

San Francisco Bay Conservation and Development Commission

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TO: Commissioners and Alternates

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SUBJECT: Staff Report on the Final Recommendations from the Commissioner Workshop Series on Rising Sea Levels
(For Commission consideration on October 6, 2016)

Summary and Staff Recommendation

The Commission launched a monthly workshop series in January 2016 to explore issues related to rising sea level in a collaborative environment that included Commissioners, Alternates, stakeholders and other members of the public. The goals of the workshop series and the findings from the first three workshops can be found in the background section below.

In the fourth workshop, Commissioners and Alternates discussed the findings and preliminary recommendations from the first three workshops and directed staff to:

1. Revise the recommendations based on input from Commissioners and Alternates at the fourth workshop;
2. Add a sixth action on education and outreach; and
3. Add a seventh action on exploring the idea of a regional data repository.

The staff recommends that the Commission review, refine as necessary, and adopt the staff's recommendations listed at the end of this document, direct staff to develop approaches for implementation, including funding and timing, of the approved actions and bring those approaches for Commission consideration at a future meeting.

Staff Report

Background. The Commission has been actively engaged in efforts to address rising sea level for the last five years. These efforts have included the 2011 climate change amendments to the *San Francisco Bay Plan* (Bay Plan), the initial partnership with the National Oceanic and Atmospheric Administration to develop the Adapting to Rising Tides (ART) pilot project (which became the ART Program and the ART Portfolio), the Rising Sea Level Commissioner Working Group, the Bay Fill Commissioner Working Group, and the Policies for a Rising Bay project. In some cases, BCDC has addressed the issue in ways that are very traditional to the Commission, such as the Bay Plan amendments. In other cases, such as the ART Program, the Commission's approach has been innovative and creative in the way it is addressing the issues presented by rising sea levels.

The workshop series provides the Commission, stakeholders, and other members of the public with an opportunity to reflect upon past and current efforts to address rising sea level and to determine the best approaches for BCDC to undertake going forward. Since BCDC began working in earnest on this issue five years ago, partnerships and additional efforts have developed that provide new opportunities for collaboration. Just as important, the public has learned a great deal about global climate change and there is now consensus in the Bay Area that rising sea level is both a fact and will accelerate in the near and medium-term.

BCDC's accomplishments, including instituting new permitting analyses and recommendations, advancing the science around sea level rise mapping, better understanding the risks to tidal creeks and channels, exploring the flood reduction benefits of wetlands, and developing an approach to climate change adaptation planning, also have advanced the region's overall resilience. For these reasons, now is an opportune time for the Commission to reflect on its past actions and consider how best to address rising sea level now, including determining how BCDC can most effectively increase the region's resilience.

While BCDC has been doing this work in the region with local, regional and state and federal partners, the State of California has been developing a broader approach to prepare for and adapt to sea climate impacts. BCDC's climate work has been done in consultation with statewide resources like the Safeguarding California Plan, the State of California Sea Level Rise Guidance Document, and Cal-Adapt. BCDC has also been tracking the additional initiatives mandated by legislative and administrative directives over the past two years that have created more robust statewide policies, processes, and resources. These resources include:

1. **Executive Order B-30-15:** Among several directives relating to preparing for climate change, E.O. B-30-15 requires all State planning and investment to take climate change into account. It also provides four principles to guide planning and investment:
 - a. Give priority to actions that both build climate preparedness and reduce greenhouse gas emissions
 - b. Use flexible and adaptive approaches where possible

- c. Act to protect the state’s most vulnerable populations
- d. Prioritize natural infrastructure solutions

In addition, the E.O. orders, “State agencies shall take climate change into account in their planning and investment decisions, and employ full life-cycle accounting to evaluate and compare infrastructure investments and alternatives.”

2. **AB 2516:** This law requires the creation and regular update of a State Sea-Level Rise Planning Database in which various entities are surveyed.
3. **AB 1482:** This law provides additional principles for state climate preparedness activities to consider, as well as mandating the iterative update of the Safeguarding California Plan.
4. **SB 246:** This law establishes an Integrated Climate Adaptation and Resiliency Program to coordinate regional and local efforts and create a clearinghouse for all climate adaptation information.
5. **SB 379:** This law requires local jurisdictions to incorporate climate impacts and climate adaptation and resilience strategies into their local hazard mitigation plans; it is designed to also include climate impacts in updates to the safety element of localities’ general plans.

Based on BCDC’s role in the region over the last five years and the state’s significant activity on climate issues, BCDC has an opportunity to draw on past experiences and regional knowledge to play a leading role in California’s growing efforts to make the state more resilient to sea-level rise and other impacts of climate change.

The workshop series has been designed to assist the Commission with this work; its objectives have been to:

1. Bring to the full Commission and a broader range of participants issues identified by the *Rising Sea Level and Bay Fill Commissioner Working Groups*, the *Policies for a Rising Bay project*, the *Adapting to Rising Tides Program*, and five years of regulatory practice using the Commission’s *Climate Change Bay Plan Amendments*;
2. Accelerate BCDC’s efforts to address the challenges resulting from rising sea level, both independently and with others;
3. Establish a series of actions in both the short- and medium-term to hasten Bay Area adaptation to rising sea level; and,
4. Engage in new or expanded coordination, collaboration, and partnership to advance adaptation locally and regionally.

Presentations, summaries, and material from each workshop are available at <http://www.bcdc.ca.gov/workshops.html>. Below is a summary of each of the workshops:

BCDC Public Workshop 1. The first workshop in the Commissioner workshop series was held on January 21 and focused on the Bay Plan's 2011 Climate Change Policies. The workshop's primary objective was to review BCDC's climate change policies with Commissioners, Alternates, staff, stakeholders, and the public. The workshop began with a presentation of the climate change policies and an analysis of several recent projects to which the staff and the Commission applied the policies. After the presentation, all participants were seated together at tables to discuss and answer a series of questions designed to identify significant issues and themes related to the climate change policies. The discussion resulted in four primary issues:

1. BCDC's jurisdiction and authority;
2. the project-by-project approach that results from applying the current climate change policies to individual projects;
3. the balance of risk, innovation, and adaptive management; and,
4. the regional approach to resilience.

BCDC Public Workshop 2. The second workshop in the Commissioner workshop series continued some of the themes raised in the first workshop, primarily the regional approach to resilience and the challenges presented by the project-by-project regulatory process. The workshop, held on March 3, began with a staff presentation of regional issues, regional actions and BCDC's current approach to regional resilience, including the Adapting to Rising Tides Program. After the presentation, all participants gathered around tables and engaged in an exercise to identify the types of regional issues that need to be addressed and regional actions necessary to reduce local and regional vulnerabilities to rising sea level. The actions that were identified at the tables fell into the following categories:

1. Assessments to Perform;
2. Funding;
3. Data Gathering and Sharing;
4. Plans and Policies;
5. Education and Outreach; and,
6. Physical Solutions and Advocacy.

BCDC Workshop 3. The third workshop, held on April 7, concentrated on prioritizing the regional actions recommended by the participants at the second workshop. The workshop started with a staff presentation and included the following objectives:

1. Provide an opportunity to identify and prioritize regional actions, particularly those that BCDC could either lead or support; and,
2. Discuss how to make the actions more effective to ensure adaptation will provide multiple benefits to communities, the economy, and the environment.

After the presentation, participants were asked to vote on a broad set of regional actions presented in an open house format. Workshop participants were encouraged to revise the actions or add additional actions before voting for *three* they wanted discussed further. Participants then broke into seven groups that each discussed one of the actions that had received the most votes. At the end of the discussion period the table groups reported back on the following questions:

1. What was the action you discussed?
2. How important is it for the region to advance this action?
3. What recommendations do you have to make the action stronger?
4. Who could lead this action?
5. Does the lead have the authority and resources to implement this action?

The actions that were selected and discussed at the tables were:

1. Create a regional sea level rise adaptation plan that serves as a framework for implementing future actions while allowing for immediate early actions to be developed in advance of the plan. (20 votes)
2. Complete multi-sector, county-scale sea level rise vulnerability assessments for all nine counties using a consistent approach such as Adapting to Rising Tides. (18 votes)
3. Explore new institutional arrangements, such as a regional authority, to empower the regional agencies to address the impacts of climate change together. (15 votes)
4. Identify and facilitate the prioritization of physical interventions to reliably protect regionally significant natural and man-made assets from flooding. (10 votes)
5. Identify and fund a regional data repository to collect and share data to guide sea level rise strategies and actions. (10 votes)
6. Develop regional regulatory system to discourage new development that is not resilient along the shoreline for those areas below estimated elevations of sea level rise. (8 votes). Participants added this action during the workshop.
7. Change existing regulations to better allow for the consideration of sea level rise impacts in permitting and decision-making. (8 votes)

BCDC Workshop 4. The fourth workshop held on May 19, was designed more like a traditional Commission meeting and provided the Commission with an opportunity to review refine and respond to recommendations for actions. The recommendations and possible actions that were presented to the Commission for their consideration are listed below:

1. ***Create a regional sea level rise adaptation plan that serves as a framework for implementing future actions, while allowing for immediate early actions to be developed in advance of the plan.***

Possible actions:

- Create a collaborative and inclusive Regional Adaptation Plan (RAP), modeled on the Regional Transportation Plan (RTP) process, which would prioritize adaptation actions and projects in an iterative and integrated manner that reflects local, regional, state, and federal priorities; the RAP would be led by BCDC and supported by a regional working group/steering committee; consider seeking state legislation to place the RAP in statute after developing a working RTP. This work would also consider SB 379 and the role that local hazard mitigation plans could play in the RAP and how to integrate the work that will be done by local jurisdictions to comply with SB 379.
 - Form and lead a regional working group/steering committee.
 - Lead a comprehensive discussion about, and help promote, new viable, innovative financing options for different types of projects, perhaps through implementing a new Commissioner Working Group on innovative financing called “Financing the Future,” which would consist of Commissioners, Alternates and external stakeholders.
 - Create a real-time measurement dashboard that includes visual depictions of the progress toward regional resilience based on a portfolio of projects.
2. ***Complete multi-sector, county-scale sea level rise vulnerability assessments for all nine counties using the Adapting to Rising Tides Program.***

Possible actions:

- Use existing vulnerability analyses as base information for assessments.
- Combine this action with Action #1 to build the information necessary for the success of the RAP, including adaptation actions.
- Develop a financing plan to complete ART for all nine Bay Area counties in an integrated manner within three years.

3. **Explore new institutional arrangements to address the impacts of climate change in a way that promotes a shared regional perspective and increases collaboration.**

Possible actions:

- Encourage regional perspectives and planning by supporting and promoting local and regional cooperation, coordination, collaboration and partnerships that build the Regional Adaptation Plan described in (1) above.
- Use the 2017 Sustainable Communities Strategy (SCS), and other efforts where appropriate, to further a Bay Area-wide policy discussion on adaptation.
- Include rising sea levels in the scenario development and scenario selection for the 2021 SCS.
- Identify existing arrangements that can be reproduced, improved and expanded.
- Although not a current recommendation, consider whether a new regional authority is needed and determine whether it would be a new organization, housed within an existing organization, or be formed among existing organizations, following efforts to implement bullets (1) and (2) above.

4. **Identify regionally significant natural and built assets and vulnerable communities and develop approaches to minimize and mitigate damage from flooding in ways that adapt to changing natural circumstances such as rising sea levels.**

Possible actions:

- Identify the types of projects that are likely to be successful and scalable based on case studies (e.g., ART Hayward Resilience Study, ART Transportation Study, ART Oakland/Alameda Resilience Study) and/or ongoing pilot projects to help communicate and visualize adaptation options.
- Identify or develop tools to assist local, regional, state and federal decision-makers in utilizing full life-cycle accounting for evaluating and comparing infrastructure investments and alternatives, including both natural and built infrastructure, as well as for use in BCDC planning and regional investments.
- Help build a Bay Area-wide consensus to beneficially reuse a majority of dredged materials to increase the viability of nature-based adaptation projects, and carry this forward to the state and federal levels.
- ~~Establish an Adaptation Advisory Board, along the lines of the Design Review Board,~~ to provide technical expertise and non-binding guidance for project applications along the shoreline.

- Support the State Coastal Conservancy by initiating a Green Shoreline Infrastructure help desk to connect project proponents, local jurisdictions, BCDC, and other agency staff with technical experts to help design, build, maintain and adapt green infrastructure projects and help implement the Baylands Ecosystem Goals Habitat Update around the shoreline.

5. **Change existing laws, policies and regulations to more fully consider the local and regional impacts of rising sea levels in permitting and decision-making processes as needed.**

Possible actions:

- Complete the *Policies for a Rising Bay* project, which analyzes fill policies in light of rising sea levels.
- Modify BCDC's permit application to require information on the potential impacts of a project on adjoining properties in a manner that can inform local and regional resilience efforts.
- Develop a comprehensive multi-agency permit application and approval process (based on the success of the Long Term Management Strategy and Dredged Materials Management Office (DMMO)) for projects that place fill in the Bay to accelerate the region's resilience, starting with nature-based adaptation solutions.
- Discuss possible amendments to the McAteer-Petris Act and BCDC regulations regarding the definition and use of "fill".

6. **Work with others to develop a regional educational campaign to increase awareness of rising sea level and how the Bay Area can adapt successfully to its challenges.**

- Use existing classic education models (e.g., recycling expansion and anti-smoking) and collaborate with existing partners (e.g., Exploratorium) and new ones (e.g., LEAP, Alliance for Climate Education) to target school-age children and young adults.
- Expand existing educational efforts to create an education and outreach program for public officials and the general public about rising sea level, the Bay Area's regional assets at risk, and successful examples of adaptation.

7. **Assist efforts to define, identify, and fund one or more regional data repositories to collect and share data in ways that best inform rising sea levels strategies and actions.**

8. **Develop a new Commissioner Working Group on innovative financing called Financing the Future, which would consist of Commissioners, Alternates, and external stakeholders.**

Staff Recommendation

The staff recommends that the Commission review, refine as necessary, and adopt the revised recommendations below:

- 1. Create a regional sea level rise adaptation plan that serves as a framework for implementing future actions, while allowing for immediate early actions to be developed in advance of the plan.***
- 2. Complete multi-sector, county-scale sea level rise vulnerability assessments for all nine counties using the Adapting to Rising Tides Program.***
- 3. Explore new institutional arrangements to address the impacts of climate change in a way that promotes a shared regional perspective and increases collaboration.***
- 4. Identify regionally significant existing and future natural and built assets and protect them from flooding in ways that adapt to changing natural circumstances such as rising sea level.***
- 5. Modify existing laws, policies, and regulations to more fully consider the local and regional impacts of rising sea levels in permitting and decision-making processes.***
- 6. Work with others to develop a regional educational campaign to increase awareness of rising sea level and how the Bay Area can adapt successfully to its challenges.***
- 7. Assist efforts to define, identify, and fund one or more regional data repositories to collect and share data in ways that best inform rising sea level strategies and actions.***
- 8. Develop a new Commissioner Working Group on innovative financing called Financing the Future, which would consist of Commissioners, Alternates, and external stakeholders.***

Upon adoption, the staff will develop approaches for implementation and phasing of the recommendations and the relationships between them. These implementation recommendations will include funding, timing, phasing, necessary partners, existing projects and efforts that build toward the recommendation and amount of staff time needed to accomplish the recommendation. An example of this information has been developed as a draft and is in an appendix to this staff report.