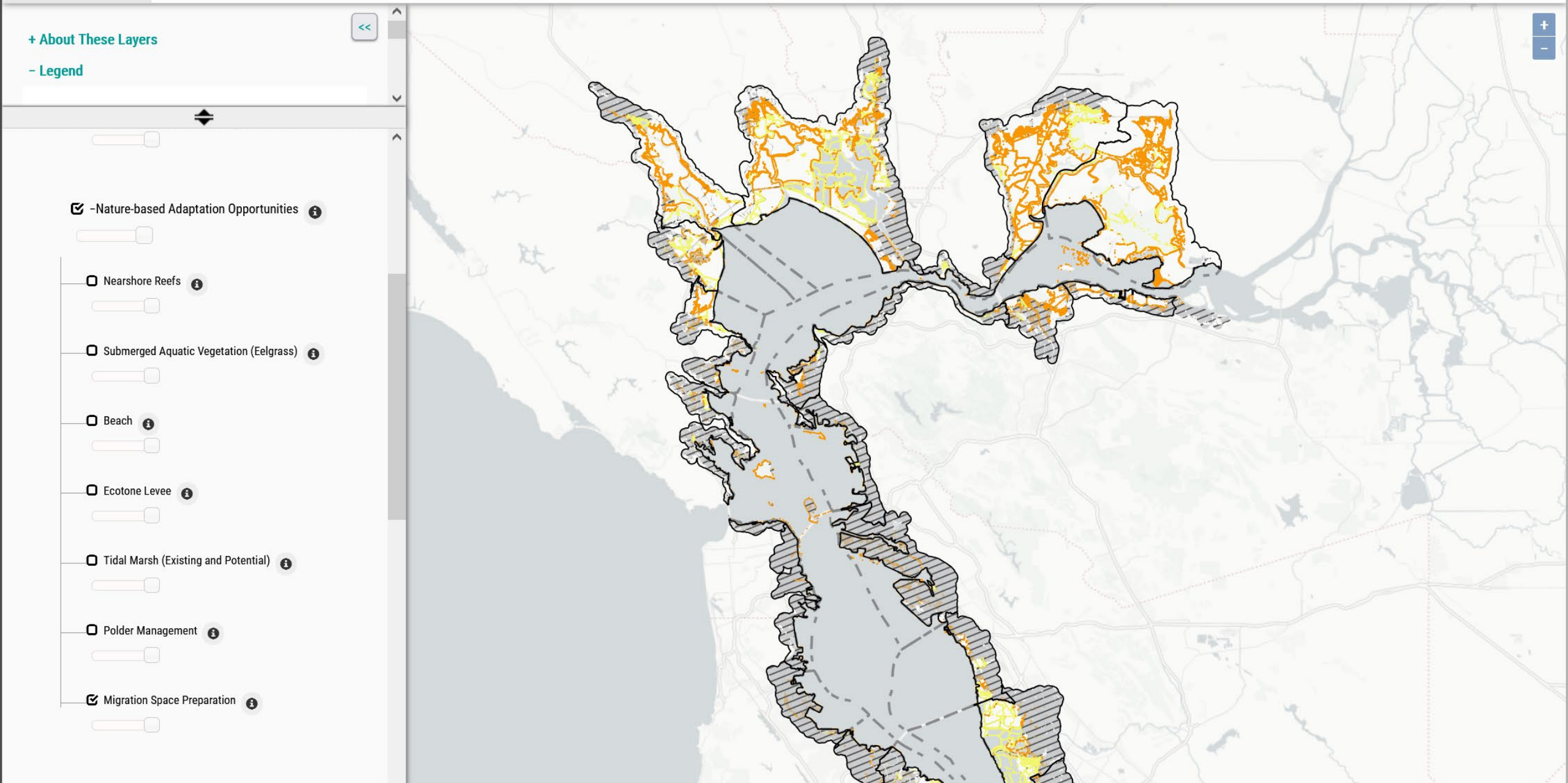
ADAPTATION ATLAS

As sea levels continue to rise, communities will need to adapt the San Francisco Bay shoreline to create greater social, economic, and ecological resilience. A critical tool for this process is a science-based framework for developing adaptation strategies that are appropriate for the diverse shoreline of the Bay and that take advantage of natural processes. This project proposes such a framework: *Operational Landscape Units* for San Francisco Bay.

Purchase or download the *Adaptation Atlas*

Background Photo: Craig Howell / Flickr CC BY 2.0


+ About These Layers
– Legend
–Operational Landscape Units (OLUs)
Baylands OLU Boundary
OLU Bayward Boundary
OLU Watershed Boundary
–Nature-based Adaptation Opportunities
Nearshore Reefs
Submerged Aquatic Vegetation (Eelgrass)
Beach

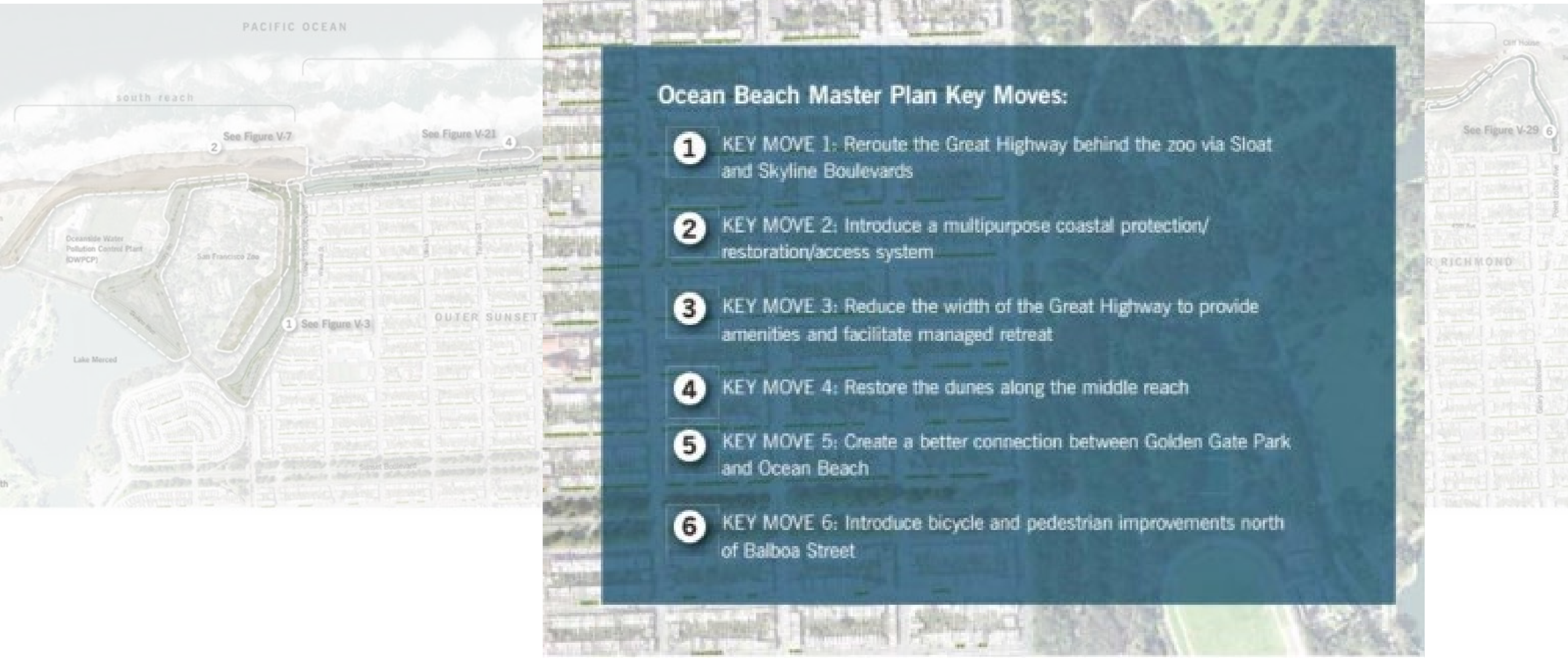

+ About These Layers
– Legend
–Nature-based Adaptation Opportunities
Nearshore Reefs
Submerged Aquatic Vegetation (Eelgrass)
Beach
Ecotone Levee
Tidal Marsh (Existing and Potential)
Polder Management
Migration Space Preparation

ocean beach master plan

May 2012

SPUR with **AECOM** | ESA PWA | Nelson\Nygaard | Sherwood Design Engineers | Phil D King PhD


PACIFIC OCEAN
south reach
middle reach
north reach
See Figure V-7
See Figure V-21
See Figure V-21
See Figure V-24
See Figure V-29
See Figure V-16
See Figure V-3
Oceanside Water Pollution Control Plant (OWPCP)
San Francisco Zoo
Lake Merced
OUTER SUNSET
OUTER RICHMOND
Golden Gate Park
Beach Chalet
Cliff House
The Great Highway
Lower Great Highway
Restored Dunes
Sunset Boulevard
Ocean Beach Master Plan Key Moves:
1 KEY MOVE 1: Reroute the Great Highway behind the zoo via Sloat and Skyline Boulevards
2 KEY MOVE 2: Introduce a multipurpose coastal protection/ restoration/access system
3 KEY MOVE 3: Reduce the width of the Great Highway to provide amenities and facilitate managed retreat
4 KEY MOVE 4: Restore the dunes along the middle reach
5 KEY MOVE 5: Create a better connection between Golden Gate Park and Ocean Beach
6 KEY MOVE 6: Introduce bicycle and pedestrian improvements north of Balboa Street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6
RICHMOND
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Preliminary Phasing

Phase I (1–3 years)

> Develop detailed roadway configuration options
> Conduct traffic modeling
> Implement striped bike lanes
> Work with San Francisco Zoo to develop access plan

Phase II (4–10 years)

> Complete project EIR
> Initiate capital planning
> Reduce the Great Highway to two lanes south of Sloat
> Remove the Sloat parking lot but retain the restroom
> Provide temporary coastal access parking and trail in former southbound lanes
> Begin zoo access reconfiguration

Phase III (10–20 years)

> Reconstruct and signalize Sloat Boulevard
> Complete zoo access reconfiguration and replacement parking
> Close and demolish the Great Highway south of Sloat
> Construct a new coastal access point at Sloat and Great Highway, including restroom
> Construct a coastal trail

Benefits

> Creates a spectacular new coastal trail and continuous pedestrian connection
> Enables significant retreat from coastal erosion and more flexible infrastructure protection
> Results in major improvements to Sloat Boulevard design, with green infrastructure elements

Constraints

> Some traffic impacts, likely minor
> Requires reconfiguring zoo access
> Cost of roadway and intersection improvements

Outstanding questions

> What is the nature of the traffic impacts?
> What is the optimal configuration of Sloat Boulevard and adjacent intersections?

Next Steps

Conduct interagency circulation and access study, to include:

> Development of detailed roadway configuration options
> Detailed traffic analysis, to provide the basis for environmental review

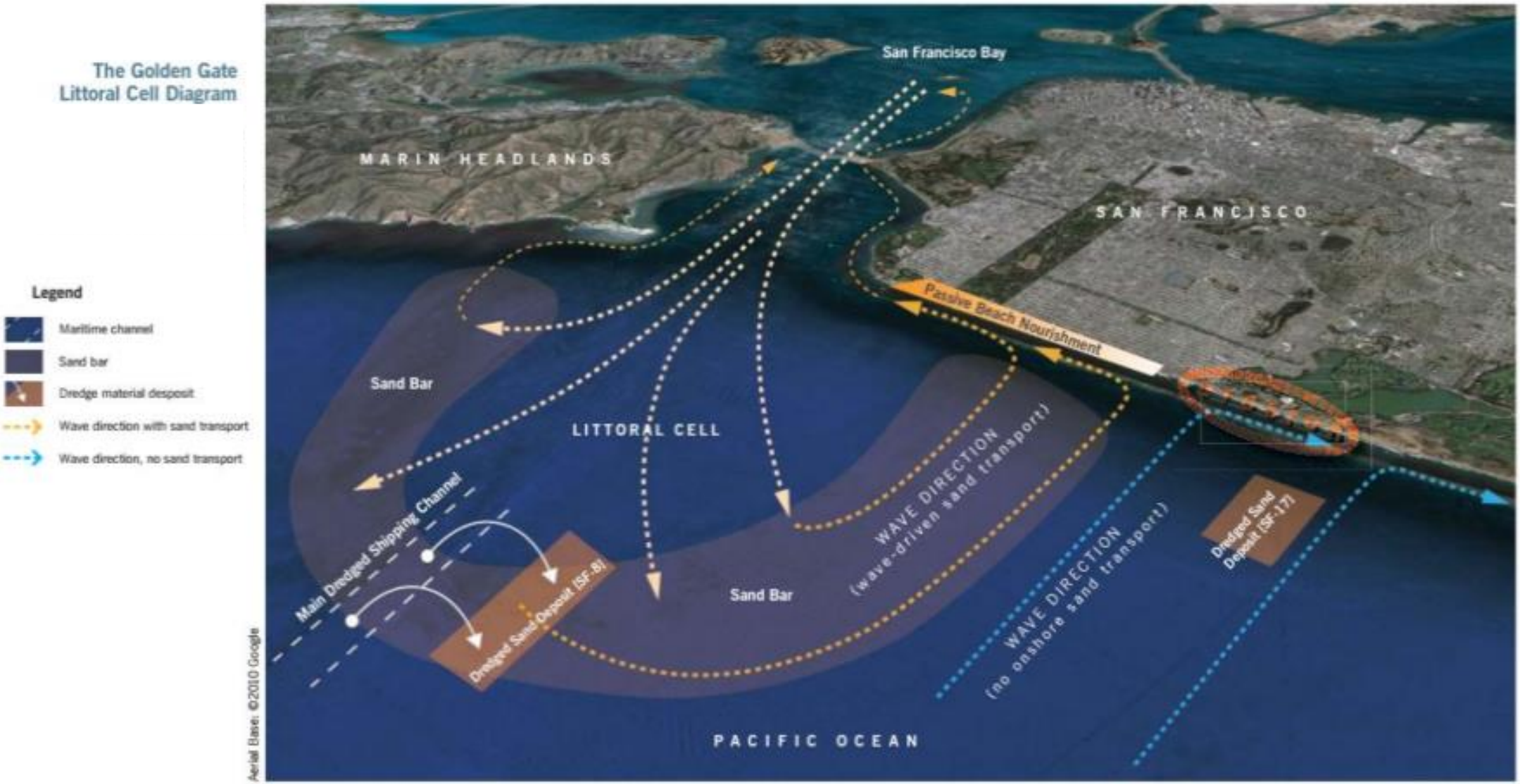
Lead Agency: San Francisco Municipal Transportation Authority (SFMTA)

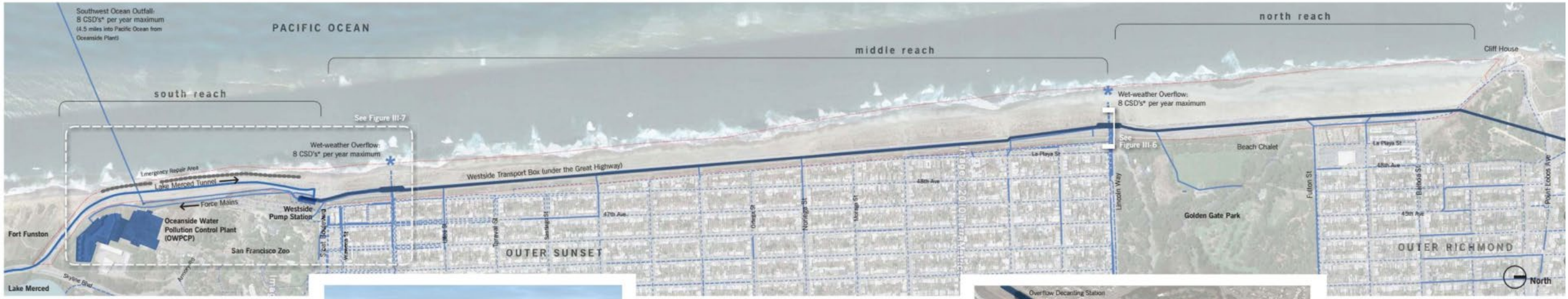
Partners: San Francisco Planning Department, San Francisco Recreation and Parks Department (SFRPD), San Francisco Department of Public Works (SFDPW)

Status: This study has been funded.

An interagency circulation and access study has been funded to confirm the anticipated minor traffic impacts of Key Move 1.
The main benefits of this proposal include the creation of spectacular new coastal amenities and the significant retreat it enables from coastal erosion.

The Golden Gate Littoral Cell Diagram





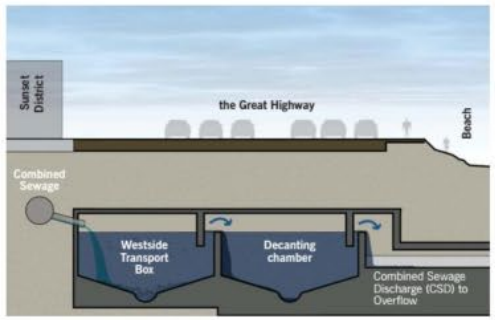
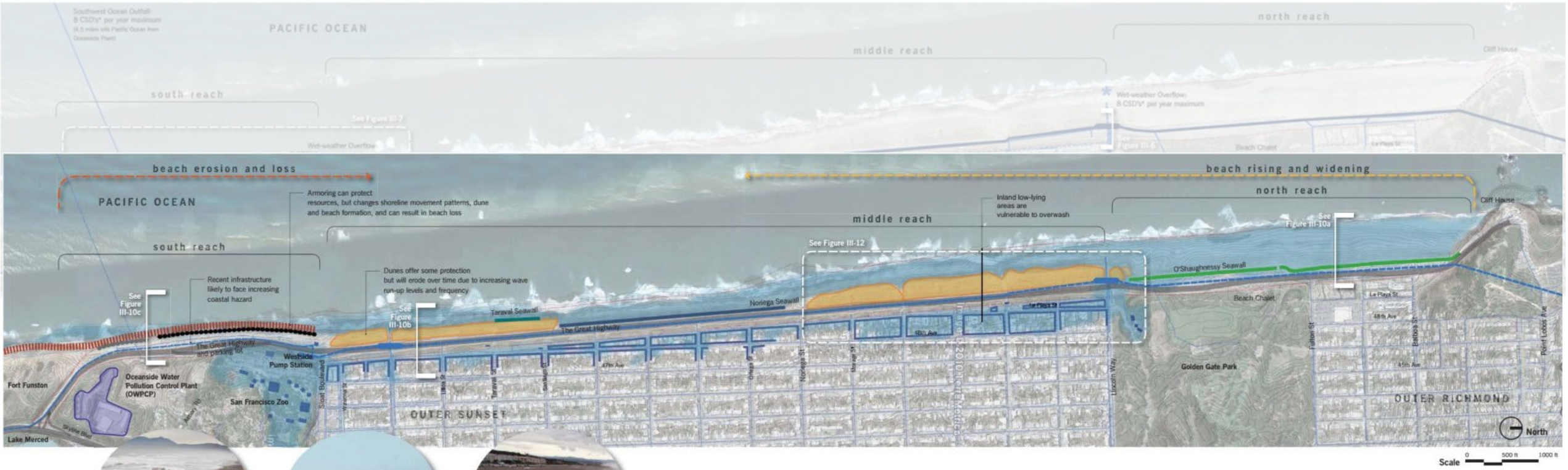


Figure III-6:
Westside Transport Box Sectional Diagram
(at overflow decanting station)

On extreme wet-weather conditions (averaging 7 to 8 times per year), decanting stations within the Westside Transport Box provide primary water treatment (decatation of solids) before combined sewage overflows are discharged onto the beach/ocean.

Figure III-7:
Lake Merced Tunnel Axonometric Diagram

A key component in the city's west side combined storm-sewage system is the 14-ft diameter Lake Merced Tunnel. Some portions of this facility are immediately vulnerable to erosion and must be protected or moved to prevent a serious sewage spill that would contaminate coastal waters.



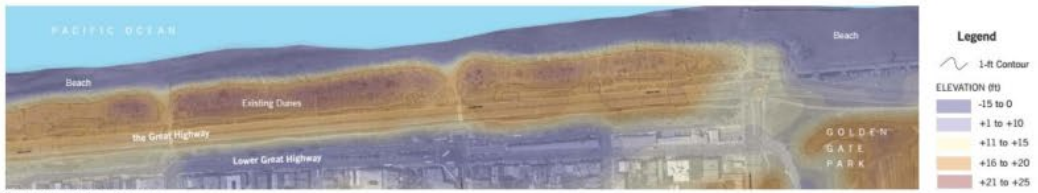
King Tide (2012), Ocean Beach's middle reach at wet-weather overflow facility

Taraval Seawall overtopping (1980s)

King Tide (2012) at Ocean Beach's north reach

Figure III-12:
Elevation Diagram, Detail

Low-lying areas in the Lower Great Highway are more susceptible to pooling due to higher frequency storm surges, as the sea level rises.



Source: Sherwood Design Engineers

Table III-2:
Existing Parking Spaces

SOURCE: Desktop and site observation counts (approximate), prepared by Nelson\Nygaard

LOCATION	AMOUNT	TOTAL
OWPCP Parking	135	
Great Highway Parking Lot 1	55	
Great Highway Parking Lot 2	55	
Street Parking on Sloat Boulevard	369	
San Francisco Zoo Parking Lot	459	1,679
Golden Gate Park Parking Lot	125	
O'Shaughanessy Promenade Lot	166	
Street Parking at Cliff House	125	
Land's End Parking Lot	134	
Point Lobos Avenue Parking Lot	56	

Bus Stop at La Playa Street

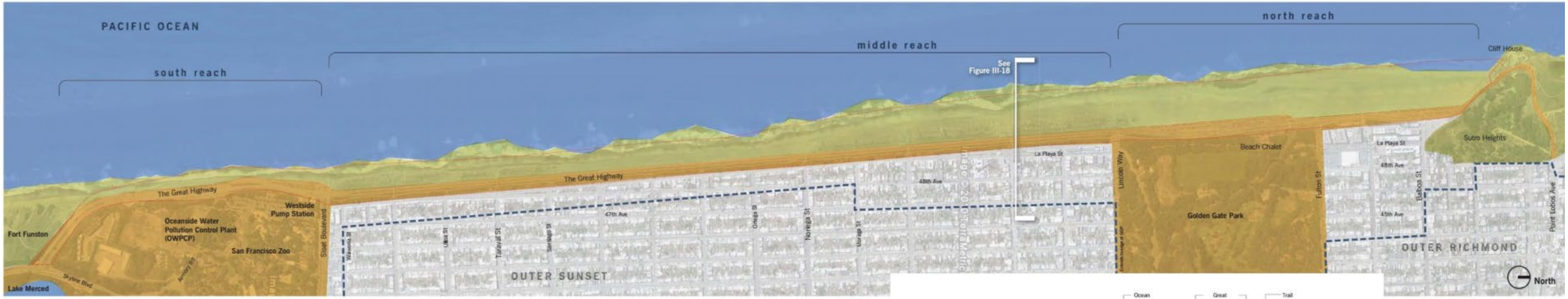
Pedestrian Path along Great Highway

Promenade

Ocean Beach Parking

Bike Route on Great Highway

Vehicular Traffic on Great Highway



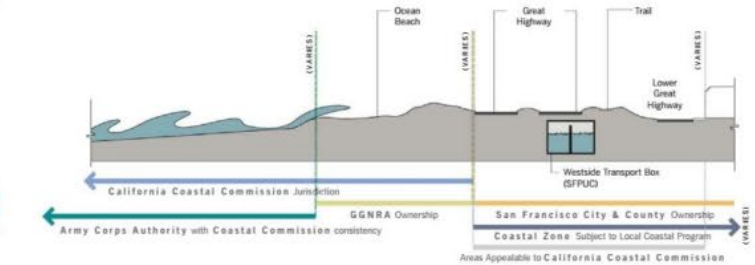
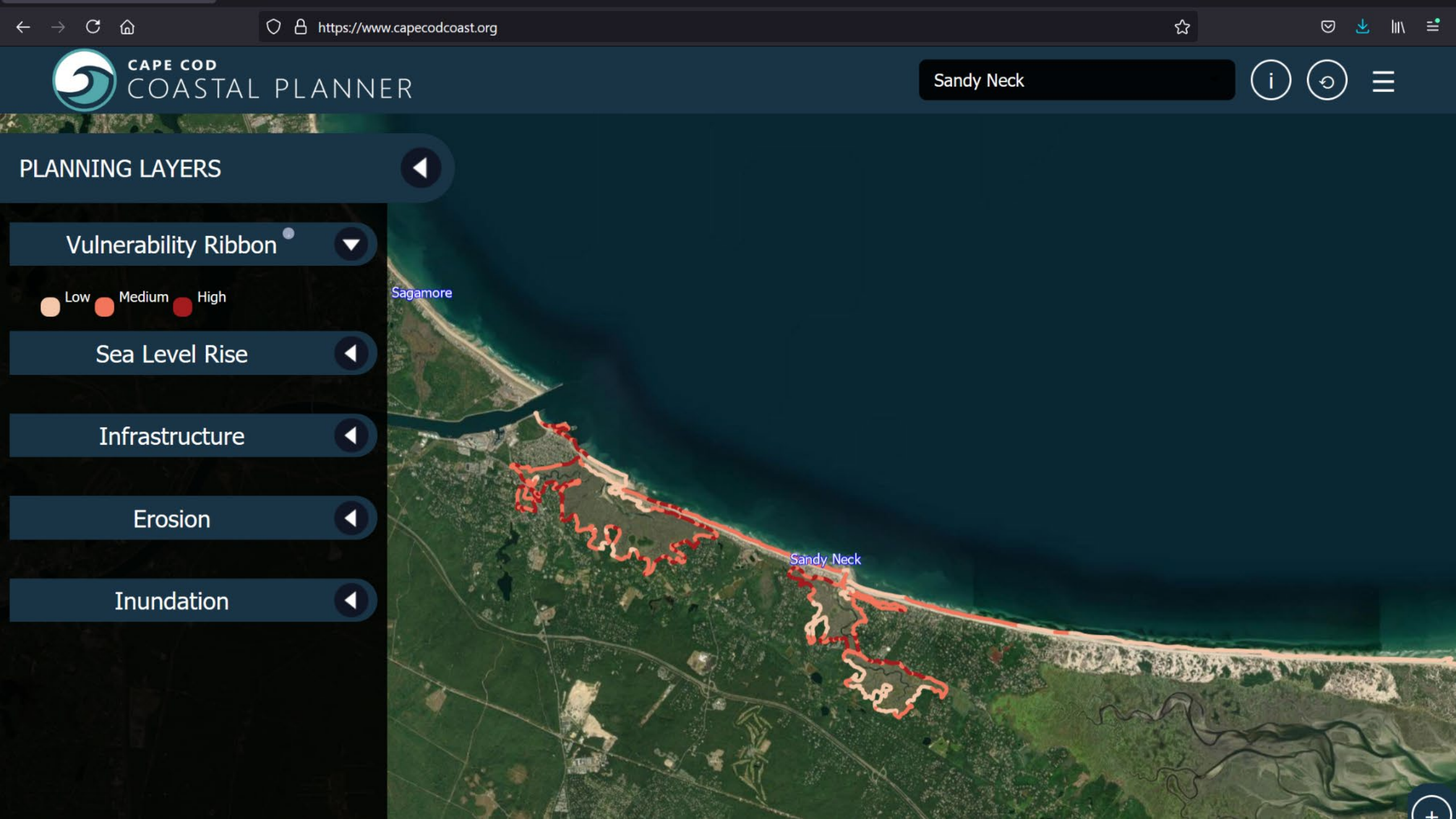
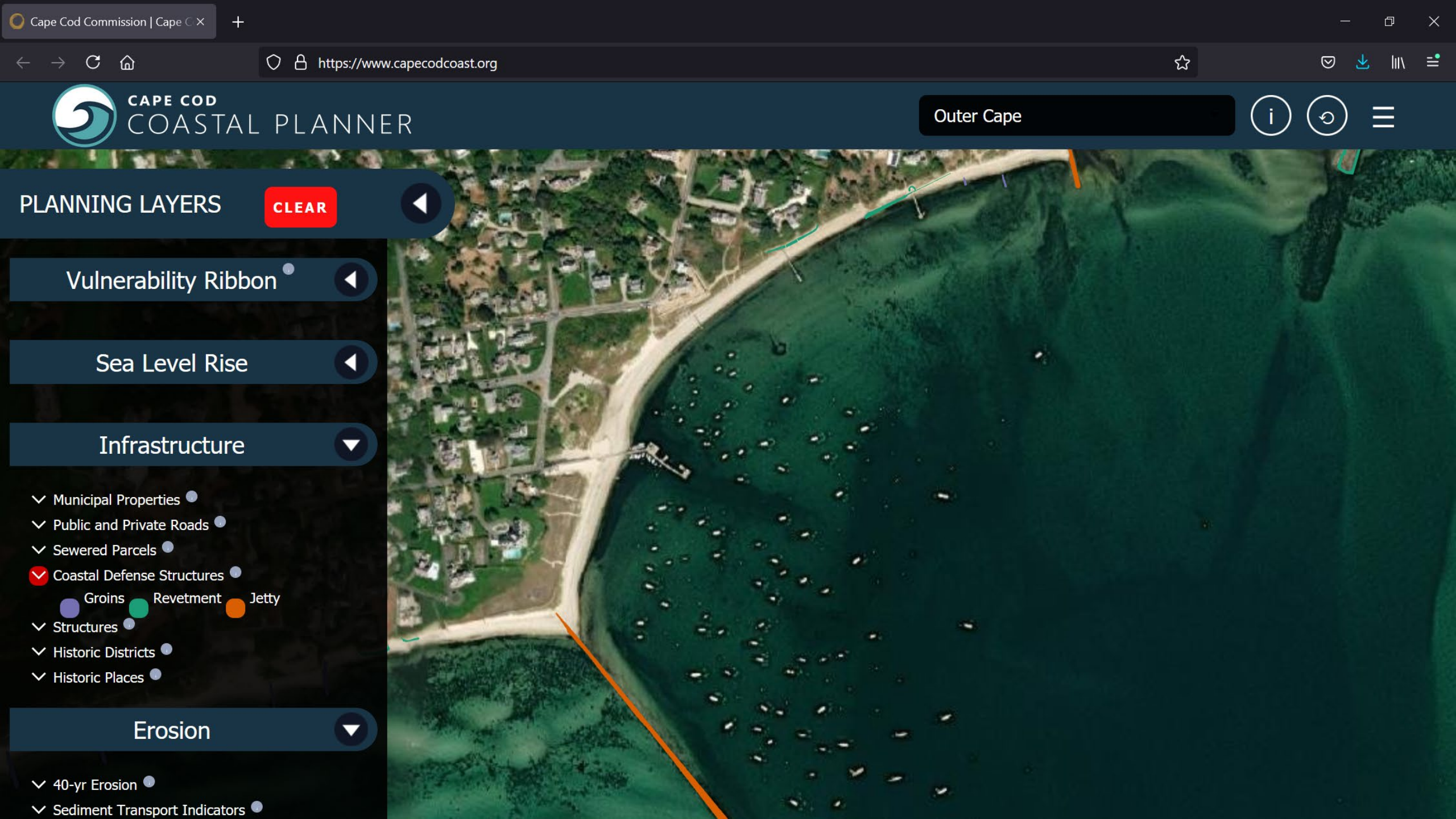


Figure III-18:
Jurisdsctions Diagrammatic Section
Not to Scale


https://www.capecodcoast.org
CAPE COD
COASTAL PLANNER
Sandy Neck
PLANNING LAYERS
Vulnerability Ribbon
Low
Medium
High
Sea Level Rise
Infrastructure
Erosion
Inundation
Sagamore
Sandy Neck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https://www.capecodcoast.org
CAPE COD
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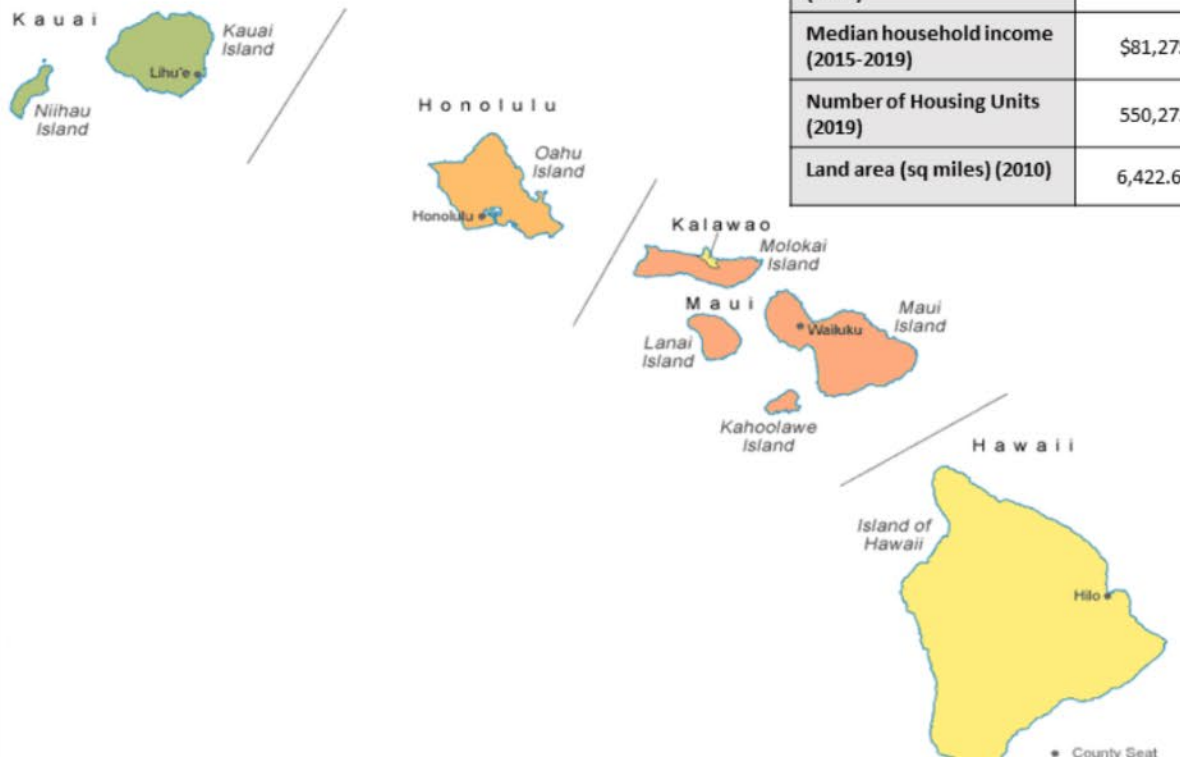
Sea Level Rise
Infrastructure
Municipal Properties
Public and Private Roads
Sewered Parcels
Coastal Defense Structures
Groins
Revetment
Jetty
Structures
Historic Districts
Historic Places
Erosion
40-yr Erosion
Sediment Transport Indicators

County Profiles

State and county partnerships to facilitate place-based shoreline management strategies

Hawai'i Coastal Zone Management Program | March 22, 2021

Demographic Statistics:



	Hawaii State	Kauai County	Honolulu County	Maui County	Hawaii County
Population (2019 estimate)	1,415,872	72,293	974,563	167,417	201,513
Percent of the state population	100	5.1%	68.8%	11.8%	14.2%
Population percent change (2010-2019)	4.1%	7.7%	2.2%	8.1%	8.9%
Population per sq mile (2010)	211.8	108.2	1,586.7	133.3	45.9
Median household income (2015-2019)	$81,275	$83,554	$85,857	$80,948	$62,409
Number of Housing Units (2019)	550,273	31,577	354,677	74,561	89,346
Land area (sq miles) (2010)	6,422.63	619.96	600.74	1,161.52	4,028.42

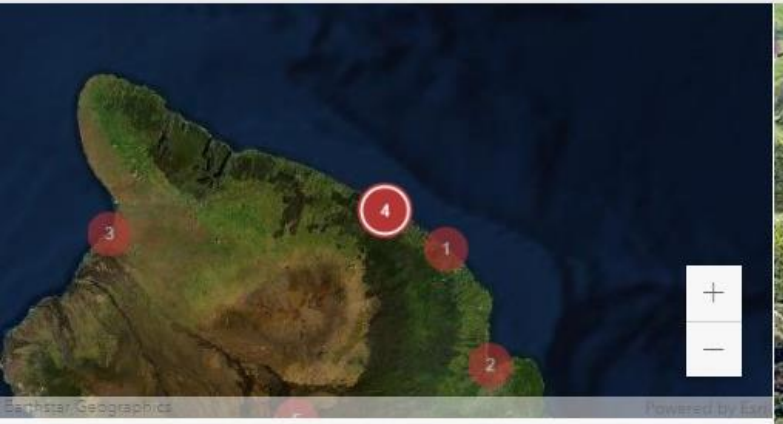
Moloka'i Island

The island of Moloka'i has about 142 km of shoreline, and was formed by two different shield volcanoes. These two shields, which make up the eastern and western sides of the island, vary dramatically in their climates and topography.

The **north coast of Central Moloka'i** is characterized by dry sandy shorelines near Mo'omomi, and rough waters and sea cliffs along the Ho'olehua coast.

Kalaupapa Peninsula, on the **North Coast**, is a broad coastal plain with sandy shores on the western side and sea cliffs on the eastern side. East of the peninsula, lush, steep sea cliffs and coastal ridges and valleys extend to Hālawa. (Note: Kalawao County, which encompasses Kalaupapa Peninsula, is a non-self-governing county.)

Past Hālawa, the **East End** is comprised of rocky shoreline. As the coast becomes more south-facing, it transitions into sandy beaches interspersed with large sections of wetlands and mudflats. This region,



4 Shoreline and Riparian Setback Analysis

As the youngest Hawaiian island, and with active volcanoes, the coastline of Hawai'i Island is both unique and constantly changing. Unlike the other islands, Hawai'i Island does not have a comparative, foundational erosion study. To fill this gap, the County Planning Department is conducting a study to quantify historic shoreline change rates and determine typology-specific hazard assessments. These findings will contribute to science-based shoreline and riparian setbacks to minimize impacts to and from development.

Funding for this project was provided by OP-CZM pursuant to National Oceanic and Atmospheric Administration Award No. NA18NOS4190082.

HB 243

Identify existing & planned facilities vulnerable to SLR, flooding impacts and natural hazards

Assess a range of options to mitigate SLR impacts to those facilities

Submit annual reports to the Governor, Legislature and HI Climate Commission regarding vulnerability & adaptation assessments, and the progress made in implementing SLR adaptation in future plans, programs and capital improvement needs and decisions

Focus Area 2: Land-based Pollution

Focus Area 3: Marine Ecosystems

Discussion Prompts

- Related studies, resources, tools, etc.
- Existing efforts or initiatives with potential nexus
- Staff contacts with related experience or knowledge
- Considerations as we implement projects

	Focus Area 1: Development & Coastal Hazards	**Focus Area 2: Land-Based Pollution**	**Focus Area 3: Marine Ecosystems**
Current OP projects	Regional Shoreline Management Scoping Study	Framework for land-based pollution in Hawaii	Supporting DAR's 30x30 Initiative
MACZAC feedback	Increased communication and outreach on coastal hazards & risk	Clarity on jurisdictional responsibilities and connectivity; Identify leads for ORMP projects	Inclusion of muliwai; Partnerships with land-based entities
Specific requests for support/ feedback	Within your department's jurisdiction, what scale do you use for managing resources?	How would you describe your agency's role in the management of land-based pollution?	General feedback

Hawai`i 2050 Sustainability Plan: Charting a Course for the Decade of Action (2020-2030)

Mahalo!

http://planning.hawaii.gov/czm

State of Hawaii Office of Planning

P.O. Box 2359, Honolulu, Hawaii 96804

(808) 587-2846

Justine Nihipali, Coastal Zone Management Program Manager

justine.w.nihipali@hawaii.gov

Sarah Chang, ORMP Coordinator

sarah.m.chang@hawaii.gov

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Coastal Zone Management

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