

CALIFORNIA COASTAL COMMISSION

SEA LEVEL RISE ADAPTATION PLANNING

Smart Coast California
Policy Summit

5/18/2023

City of Pacifica



Photo Credit: Kelsey Ducklow



CALIFORNIA
COASTAL
COMMISSION



Dennis the Menace







SEA LEVEL RISE IMPACTS

Beach Blvd., Pacifica, Jan. 2023 | @MaxDarrowTV



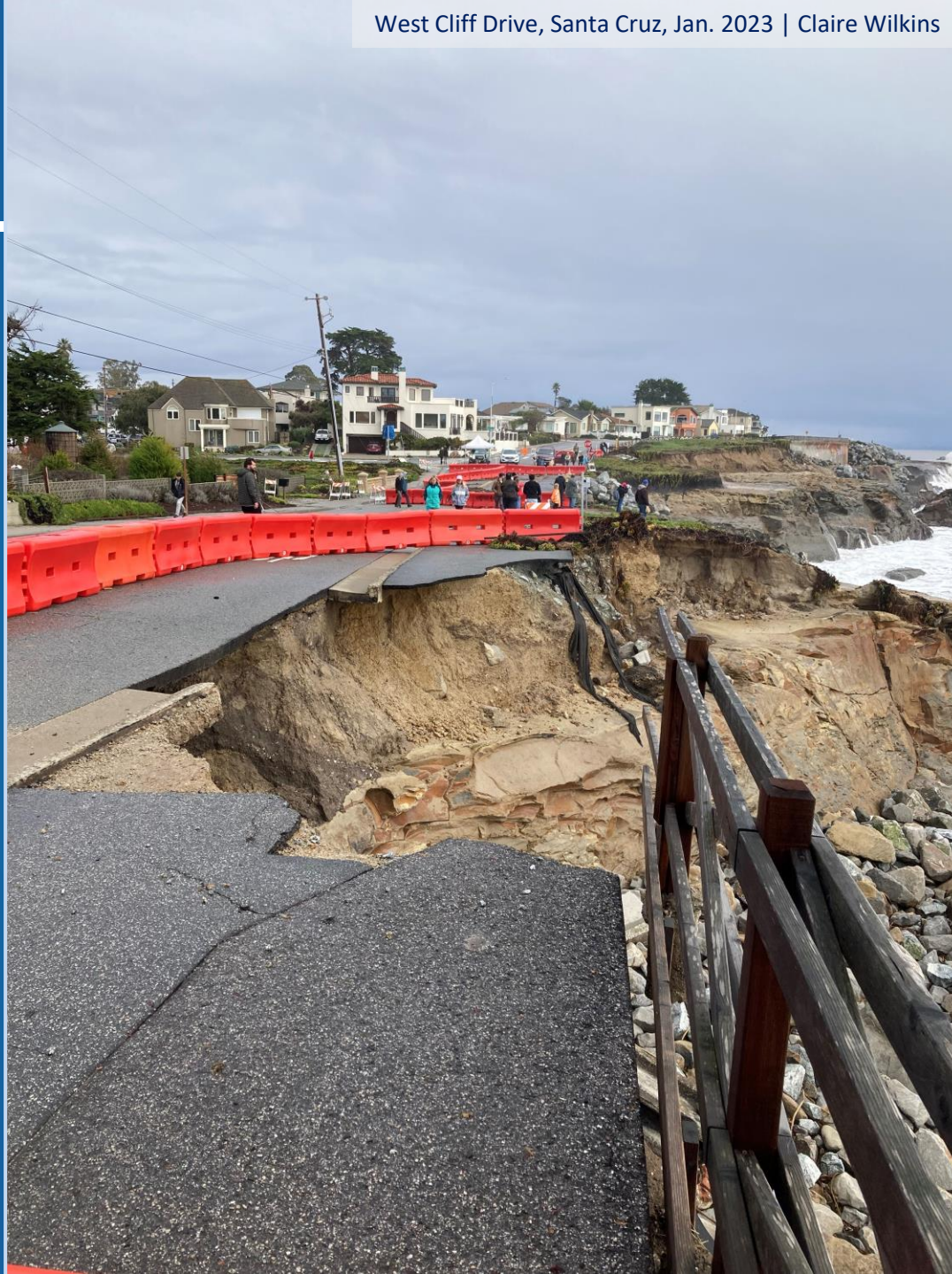


SEA LEVEL RISE IMPACTS

Hwy 1 Surfers Beach, Half Moon Bay, Jan. 2023 | @CalfireCZU



0:01





SEA LEVEL RISE IMPACTS

Mirada Road, Half Moon Bay, Jan. 2023 | Jeremy Smith





Seacliff State Park, Jan. 2023 | @CAStateParks



Torrey Pines State Beach, Jan. 2023 | @CAStateParks



Mission Beach, Jan. 2023 | @UCIFloodLab



Stinson Beach, Marin, Jan. 2023 | @CA_king_tides





SEA LEVEL RISE IMPACTS

Monterey Dunes Colony, Moss Landing, Jan. 2023 | C. Flint





SEA LEVEL RISE IMPACTS

Claremont Ave., Long Beach, Jan. 2023 | @CA_king_tides





SEA LEVEL RISE IMPACTS





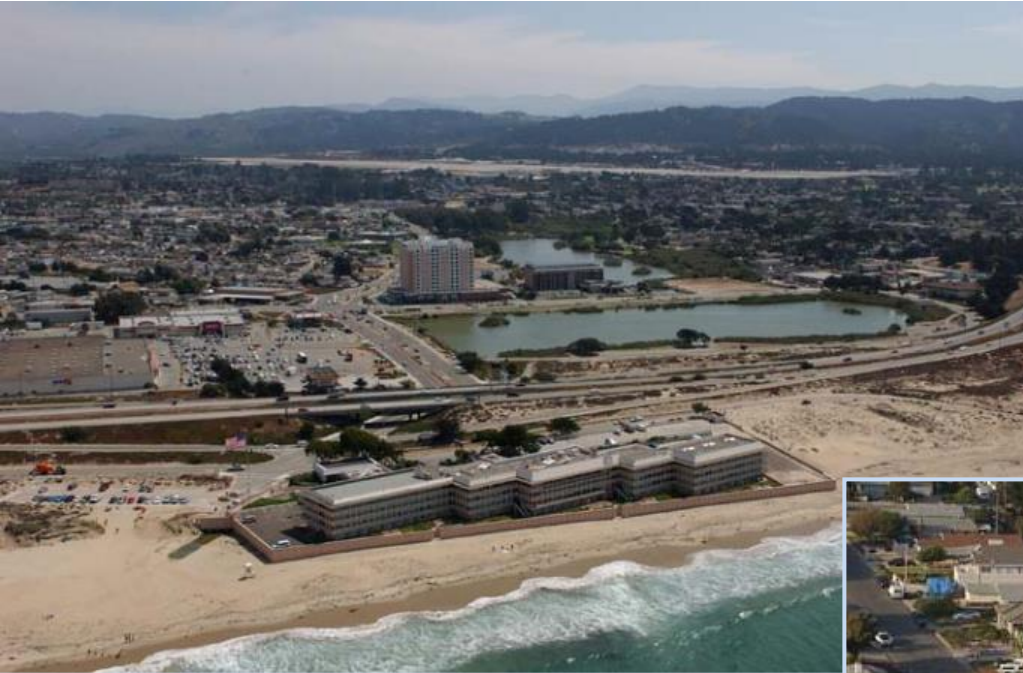
SEA LEVEL RISE IMPACTS



OCTA will study solutions for a 7-mile stretch of coastal tracks in danger of damage by the ocean. (Photo by Paul Bersebach, Orange County Register/SCNG)



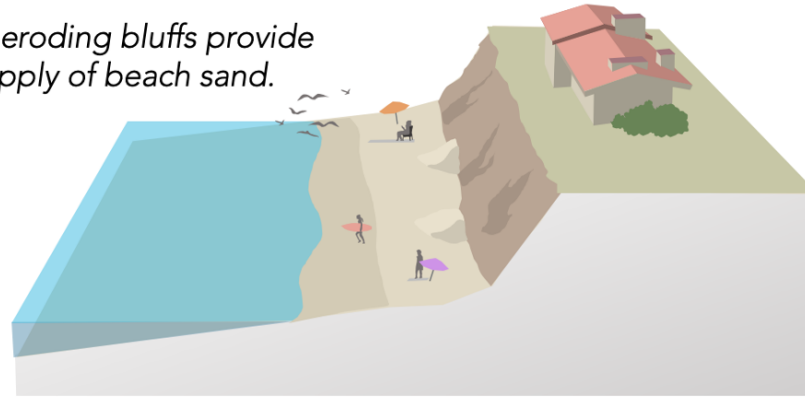
ADAPTATION OPTIONS





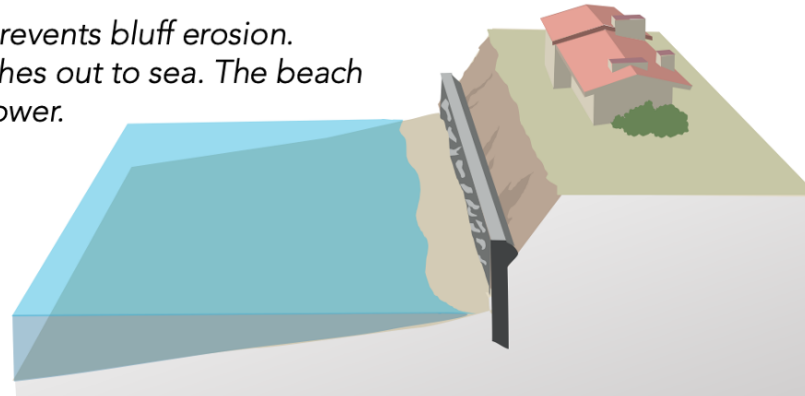
Natural Beach

Naturally eroding bluffs provide steady supply of beach sand.



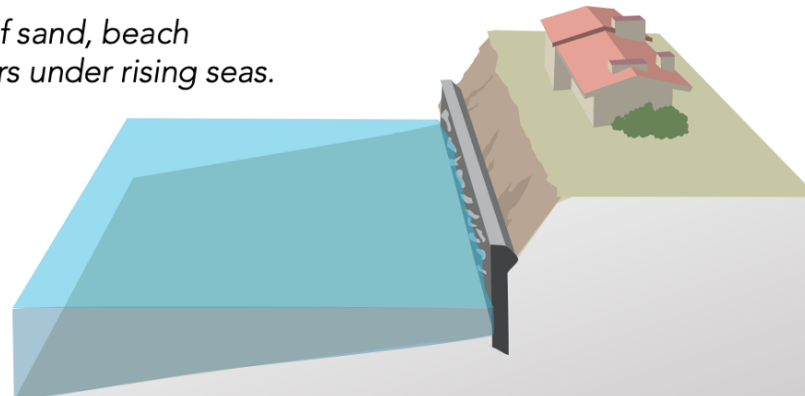
Beach with Seawall

Seawall prevents bluff erosion. Sand washes out to sea. The beach gets narrower.



Beach Loss

Starved of sand, beach disappears under rising seas.





ADAPTATION OPTIONS



Stillwell Hall, Fort Ord
Monterey, CA





ADAPTATION OPTIONS





ADAPTATION OPTIONS

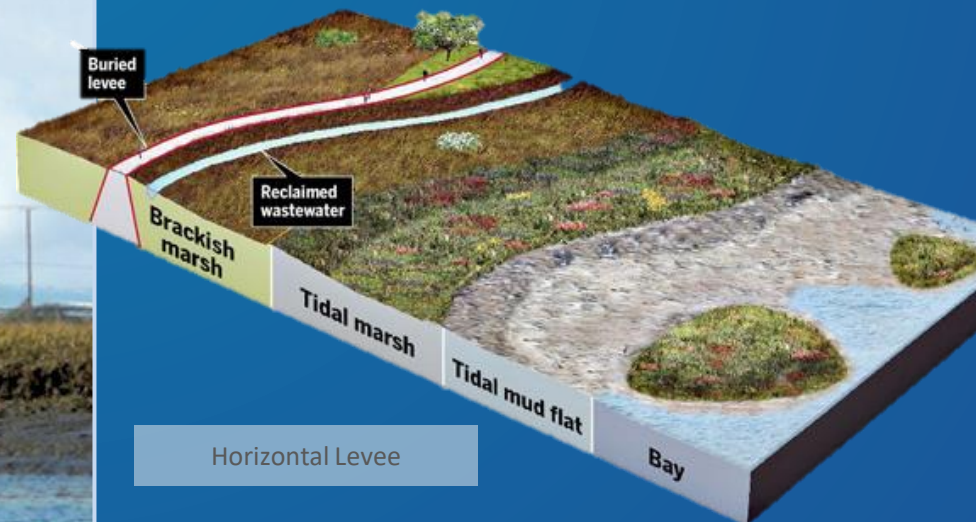
Reef Balls, Chula Vista



Beach nourishment, Goleta Beach 2010



Sediment Augmentation, Seal Beach NWR





CALIFORNIA COASTAL ACT

Special Communities



Habitat



Wetlands



Wildlife



Public Access



Agriculture



Scenic Views



Priority Land Uses





CALIFORNIA COASTAL ACT

Section 30253: **New development shall...**

- Minimize risks to life and property
- Assure stability & structural integrity
- Neither create nor contribute to erosion
- Assure no protective devices needed for life of structure
- Minimize energy consumption and vehicle miles traveled





CALIFORNIA COASTAL ACT



Section 30235: **Shoreline Protection** allowed for...

- Coastal dependent uses
- Public beaches
- Existing (pre-Coastal Act) structures
- **IN DANGER FROM EROSION**

With **MITIGATION** to offset:

- Loss of beach and sand
- Other unavoidable impacts



CALIFORNIA COASTAL ACT

Section 30270:

The commission shall take into account the effects of sea level rise in coastal resources planning and management policies and activities in order to identify, assess, and, to the extent feasible, avoid and mitigate the adverse effects of sea level rise.



Capistrano State Beach, Jan. 2019 | CKTI



SLR ADAPTATION IN ACTION

Solana Beach



Malibu



Pismo Beach



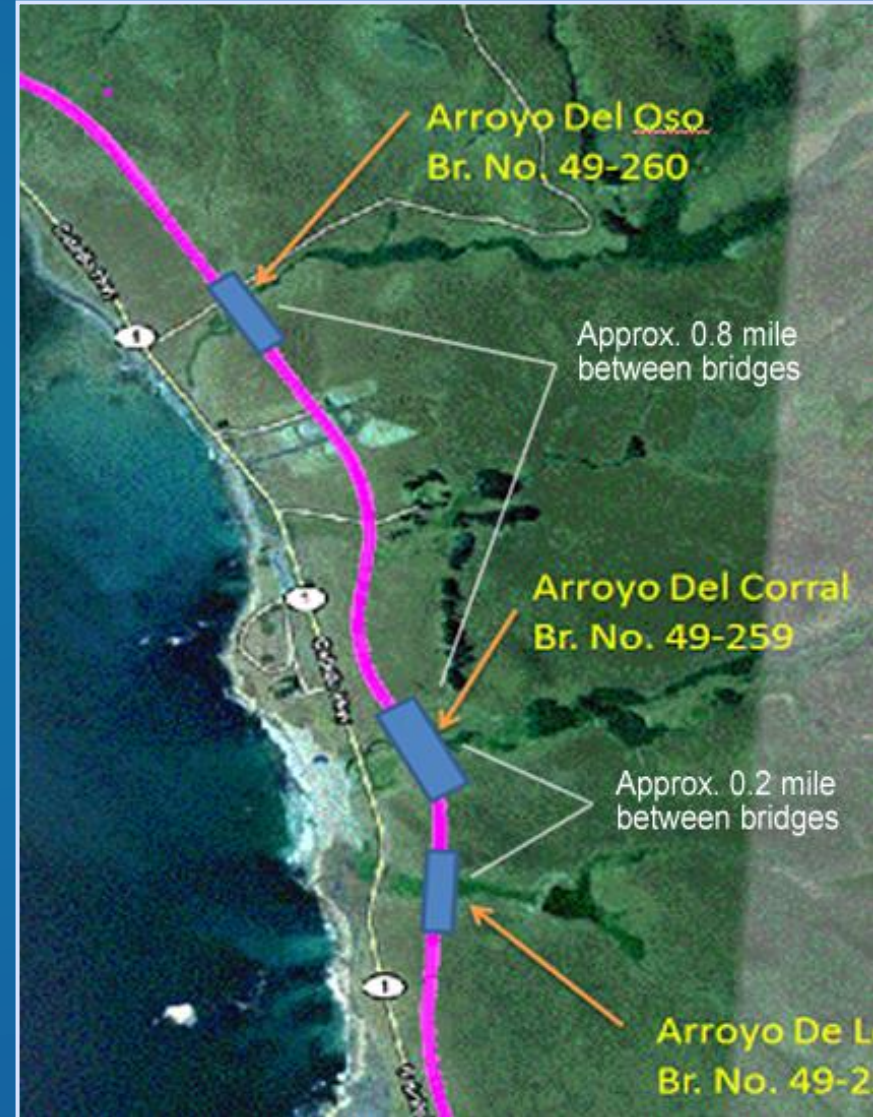
Seal Beach





SLR ADAPTATION IN ACTION

Hwy. 1 Realignment
Piedras Blancas, CA





SEA LEVEL RISE GUIDANCE



CALIFORNIA COASTAL COMMISSION SEA LEVEL RISE POLICY GUIDANCE

*Interpretive Guidelines for Addressing
Sea Level Rise in Local Coastal Programs
and Coastal Development Permits*



Sunset Beach, Photo by Mario Fernandez



Chula Vista, Photo by Lisa Cox



San Francisco, Photo by Mike Baird



Arcata, Photo by Humboldt Baykeeper

Original Guidance unanimously adopted – August 12, 2015
Science Update unanimously adopted – November 7, 2018

Critical Infrastructure at Risk Sea Level Rise Planning Guidance for California's Coastal Zone

Public Review Draft
August 2021



California Coastal Commission





SEA LEVEL RISE GUIDANCE

- Climate change and SLR are moving the PT boundary landward.
- Development decisions and SLR will impact PT land, uses, and resources.
- Coastal Act decisions will be guided by anticipated impacts to current and future public tidelands.
- CCC will implement the PT doctrine in a manner that advances EJ and access for all.

Public Trust Guiding Principles and Action Plan

Carrying out the California Coastal Act
and Public Trust Doctrine in an era of
climate change and sea level rise



May 2023

California Coastal Commission



LCP GRANT PROGRAM



LCP Grant Program

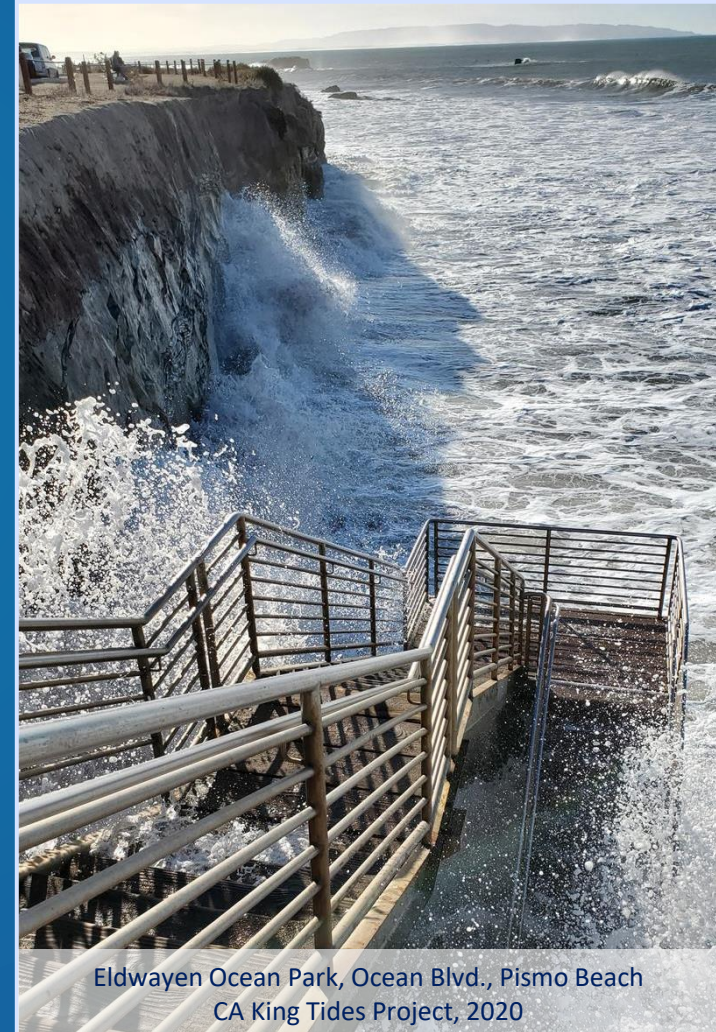
- ~\$16.5 million to date
- LCP updates with a focus on climate change, SLR, and coastal resiliency planning
- **\$31 million in new funding (~\$14M remaining for grants)**

www.coastal.ca.gov/lcp/grants/



LCP GRANT PROGRAM

- Completion of technical, economic, policy or other analyses
- Development of regional, neighborhood, site, or asset adaptation plans
- Public outreach and engagement
- Environmental justice
- Certification of new or updated LCPs



Eldwayen Ocean Park, Ocean Blvd., Pismo Beach
CA King Tides Project, 2020



LCP GRANT PROGRAM

Plan MORRO BAY

MAY 2021

PREPARED WITH THE SUPPORT OF



January 21, 2017 King Tide at its Beach
source: Visit Santa Cruz County

City of Santa Cruz Beaches

Urban Climate Adaptation Policy Implication & Response Strategy Evaluation Technical Report

June 30, 2020



Humboldt Bay Sea Level Rise Regional Planning Feasibility Study



Photo of electrical utility assets and transportation infrastructure that would be potentially impacted by 1 meter of sea level rise inundation in the Mad River Slough Hydrologic Unit. Photo credit to Aidaron Laird.

Prepared by:

Long Range Planning Division
Humboldt County Planning and Building Department
Michael Richardson • Lisa Shikany • Sarah Wickman



April 2023





LGWG JOINT STATEMENT

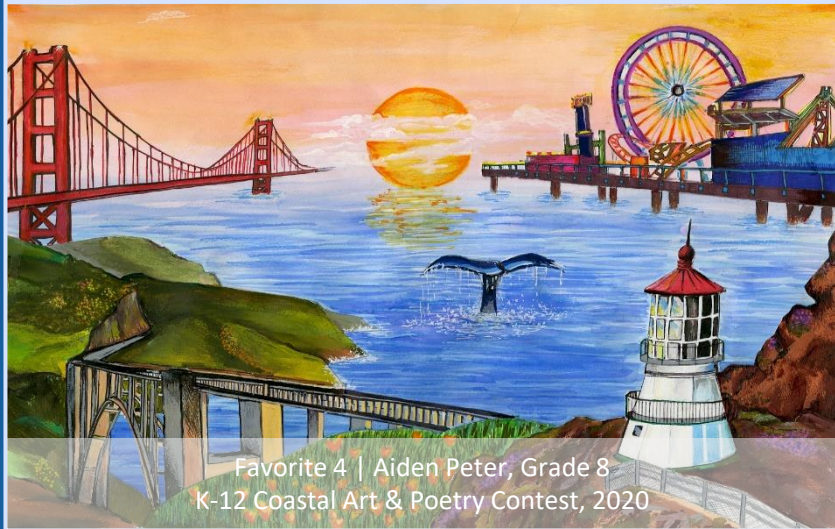
Purpose: Outlines guiding principles, opportunities, challenges, and actions associated with proactive and effective sea level rise adaptation to provide a foundation for our collective efforts on adaptation planning going forward

Opportunities for action over the short term to advance SLR adaptation planning:

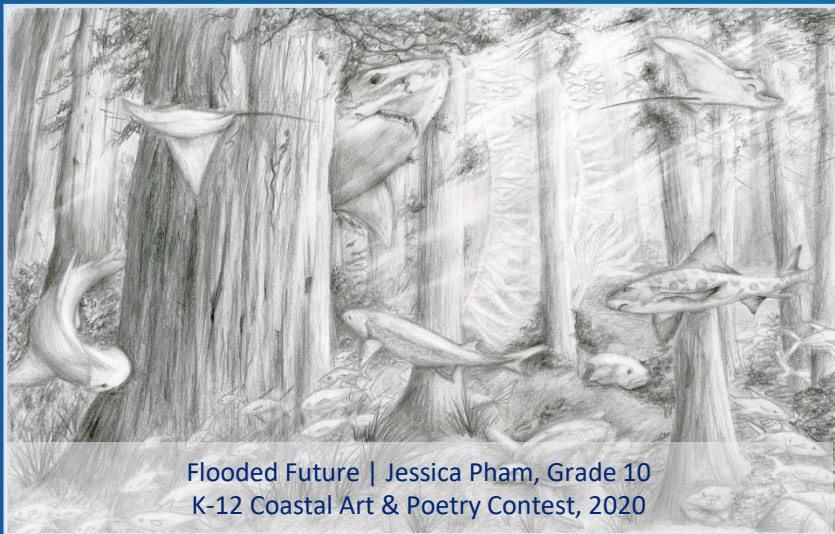
- Establishing shared vision, scope, and time horizons associated with LCP updates
- Maintaining statewide consistency while flexibly addressing unique local issues
- Evaluating coastal resource impacts now and in the future in light of sea level rise, and identifying viable mitigation sites to offset those impacts



LGWG – PHASED LCP UPDATES



Favorite 4 | Aiden Peter, Grade 8
K-12 Coastal Art & Poetry Contest, 2020



Flooded Future | Jessica Pham, Grade 10
K-12 Coastal Art & Poetry Contest, 2020

- Help to address planning and scientific uncertainty as well as other challenges
- Maintain local flexibility while ensuring statewide consistency and protection of coastal resources
- Phasing applies to both the LCP update *process*, and the *substance* of the actual policies



ONGOING SLR WORK

First round LCP update that incorporates foundational sea level rise hazard planning concepts and sets the stage for future successful updates

**Best Available
Science**

**Vulnerability Assessment
& Adaptation Plan
Development and Updates**

**Risk Disclosure and
Assumption of Risk**

**Planning Horizons
& Phased Updates**



“NEIGHBORHOOD-SCALE” ADAPTATION



Concept: Identifying and developing adaptation strategies that are specific to defined areas or assets with shared characteristics (e.g., a neighborhood, beach area, site, or asset), and developing LCP policies to support and implement that approach



“NEIGHBORHOOD-SCALE” ADAPTATION

Hypothetical – Imagine a county with:

- Less developed, more natural shoreline areas, bluffs and beaches
- More developed beach/bluff areas, mix of older and newer structures, mix of armoring and unarmored areas
- Densely developed, low-lying inland areas vulnerable to flooding, rising groundwater
- Protected harbor/bay, mix of bulkheads and natural shoreline





“NEIGHBORHOOD-SCALE” ADAPTATION



- Adaptation strategies to respond to different vulnerabilities, coastal dynamics, land uses
 - Managed retreat
 - Armoring
 - Nature-based, hybrid...
- Ensure competing resource needs are balanced overall
- Phase strategies over time to respond to changing conditions





QUESTIONS?

