

New SLR Adaptation Policy in San Francisco Bay

Mote Marine Policy Institute

By Luke Maier, Intern (Jan. 2012)

The Marine Policy Institute (MPI) at Mote Marine Laboratory has been monitoring how local jurisdictions are using policy to address climate change, specifically the local policies that address sea level rise (SLR). The San Francisco Bay Commission has recently adopted pioneering SLR and climate change mitigation policies, one of the first of such actions in the nation. MPI has prepared this synopsis of the Bay Commission's new policies to help keep coastal decision makers along Florida's Gulf Coast up to date with the latest relevant SLR mitigation strategies and policies.

The San Francisco Bay Commission concluded that modern climate science and SLR research is now conclusive enough to provide a reliable basis for policy action. As such, the Commission adopted new policies that incorporate the latest climate change research into its comprehensive San Francisco Bay Plan.

The Policy

1. Adds a new 'Climate Change Policy' section to the Bay Plan. This:
 - a. Adopts SLR projections arrived at by local, state, and international consensus (see Science section)
 - b. Requires new SLR science be considered when issuing building and renovation permits
2. Updates the Bay Plan's policies that aim to mitigate SLR impacts on coastal habitats and human developments. This:
 - a. Requires new coastal projects to conduct a SLR and climate change risk assessment that will be considered in issuing permits
 - b. Requires new projects (with exceptions) be resilient to mid-century sea level projections
3. Adds new and continues past legal protections for shorelines and estuaries. This:
 - a. Requires former tidal marshes and flats to be restored for sea level protection purposes
 - b. Requires new fill projects be set back from the shoreline or reinforced enough to withstand SLR projections for the life of the project
4. Ensures public access to shorelines throughout future sea level encroachment
5. Clarifies how the Bay Commission's jurisdiction (currently a 100ft band extending in from the shoreline) will change as shorelines changes due to SLR

Goals of the resolution:

1. Update aging science findings and outdated language on SLR
2. Encourage a variety of projects that have regional benefits
3. Continue levels of protection that have worked well over the last half century
4. Continue and expand protection of wetlands through habitat enhancement
5. Expand partnerships with pertinent agencies and organizations to adapt to climate change

The language of the resolution can be found in this link:

http://www.bcdc.ca.gov/proposed_bay_plan/10-01Resolution.pdf

The Policy Process

The Commission began implementing these new climate change policies in November, 2008, when it presented proposed policy language to staff and asked for recommendations. Shortly after, the Commission held its first public hearing, one of 3 major hearings to come. In 2009, the Commission finished a staff report entitled *Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on the Shoreline* that aimed to explore and establish if the latest scientific findings were an adequate basis for policy action. During the language revision process, the Commission held two additional public hearings on the proposal. The staff also published several staff response documents, which offered additional answers to raised concerns. In September 2011, the proposal became a resolution by a unanimous vote of the Commission members.

Synopsis continued:

The Science

The Commission concluded San Francisco Bay is likely to see as much as 17in of rise by mid-century and 55in by 2100, based on projections reported in a climate change vulnerability assessment of San Francisco Bay and corroborated by California climate change studies. The findings are consistent with widely accepted estimates reached by the UN's Intergovernmental Panel on Climate Change. The Commission assessed that the threats of SLR to human health, environmental resilience, and economic development were significant enough to merit policy action. The Commission estimated the potential property and development costs of unmitigated SLR, to be around \$62 billion. This figure was calculated by assessing land damage inflicted by inundation of property and the 98% heightened geographic flood vulnerability of developed areas due to SLR. If SLR is not addressed, 330 square miles of land will be vulnerable to inundation damage.

The Commission

In 1965, California's legislature established the San Francisco Bay Conservation and Development Commission in light of state reports that predicted that 70% of the Bay potentially could be lost by 2020. The Commission developed its Bay Plan in 1968 and has been exercising regulatory, enforcement, and permitting powers since the Bay Plan was approved.

Jurisdiction

State law gives the Commission jurisdiction 100ft inland from the Mean High Tide Line, which is established by NOAA each year. Many of the concerns raised in public hearings on the proposal focused on how rising sea levels will increase the Commission's jurisdiction or change its jurisdiction to include areas currently under local government and other overlay zones authority. The Commission responded by clarifying that: first, new policies will continue to uphold local governments' jurisdiction beyond 100 feet of the shoreline; and second, the new climate change and SLR policies will only apply to areas currently under Commission jurisdiction and not include future inundated areas that eventually become part of the 100ft band from the shore. The Commission noted any changed to jurisdiction could only originate in the state legislature.

Community Involvement

According to the Commission's Strategic Plan (adopted in January 2011), the Commission hopes to foster the public's support for bay conservation by increasing recreational access to the bay and its marshes through initiatives such as the San Francisco Bay Water Trail. Using tools like hazard inventory and SLR impact maps, it also aims to improve communication of climate change hazards to the public. Further, the Commission seeks to develop partnerships with conservation agencies and local organizations to secure organizational enthusiasm and funding resources necessary to adapt to SLR.

The last commission staff report can be found in this link:

http://www.bcdc.ca.gov/proposed_bay_plan/10-01Recom.pdf

The Commission's Coastal Management Program Assessment and Strategy can be found in this link:

<http://www.bcdc.ca.gov/reports/coastalMgmtAssessment.pdf>