



Proposed Bay Plan Amendment No. 1-17 Concerning the Update of the Bay Plan Fill for Habitat Policies



Megan Hall
Environmental Scientist

June 20, 2019



San Francisco Bay Conservation
and Development Commission

Outline

- Staff presentation
 - Background
 - Policy changes
- Public comment
- Commissioner comments

The Changing Baylands

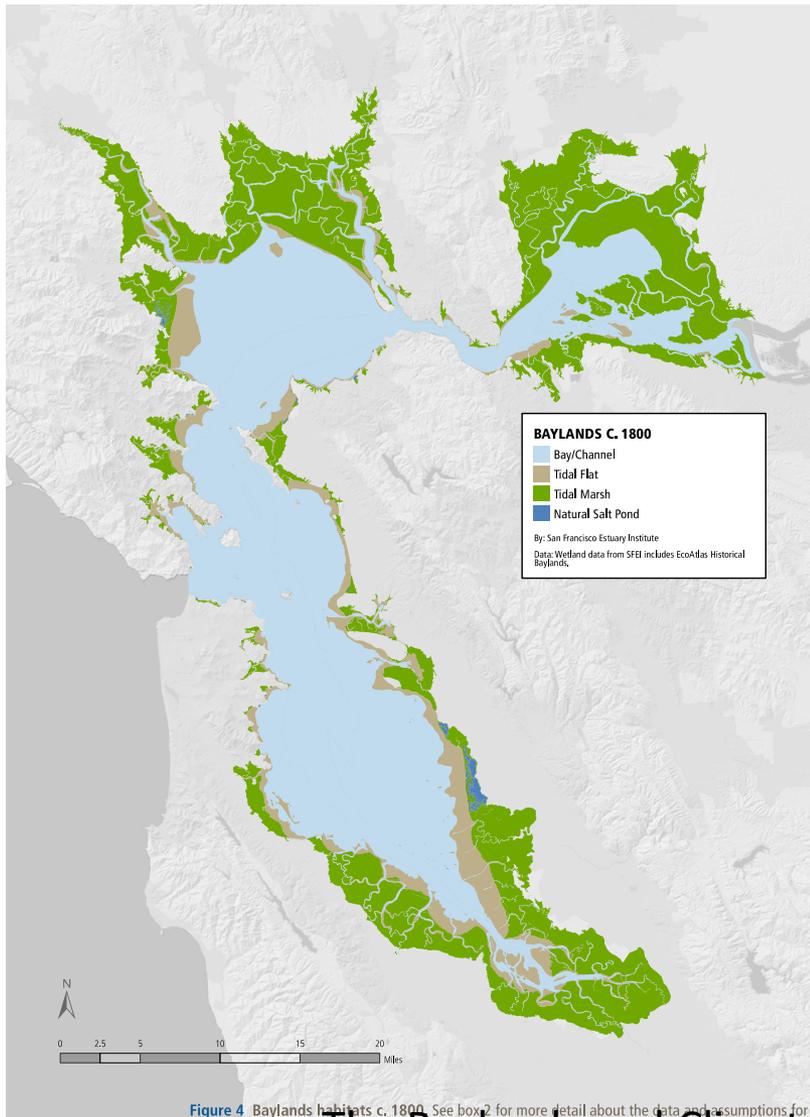
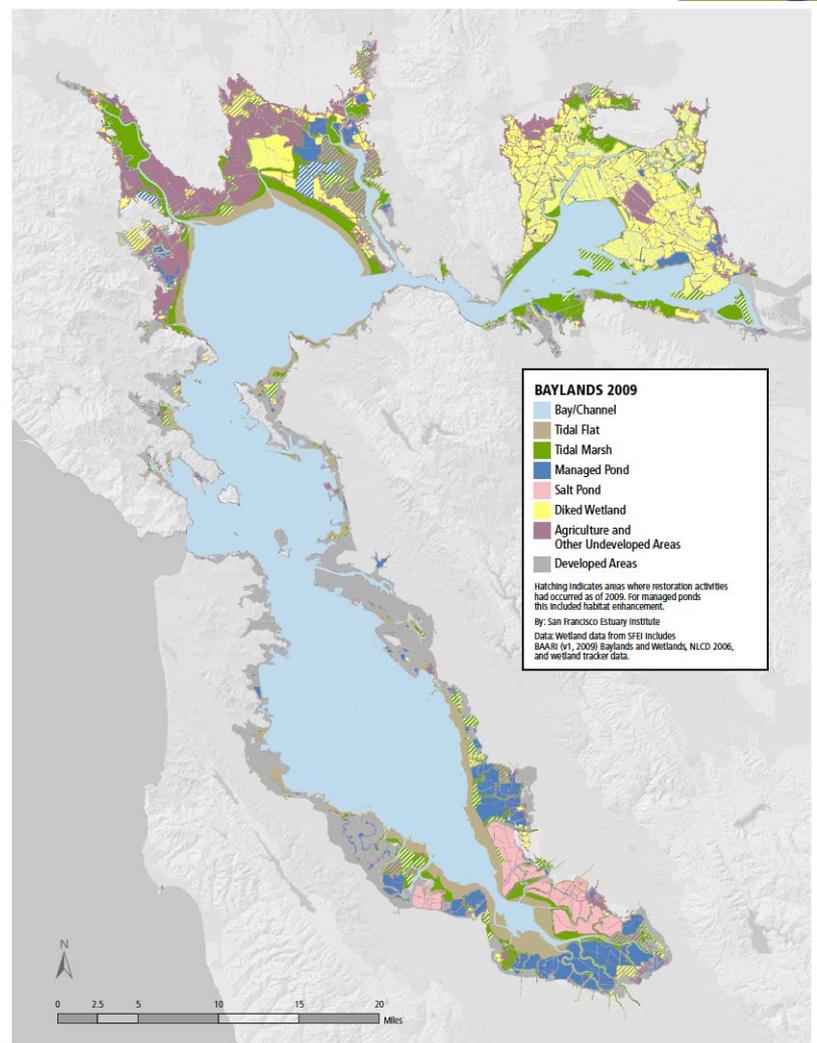


Figure 4 Baylands habitats c. 1800. See box 2 for more detail about the data and assumptions for this map.



The Baylands and Climate Change: What We Can Do (2015)

Evolution of Habitat Restoration in the Bay



Dates (approx.)	Phase
1970s, 1980s “1 st generation”	Replicate Marshes Driven by compensatory mitigation and dredged material disposal. Grade, plant and breach.
1990s, 2000s “2 nd generation”	Baylands Habitat Goals Restore natural processes. Sediment as a resource. Larger scale restorations. Regional planning, goal of 100,000 acres
2010s – today Current issues	Baylands Ecosystem Goals Update “Complete shoreline” Sediment shortage Resilience to climate change Restoring functional landscapes Natural Infrastructure and other co-benefits

Slide adapted from Michelle Orr; modified from Williams and Faber 2001, Peter Baye 2015.

Past fill in habitat projects (1)



South Bay Salt Ponds Restoration Project

(source: <https://www.epa.gov/sfbay-delta/south-bay-salt-pond-tidal-marsh-restoration-pond-a17-project>)



Hamilton Wetlands Restoration Project

(source: <https://baynature.org/article/marsh-bay-trail-takes-hamilton-airfield/>)

Past fill in habitat projects (2)



Aramburu Island (source: Roger Leventhal)



San Francisco Bay Living Shorelines Project
(source: <https://blog.bayareametro.gov/posts/reef-balls-help-san-francisco-bay-oysters>)

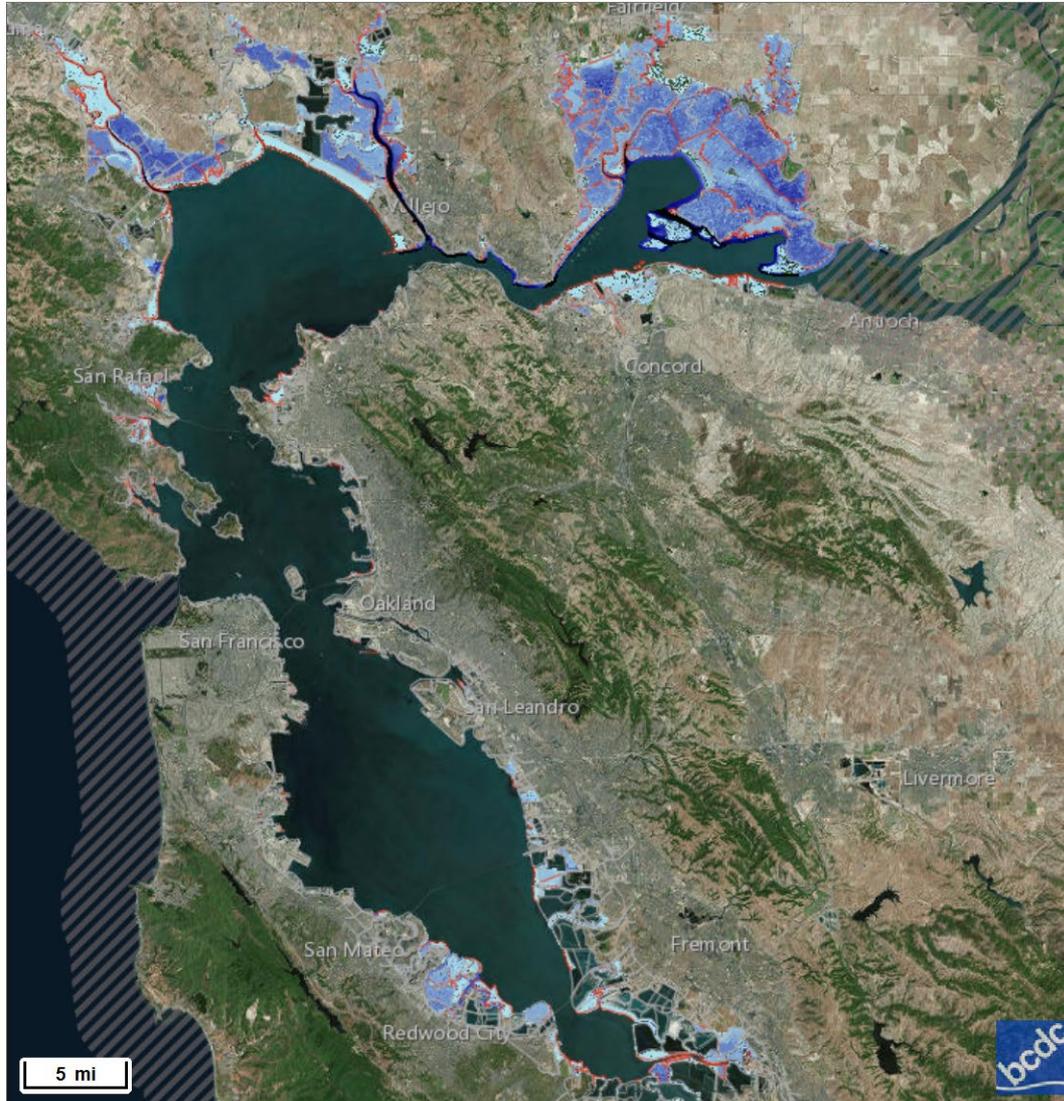


Sonoma Creek Enhancement Project
(source: Megan Hall)



Middle Harbor Enhancement Area
(source: Roger Leventhal)

Sea level rise threatens Bay ecosystems



TOTAL WATER LEVEL: 12-inches

Printed from:
explorer.adaptingtorisingtides.org

Sea Level Rise	+	Storm Surge
0"		King Tide
12"		No Storm Surge

Depth of Flooding

- 12+ feet
- 10 - 12 feet
- 8 - 10 feet
- 6 - 8 feet
- 4 - 6 feet
- 2 - 4 feet
- 0 - 2 feet

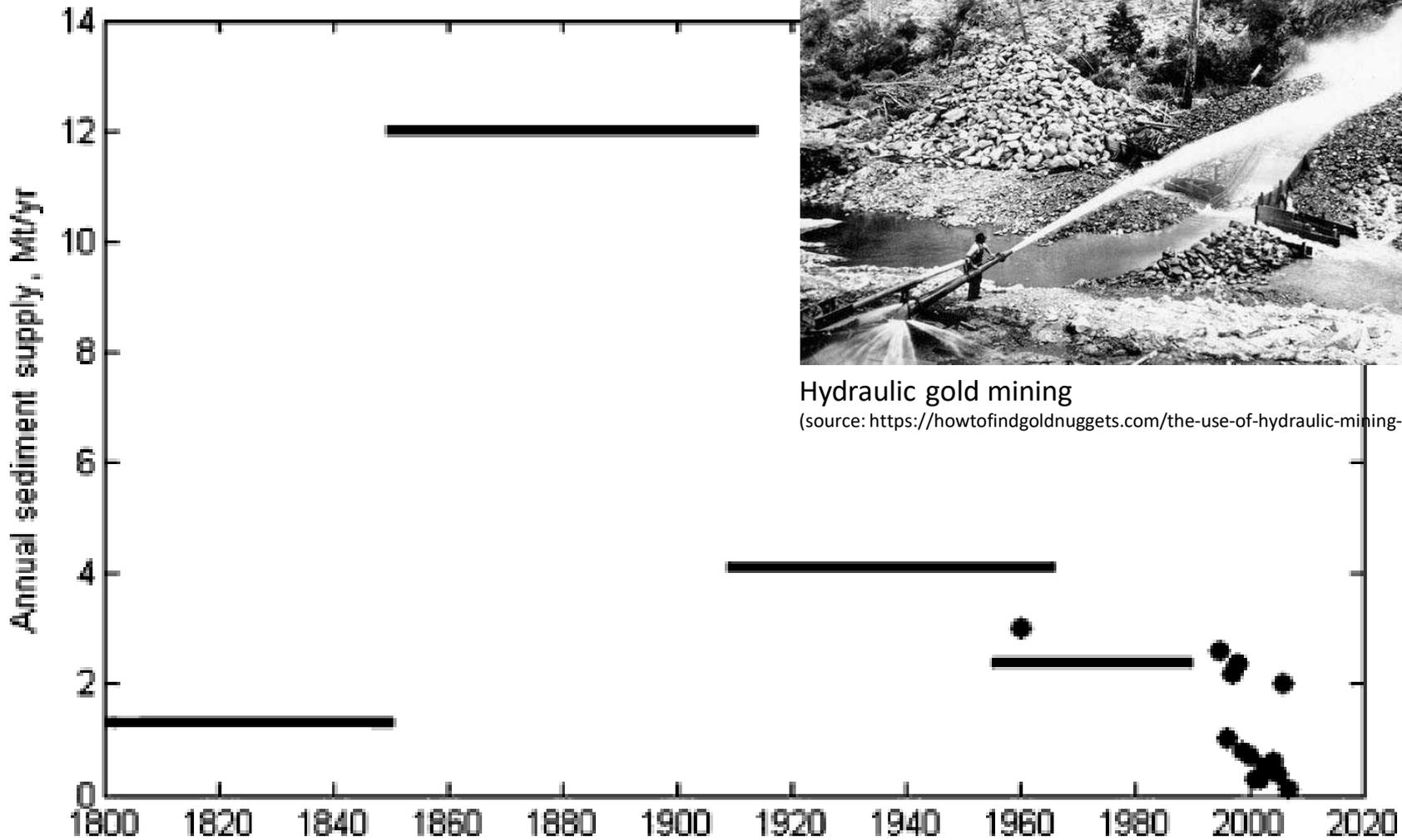
Shoreline Overtopping

- Overtopping
- No Overtopping

At the regional scale, these scenarios present average water levels that are representative of what could occur along the entire Bay shoreline. The mapped scenarios are based on binning the water levels with a tolerance of ± 3 inches.

Icons by Icons8. Map tiles by ESRI.

Reduced sediment supply



Estimated annual sediment supply from the Central Valley to San Francisco Bay

(source: Schoellhamer et al. 2011)

Habitats are at risk for major changes



More restoration on the horizon

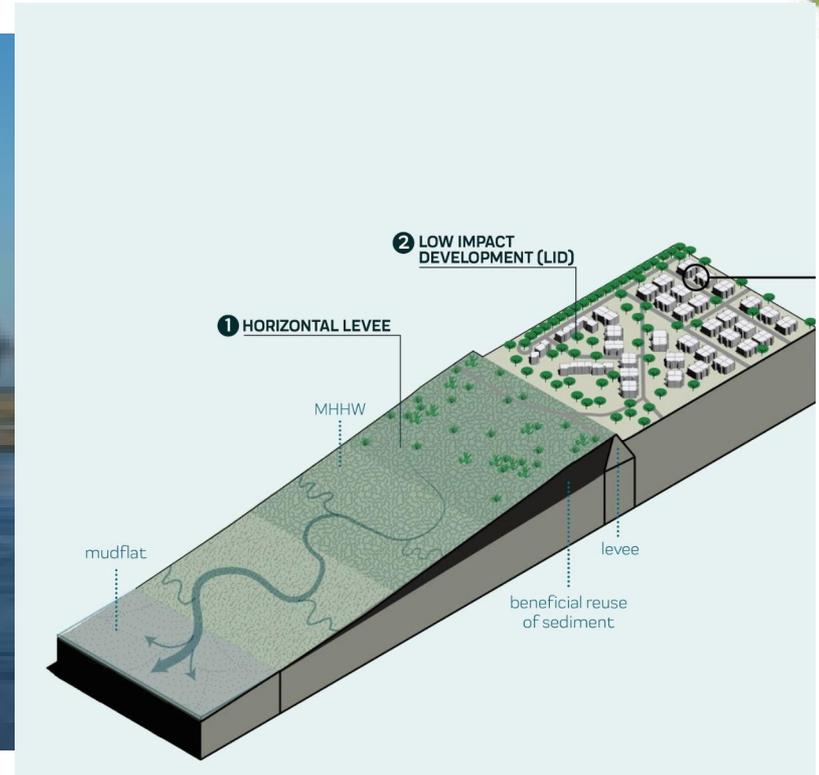


(Source: <http://sfbayrestore.org/packets.php?id=2017-06-09#begin>)

More fill may be necessary for habitat projects in the Bay



Thin layer placement of dredged sediment
(source: Bob Blama, CENAB, USACE)



Horizontal levee diagram.
(source: Roger Leventhal)

Fill for Habitat Bay Plan Amendment Process



March 2019



Initiated
July 20, 2017



- Bay Fill Working Group Meetings
- Stakeholder Interviews
- Science Briefings

Project Goal of BPA 1-17

Amend the San Francisco Bay Plan to address the planning, design, and permitting of necessary Bay fill for *habitat projects* in the San Francisco Bay, and to increase the region's resilience to rising seas using the best available science.

Bay Plan Sections Currently Under Consideration for BPA 1-17



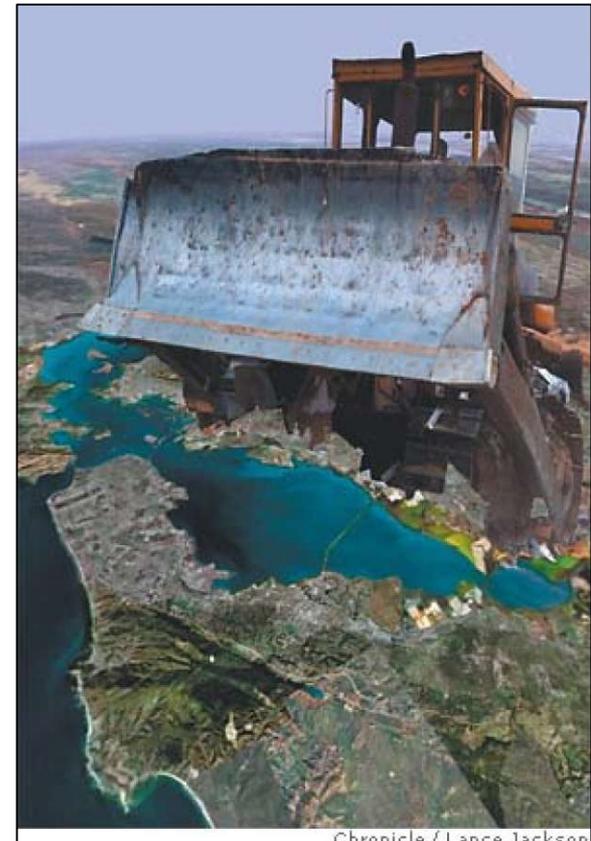
- Major Conclusions and Policies
- Fish, Other Aquatic Organisms and Wildlife
- Tidal Marshes and Tidal Flats
- Subtidal Areas
- Dredging
- Shoreline Protection

Major Conclusions and Policies

- Add habitat projects as a form of justifiable filling
- Add more balanced language on the effects of Bay filling



SaveSFBay.org



Chronicle / Lance Jackson

Fish, Other Aquatic Organisms, and Wildlife



- Reference specific regional restoration/adaptation frameworks in findings, and reference “best available science” in policies
- “Minor fill” language removed
- Require incremental fill (with some exceptions)
- Habitat type conversion protections
- Prioritization of sediment in Bay margins



Migrating terns arrive at a restored wetland
(source: Baylands Ecosystem Habitat Goals Update (2015))



Topsmelt.
(source: <https://www.montereybayaquarium.org/animals-and-exhibits/animal-guide/fishes/topsmelt>)

Tidal Marshes and Tidal Flats; Subtidal Areas (1)

- Require projects to incorporate natural processes into design, work with regional considerations, and increase habitat connectivity
- “Minor fill” language removed



Eden Landing Ecological Reserve (source: Megan Hall)



China Camp Marsh (source: Megan Hall)

Tidal Marshes and Tidal Flats; Subtidal Areas (2)

- Design, monitoring, and adaptive management should scale based on project.
- Funding plans are required when appropriate and should likewise scale with project.
- Support regional monitoring efforts
- Encourage more pilot projects
- Encourage research on specified topics



Seal Beach, CA. (source: <https://tlp.el.ercd.dren.mil/seal-beach-2/>)



Research on Olympia oyster restoration

(source: <https://www.sfgate.com/science/article/2-million-oysters-in-bay-begin-restoration-effort-4984300.php>)

Dredging (1)

- Many policies in this section will be addressed through the Bay Plan Amendment focused on beneficial reuse
- Encourage further research and pilot projects
- Dredging Policy 11b:
To ensure protection of Bay habitats, the Commission should not authorize dredged material disposal projects in the Bay and certain waterways for habitat creation, enhancement or restoration, **except for projects using a minor amount** of dredged material, until: ... (3) The Oakland Middle Harbor enhancement project, if undertaken, is completed successfully.



Middle Harbor Enhancement Area
(source: Port of Oakland)

Dredging (2)

- Policy Options considered for Dredging Policy 11b:
 - Remove Dredging Policy 11b
 - Remove Dredging Policy 11b and add Bay Plan Map Policy (through BPA 3-19)
 - Revise Dredging Policy 11b
 - Retain Dredging Policy 11b as is



View over Middle Harbor from Middle Harbor Shoreline Park
(source: <https://goldengateaudubon.org/blog-posts/middle-harbor-shoreline-birding-hotspot/>)

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Shoreline Protection

- Update findings and policies to reflect spectrum of green/grey solutions
- Require that all projects consider natural and nature-based features and use them to the greatest extent possible, with the exception of airports
- Projects using natural and nature-based features may be “self-mitigating”
- Encourage pilot projects and research



South Bay Shoreline Project

(source: <https://www.valleywater.org/news-events/news-releases/governor-brown-signs-senator-wieckowskis-south-bay-shoreline-project>)



Submerged Aquatic Vegetation in San Francisco Bay

(source: <http://www.sfbaysubtidal.org/sav.html>)

Public Comment received:

- Bay Area Council
- Bay Planning Coalition
- Ducks Unlimited
- Marin Audubon Society
- Port of Oakland
- San Francisco Bay Joint Venture Management Team
- San Francisco Estuary Partnership
- San Francisco Int'l Airport (SFO)
- Save the Bay
- Silicon Valley Leadership Group
- South Bay Salt Ponds Restoration Project
- State Coastal Conservancy
- US Army Corps of Engineers
- US Environmental Protection Agency, Region IX
- Valley Water
- Wetland Regional Monitoring Program Core Team





Public Comment