Adapting to Rising Tides

Working together to increase the resilience of Bay Area communities to sea level rise and storm events

San Francisco Bay Conservation and Development Commission
Objectives

- Recap Project Steps and Outcomes
- Work together on implementation options
- Develop a path forward for the working group and individual agencies

Agenda

9:00   Welcome, Meeting Objectives, Announcements and Updates
9:15   Presentation: Project Recap
9:30   Exercise: Implementation Pathways
11:00  Break
11:15  Implementation Pathways Summary and Report Back
11:45  Wrap Up and Next Steps
Project Timeline

Project Initiation – Fall 2014

Project Scoping – Fall/Winter 2015

Conduct Assessment – Winter/Spring 2015

Determine Assessment Outcomes – Summer 2015

Transition to Adaptation – Fall 2015

Develop Adaptation Responses – Spring 2016

Evaluate and Select Adaptation Responses + Opportunities for Implementation – Fall 2016

Working Group Meeting

Individual or small group meetings
ART Planning Process

Adapting to Rising Tides Planning Process

Society & Equity
Environment
Economy
Governance

SCOPE & ORGANIZE
Convene Partners & Stakeholders
Choose Project Area
Identify Sectors, Services, Assets
Select Climate Scenarios & Impacts
Set Resilience Goals

ASSESS
Review Existing Conditions
Assess Vulnerability
Consider Risks

DEFINE
Characterize Vulnerabilities & Risks
Identify Key Planning Issues

PLAN
Integrate Adaptation Responses into Plans
Evaluate & Select Adaptation Responses
Develop Adaptation Responses
Select Evaluation Criteria
Refine Resilience Goals

IMPLEMENT & MONITOR

Working Group Meeting #8
News and Announcements

- BCDC Sea Level Rise Workshop Series
  *Workshop Five: Implementing Priority Actions*
  December 1st at the new Bay Area MetroCenter *(www.bcddc.ca.gov/workshops.html)*

- BCDC’s Policies for a Rising Bay report now available *(www.bcddc.ca.gov/prb.html)*

- Your news?
A diverse and capable working group
Broad resilience goals
A robust vulnerability assessment
An understanding of how flooding may impact the four sustainability frames
Locally refined sea level rise maps and shoreline analyses
Detailed adaptation responses
A clear and compelling case for taking action both together and individually
A path forward toward resilience
Many ART Products (+ more to come)
Together, ART project staff and the working group developed adaptation responses for 30 asset categories

**People**
- Individuals, households, neighborhoods

**Residential Housing**
- Single-family, multi-family, mobile homes

**Public Services**
- Public health infrastructure
- Emergency facilities and services
- Waste collection and transfer stations

**Business & Industry**
- Industrial land uses
- Commercial land uses
- Hazardous Materials Sites

**Contaminated Lands**
- Brownfields
- Landfills

**Parks and Recreation Facilities**
- Shoreline parks
- Bay trail
- Marinas

**Water Management**
- Water supply
- Wastewater
- Flood management
- Stormwater infrastructure

**Transportation**
- Passenger and freight rail
- Local, state, interstate roads
- Bay trail

**Energy and Fuel Supply**
- Refineries
- Pipelines
- Power generation
- Power distribution

**Natural Areas**
- Seaport + Marine Oil Terminals

<table>
<thead>
<tr>
<th>Vulnerability</th>
<th>Action</th>
<th>Action Type</th>
<th>Process</th>
<th>Possible Action</th>
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</thead>
<tbody>
<tr>
<td>Seaport + Marine Oil Terminals</td>
<td>Educate businesses that use, generate or transport smaller quantities hazardous materials about low level rise impacts and the options for reducing the consequences of a flood event, i.e., elevating stored materials and limiting amount of materials stored</td>
<td>Education/Outreach</td>
<td>Emergency and hazard planning</td>
<td>DTSC, RWQCB, USEPA, CSHE, Cities, County, private entities</td>
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<td>GOV1: In Contra Costa, the CalARP and RO sites have a high level of compliance with hazardous material inventories and contingency planning requirements, while the diverse and numerous other hazardous material sites that use, generate or transport smaller quantities of hazardous materials have differing levels of compliance with operational and regulatory requirements.</td>
<td>Develop and implement a self-assessment process for hazardous materials sites to gather critical information needed to assess site vulnerability, current awareness, and elevated groundwater.</td>
<td>Evaluation</td>
<td>New Initiative</td>
<td>DTSC, RWQCB, USEPA, CSHE, Cities, County, private entities</td>
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<tr>
<td>Require consideration of low level rise impacts including flooding, increased groundwater levels, salinity intrusion, and increased liquefaction susceptibility risk in all hazardous materials operational and regulatory programs.</td>
<td>Program/operation</td>
<td>Operations</td>
<td>DTSC, RWQCB, USEPA, CSHE</td>
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Asset category responses were used to develop the adaptation responses for the Key Planning Issues

### Key Planning Issue #6: Parks and Open Space

Shoreline parks and open spaces are not only the first line of defense against inland flooding, they are also themselves vulnerable to the early impacts of sea level rise and therefore are key early adaptation opportunity sites. Damage or loss of these parks and open spaces would have significant impacts on recreational uses and health of the communities in the project area, many of which could not be replaced. Reduction in access to parks and open spaces would affect some individuals and communities more adversely than others, depending on their unique needs and capacity.

<table>
<thead>
<tr>
<th>Timing</th>
<th>Number</th>
<th>Description</th>
<th>Recommended Actions</th>
<th>Lead(s)</th>
<th>Support</th>
<th>Is this action a priority for further evaluation and potential implementation?</th>
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<tr>
<td>Near-term</td>
<td>6.1</td>
<td>Identify, monitor and repair (as feasible) natural and recreational areas within parks that are experiencing erosion, bluff collapse, increased flooding and salinity intrusion.</td>
<td>EBRPD</td>
<td>EBRPD, County, Cities, SCC, SFEP, CA DFW, Bay Trail, EDCD, RWQCB, USACE</td>
<td>✅</td>
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<td>6.2</td>
<td>Develop guidance for regional shoreline park planning and project development activities that are consistent with the Integrated Bay Watershed Restoration and Management Plan and coastal wetland restoration and park management activities.</td>
<td>EBRPD</td>
<td>EBRPD, County, Cities, SCC, SFEP, CA DFW, Bay Trail, EDCD, RWQCB, USACE</td>
<td>✅</td>
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<td>6.3</td>
<td>Educate the public about the early risks to parks from sea level rise, the multiple benefits parks provide (flood protection, wildlife, educational and historical values), and the opportunities for adaptation to protect these functions.</td>
<td>EBRPD</td>
<td>EBRPD, County, Cities, SCC, SFEP, CA DFW, Bay Trail, EDCD, RWQCB, USACE</td>
<td>✅</td>
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<td>6.4</td>
<td>Form or expand existing partnerships among park districts, park and recreation departments, private entities, community-based organizations and community members to develop a shared vision for protecting the function of parks and open space in the project area.</td>
<td>EBRPD</td>
<td>EBRPD, County, Cities, SCC, SFEP, Bay Trail, EDCD, Nonprofit and Community-based Organizations</td>
<td>✅</td>
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<td>6.5</td>
<td>Develop a county-wide park enhancement and protection plan that identified opportunities for increasing the resilience of parks that are suitable to sea level rise and the capacity of parks that are not at risk.</td>
<td>EBRPD, County, Cities, SCC, SFEP, Bay Trail, EDCD, Nonprofit and Community-based Organizations</td>
<td>EBRPD, County, Cities, SCC, SFEP, Bay Trail, EDCD, Nonprofit and Community-based Organizations</td>
<td>✅</td>
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<td>6.6</td>
<td>Develop and implement a decision-making and funding framework to guide shoreline landowners in addressing Bay Trail vulnerabilities in a manner that protects connectivity and maintains the trail as a regional connector.</td>
<td>EBRPD</td>
<td>EBRPD, County, Cities, SCC, SFEP, Bay Trail, EDCD, Nonprofit and Community-based Organizations</td>
<td>✅</td>
<td>✰✰✰</td>
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<td>6.7</td>
<td>Establish a new authority, or expand an existing authority, to plan, fund, manage, and maintain shoreline solutions to protect existing parks, open space, and the Bay Trail.</td>
<td>EBRPD</td>
<td>EBRPD, Bay Trail, EDCD, Nonprofit and Community-based Organizations</td>
<td>✅</td>
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Working group members voted for their three top priority actions
Four overarching, or cross-cutting, themes emerged during the Plan step highlighting the need to focus on:

- A resilient transportation system
- Integrated shoreline management
- Targeted education and outreach
- Improved emergency and hazard mitigation plans

A summary of the adaptation responses will be included in the project report.
Implement & Monitor

Identify implementation options and develop recommendations for advancing high priority adaptation responses and further collaborations

Outcomes include ideas for:

- Advancing and funding “ready to go” adaptation responses
- Initiating additional assessments or feasibility studies
- Who will lead next steps, including launching new efforts and collaborations
Implementation Pathways are a tool that help partners develop a shared understanding and agreement on how specific actions should be implemented.

Pathways visually depict:

- Who will lead and who will partner
- The information, resources or support needed to initiate the action
- The steps to take that will ultimately address the resilience goals
For today’s **Implementation Pathways** exercise staff selected four actions that reflect:

- The working group’s priority actions
- The four overarching themes that emerged during the Plan step
- Opportunities to address vulnerabilities affecting a range of assets, geographies, and communities
Four Actions

Action #1 - Develop and disseminate guidance to business and industry on the best practices for reducing the potential impacts of flooding and sea level rise on their facilities and the services and systems they rely on

Action #2 - Create a public-private shoreline working group tasked with developing a plan to fund and implement integrated shoreline solutions to reduce flood risk

Action #3 - Develop a county-wide program to monitor, maintain, and repair (as feasible) at risk shorelines most in need of intervention

Action #4 - Establish a public-private partnership to better understand the consequences of flooding on commercial and industrial supply chains, employee access to job sites and the regional transportation networks goods and commuters rely on
Outcomes of this exercise will include:

- An understanding of the resources, information and steps needed to initiate action implementation
- An evaluation on how well the action will address the four sustainability frames
- A concise statement, or pitch, that can be used to motivate decision makers, funders and partners
Implementation Pathways Exercise

Break into four groups, starting at one action work as a group to fill in the Implementation Pathway, at the end of each round, rotate to the next action and add onto the information provided by the previous groups:

1st round: 30 minutes
2nd round: 25 minutes
3rd round: 20 minutes
4th round: 15 minutes

ACTION # 1 Develop and disseminate guidance to business and industry on the best practices for reducing the potential impacts of flooding and sea level rise on their facilities and the services and systems they rely on.

Key outcomes of this action: ____________________________

1. Actors & Information
   - Who will lead the action?
   - Who needs to be an engaged partner?
   - Who is the interested and affected constituencies?
   - Who are the strong advocates or local action champions?
   - Information needed to initiate action:
   - Sources of that information:

2. Timeline for Implementation
   - What can we do now?
   - What can we do next?
   - What can we do long term?

3. Feasibility
   - Biggest roadblock to implementation:
   - Potential unlocking actions or solutions:
   - Possible funding sources:
   - Permits (if needed):
   - What support is needed from the region, state, and federal government:

4. Double Check: Does the action advance resilience goals?
   - Serves to advance resilience goals because the action:
     - Improves or protects multi-modal access to housing, jobs or services
     - Protects public health and safety
     - Protects especially vulnerable community members
     - Maintains recreational and educational opportunities
     - Promotes or retains jobs
     - Maintains commuter movement
     - Maintains goods movement
     - Reduces service or network disruptions
     - Creates or maintains appropriate habitat and biodiversity
     - Maintains or improve water quality
     - Promotes grey to green and nature-based solutions
     - Supports or creates collaborative, transparent decision-making
     - Encourages broad public and/or private sector partnerships

Final Check: Will this action achieve your desired outcome?
- Yes
- No
At the end of round 4, stay at your poster and work as a group to create a “pitch” that describes:

- The nature of the vulnerability
- Who will lead and who will partner on the action
- What information needs to be gathered
- What the timeline and steps towards action are
- How the outcome ultimately address the resilience goals

Implementation Pathways “Mad Lib” (Action #1)

Complete the Mad Lib to write your pitch.

The goal is to synthesize the information from the implementation pathways exercise into a statement that captures: the nature of the vulnerability; the lead implementer and partners; any information that needs to be gathered; the steps to be taken to achieve the outcome and ultimately address the resilience goals. The pitch should be clear and succinct as it should help communicate to colleagues and partners why it is important to take action.

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ACTION #1

Commercial and industrial businesses may not have the knowledge and experience to appropriately prepare for flooding. To address this vulnerability,

______________________________ Lead

will work with ________________________________ Partners
to ____________________________________ Scope effort (information, advocates, constituencies)
The next step is to ____________________________________ First step (Do Now)

within _______________ and then ____________________________ Timeframe

within _______________. These steps will lead to ____________________________ Timeframe

which will support the resilience goal by ____________________________ Checked Evaluation Criteria

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Report Back and Discussion

- Share your pitch with the whole group
- Discuss and reflect on:
  - What opportunities did you identify that will keep the momentum going?
  - Who is motivated to lead, partner, advocate?
  - Is regional support needed?
  - What are some of the near term next steps?
  - What steps are farther out on the horizon?
Wrap Up & Next Steps

- Project report coming soon!
- Other ART Program Initiatives
  - Regional Assessment and Adaptation
  - Regional Sea Level Rise Mapping
  - Commissioner Workshop Series
- ART Program Help Desk
  - Support for assessments, adaptation plans, action implementation
  - Assistance with Local Hazard Mitigation Plans and Safety Element updates
  - Connections to adaptation practitioners within and beyond the Bay Area