

**HUMBOLDT BAY
SEA LEVEL RISE
ADAPTATION PLANNING PROJECT**

Adaption Planning Working Group

Meeting

August 28th 2013

AGENDA

- 1. Introductions and agency updates/announcements [All]**
- 2. Risk assessment update [Aldaron]**
- 3. Vulnerability assessment update, present initial results of inundation mapping [Jeff]**
- 4. Discuss presentation to the CCC in September in Eureka [All]**
- 5. Discuss holding a public and stakeholder meeting in October to introduce the Project and share shoreline vulnerability rating maps and inundation maps [All]**

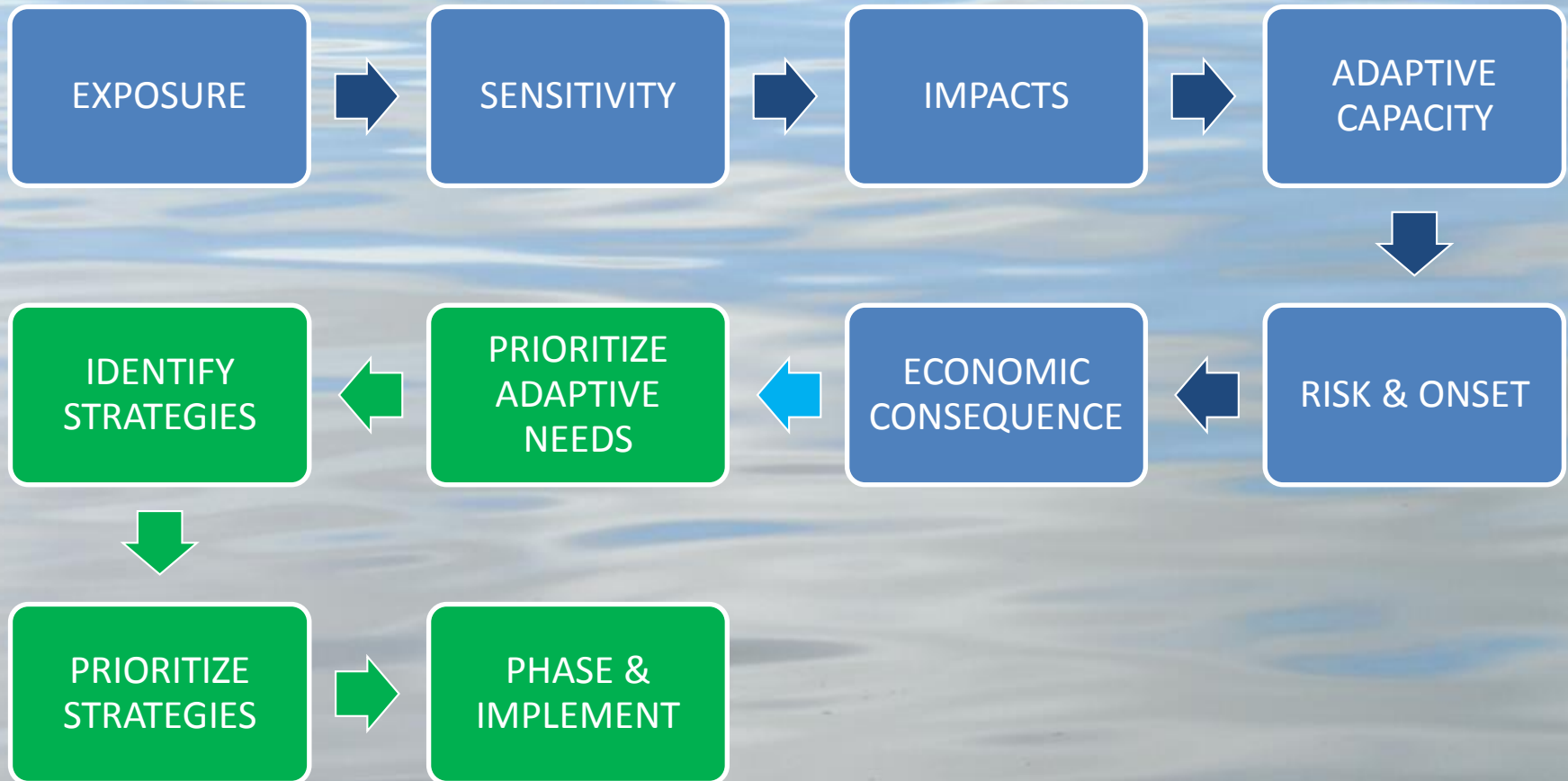
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Introductions and Agency Updates/Announcements



**Risk Assessment Update
Aldaron**

ADAPTATION PLANNING PROCESS



Risk Assessment Asset Categories

➤ Critical Infrastructure

- Dikes/levees
- Transportation corridors
- Utilities
- Hospitals,
- Schools,
- Government facilities

➤ Infrastructure

- Railroad
- Harbor/Marina/Waterfront
- State Highways/Roads/Streets
- Bridges
- Airport

➤ Land uses/property

➤ Historical/cultural/archeological resources

➤ Hazardous material sites/contaminated lands

➤ Non-Structural Shorelines-Natural Areas

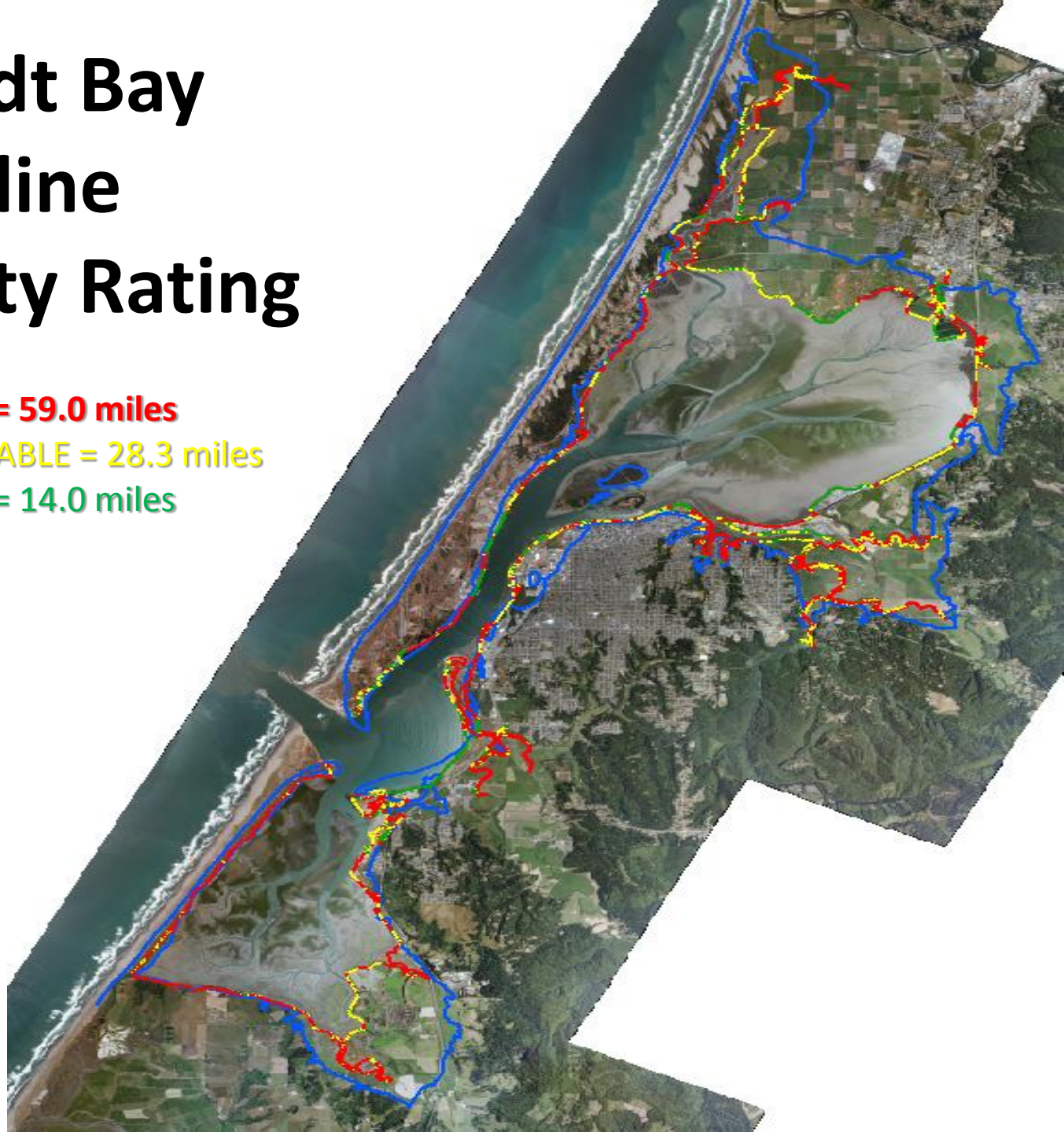
Assets at Risk Inventory

ASSETS		AREA	JURISDICTION				AREA	JURISDICTION				AREA	JURISDICTION			AREA	JURISDICTION				AREA	JURISDICTION			
CRITICAL INFRASTRUCTURE		AB	CCC	H.CO.	ACV	EKA	EB	CCC	H.CO.	EKA	SB	CCC	H.CO.	MRS	CCC	H.CO.	ES	CCC	H.CO.	EKA	ERS	CCC	H.CO.	EKA	
	Dikes	YES	YES	YES	YES	YES	NO				YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
	Interstate Highway	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO			YES	YES	YES	YES	YES	YES	YES	YES	
	Utilities																								
	Water	YES	YES	YES	YES	?	YES	YES	YES	YES	?			YES	YES	YES	YES	YES	YES	?	?				
	Wastewater	YES	YES	NO	YES	NO	YES	YES	NO	YES	YES	NO	YES	NO			YES	YES	NO	YES	YES	YES	NO	YES	
	Communications	?					YES	YES	NO	YES	?			NO			YES	YES	YES	YES	NO				
	Electric power	YES	YES	YES	YES	NO	YES	YES	YES	?	YES	YES	YES	NO			YES	YES	YES	NO	YES	NO	YES	NO	
	Nuclear Power Facilities	NO					YES	YES	YES	NO	YES	YES	YES	NO							NO				
	Fuel	NO					YES	YES	NO	YES	NO			NO							NO				
	Natural Gas	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	NO	NO			YES	YES	YES	YES	YES	YES	YES	YES	
	Hospitals	NO					NO				NO			NO			NO				NO				
	Schools	NO					NO				NO			NO			NO				NO				
	Government Facilities	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO			YES	YES	YES	YES	YES	YES	NO	YES	
OTHER INFRASTRUCTURE																									
	Railroad	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO			YES	YES	YES	YES	YES	YES	NO	YES	
	Harbor/Marina/Waterfront	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	NO	YES	NO				
	State Highways	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO			YES	YES	YES	NO	NO	NO	NO	NO				
	Roads	YES	YES	YES	YES	YES	NO				YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	
	Streets	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO			YES	YES	YES	YES	NO				
	Bridges	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
	Tidegates	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
	Drainage Structures	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
	Airport	YES	YES	NO	NO	YES	NO				NO			NO			YES	YES	NO	YES	NO				
	Waste Transfer	NO					YES	YES	NO	YES	NO			NO			NO	NO	NO	NO	NO				
LAND USES																									
	Agriculture	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
	Natural Resource	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
	Residential	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO			YES	YES	YES	YES	?				
	Commercial	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	?	YES	NO				
	Industrial	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	NO	NO				
	Public Facility	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO			YES	YES	YES	YES	YES	YES	YES	YES	
PROPERTY																									
	Private	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
	Local	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO			YES	YES	YES	YES	YES	YES	NO	YES	
	State	YES	YES	YES	NO	YES	NO				YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	
	Federal	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO				
HIST/CULT/ARCH RESOURCES		YES	YES	YES	?	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	?				
HAZARDOUS MATERIAL SITES		?									?														
CONTAMINATED LANDS		?									?														
NON-STRUCTURAL SHORELINES		YES	YES	YES	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
NATURAL AREAS		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	

The risk assessment will primarily consider secondary impacts; shoreline erosion (breaching), flooding (overtopping), rising groundwater, and salt water intrusion associated with sea level rise, the direct impact.

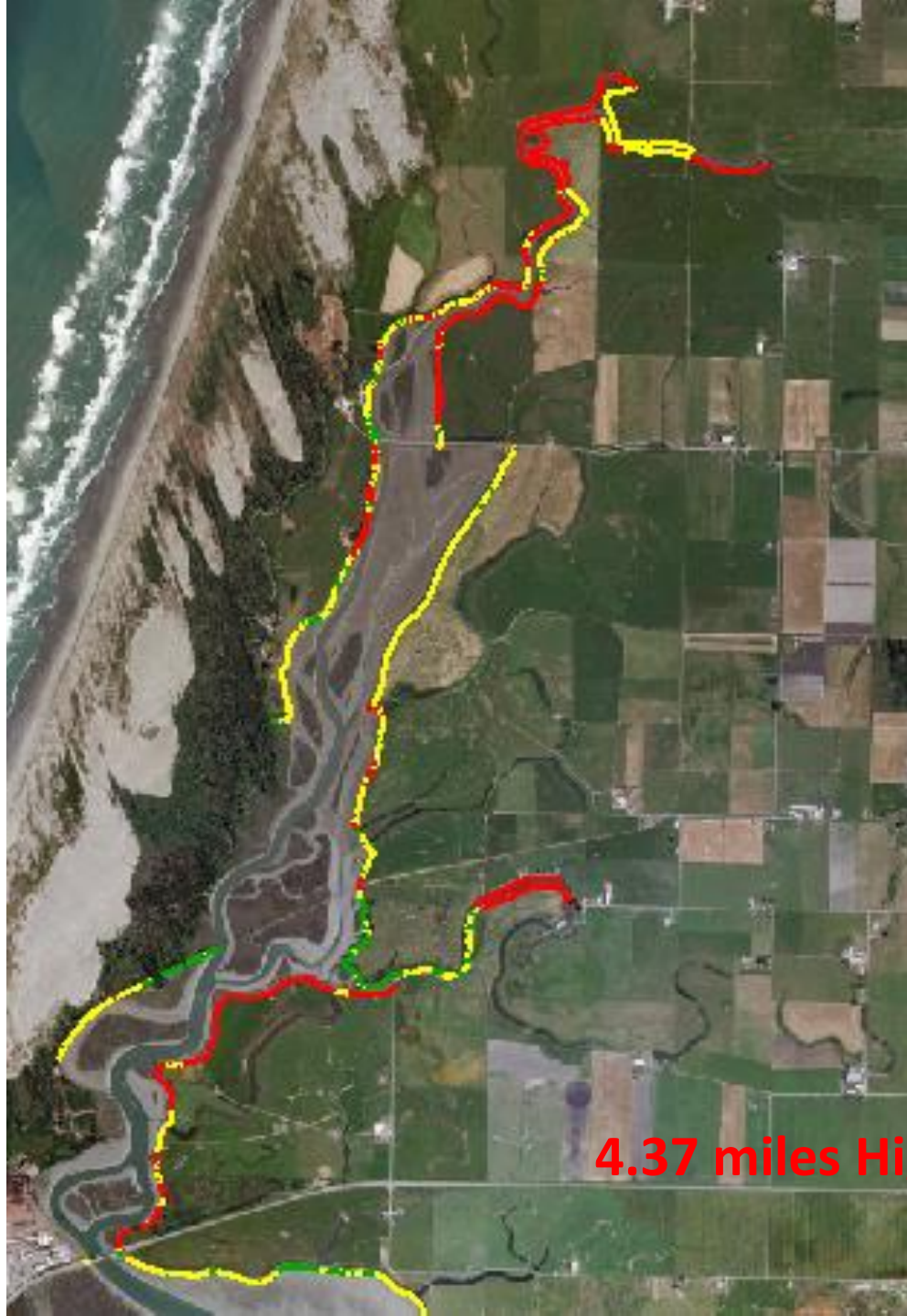
Humboldt Bay Shoreline Vulnerability Rating

- **HIGHLY VULNERABLE = 59.0 miles**
- **MODERATELY VULNERABLE = 28.3 miles**
- **LOW VULNERABILITY = 14.0 miles**





RISK ASSESSMENT
Mad River Slough: Dikes



4.37 miles Highly Vulnerable

The background of the slide is a close-up photograph of water with numerous small, concentric ripples. The water is a clear, light blue color, and the ripples create a textured, shimmering effect across the entire surface.

Inundation Mapping Update

Jeff Anderson

2013

PUBLIC AND STAKEHOLDER

MEETING

November 13th

Share with the public and stakeholders:

- **Humboldt Bay Sea Level Rise Adaptation Planning Project**
 - **Shoreline mapping and vulnerability rating**
 - **Current tidal and sea level rise inundation maps**
 - **Groundwater and sea level rise inundation maps**
 - **Adaptation planning process**
 - **Assets at risk assessment**

Objectives

- Understand the current hazards associated with coastal flooding in the Humboldt Bay region and the predicted future effects of continued sea level rise.
- Gather the most current technical information regarding historical and future sea level rise in the Humboldt Bay region and the contributing effect of vertical land motion.
- Understand the linkages between sea level rise adaptation planning and related planning efforts.
- Identify opportunities for integrated adaptation strategies and coordinated response efforts across jurisdictional boundaries.
- **Implement a robust public outreach program to share information and gather public input.**

The background of the slide is a close-up photograph of water with gentle ripples, creating a pattern of light and dark blue tones. The text is centered over this background.

**California Coastal Commission
Presentation-September-Eureka**

Meeting Schedule: 2013-2015

<u>2013</u>	<u>2014</u>	<u>2015</u>
2/27	2/26	
4/24	4/30	
(7/15)	6/25	
8/28	8/27	
10/30	10/29	
12/18		1/7

Humboldt Bay Sea Level Rise Adaptation Planning Project

Goal

The goal of the project is to support informed decision-making and encourage a unified, consistent regional adaptation strategy to address the hazards associated with sea level rise in the Humboldt Bay region.