

SHARED BASEMAP TO MEASURE Baylands Change

The **Baylands Basemap** project will provide a new, comprehensive, standardized, public map of the distribution and abundance of the Bay Area baylands designed to support their restoration and protection. The new **Baylands Basemap** will be combined with the forthcoming Delta Aquatic Resource Inventory to create one seamless basemap of existing and potential intertidal habitats of the entire Estuary. The Bay Area **Baylands Basemap** will be a fundamental component of the San Francisco Estuary Regional Wetlands Monitoring Program (WRMP), and will serve as a common reference map to help coordinate baylands protection and restoration for all interests. It will be used commonly by public agencies to visualize and track baylands projects in EcoAtlas. Going forward, the **Basemap** can be updated by local and regional experts using new online editing tools. Training will be available to assure consistent use of standardized mapping procedures.

Why do we need a Baylands Basemap?

The [existing map](#) of tidal marsh, tidal flats and diked baylands illustrates the complex baylands ecosystem that is highly valued by a large community of public and private interests. The map is outdated, however, and does not represent the many changes in baylands distribution and abundance that have occurred over the last two decades. Nor does it include new information about land use and infrastructure that affects baylands restoration and management constraints and opportunities. The new basemap will address these information needs and others identified by the WRMP. Unlike the existing map, the new map would involve procedures for ongoing local updates to cost-effectively maintain its high value.

None of the baylands exist in isolation. As integral parts of the Estuary ecosystem, they affect each other and have strong physical, ecological, and cultural relations to the rest of the Bay and its watersheds. For these and other reasons, the Baylands must be planned and managed together.

This requires a common map of the Baylands and their surrounding areas. This new **Basemap** is necessary for the regional community of planners, regulators, managers, and scientists to assess the progress of restoration and protection efforts, relative to each other and over time, in the context of ongoing climate change. More specifically, the **Baylands Basemap** will:

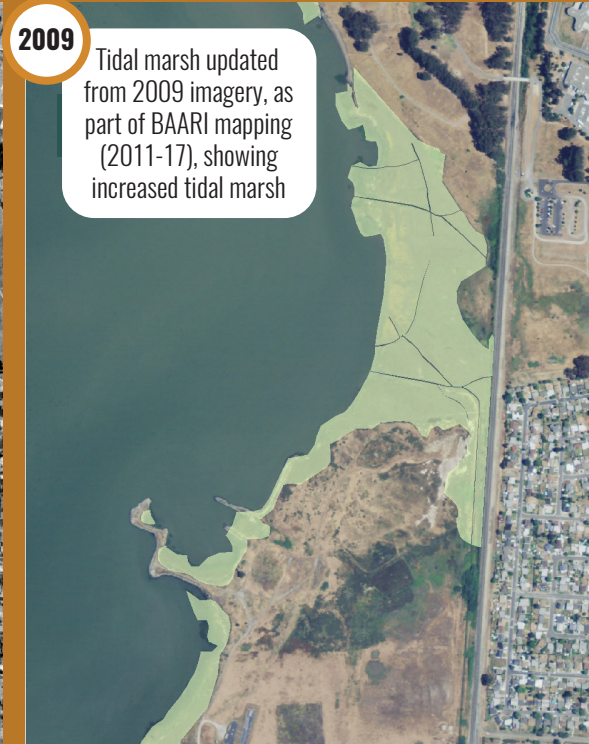
- Guide a regional approach to local baylands protection and restoration;
- Improve the assessments of different project designs and management approaches;
- Help distinguish the outcomes of baylands projects from the effects of climate change;
- Inform the public about the nature, benefits, and accessibility of the baylands;
- Build public support for continued investment in baylands protection and restoration.

AN ILLUSTRATED EXAMPLE OF CHANGES IN THE BAYLANDS OVER 22 YEARS: Dotson Family Marsh, Point Pinole

In 1998, SFEI developed a GIS-based [Modern Baylands map](#). It was designed to support local and regional environmental planning and management.

Between 2011-2017, the Bay Area's aquatic features were mapped using a standard mapping protocol developed by SFEI's GIS team. This effort, the [Bay Area Aquatic Resource Inventory \(BAARI\)](#), included mapping all wetlands, open water, streams, ditches, and updating tidal marshes and flats.

Substantial changes have occurred at the Bay edge since then (including restoration, sea level rise, and erosion). Updating the Basemap is critical for quantifying and understanding the effects of both restoration and climate change on the Bay edge.



What is the geographic extent of the map?

The map will update the Baylands portion of the Bay Area Aquatic Resource Inventory from the bayward limits of the intertidal zone to the landward limits of the Operational Landscape Units of the Estuary, downstream of the Delta Aquatic Resource Inventory, as guided by the SF Bay Conservation and Development Commission, California State Coastal Conservancy, and other agencies.

How will the new Basemap relate to the past Baylands map?

This project builds on all the past and ongoing investments in regional baylands mapping, including but not limited to:

- [Bay Area Aquatic Resource Inventory \(BAARI 2011\);](#)
- [Delta Aquatic Resource Inventory \(DARI 2020\);](#)
- [The San Francisco Bay Shore Inventory \(2015\);](#)
- [Shoreline change analysis \(Shifting Shores 2015\);](#)
- [Adaptation Atlas \(2019\);](#)
- [Habitat Evolution Map Project \(HEMP 2011, 2020\);](#)
- [New Life for Eroding Shorelines \(2020\).](#)

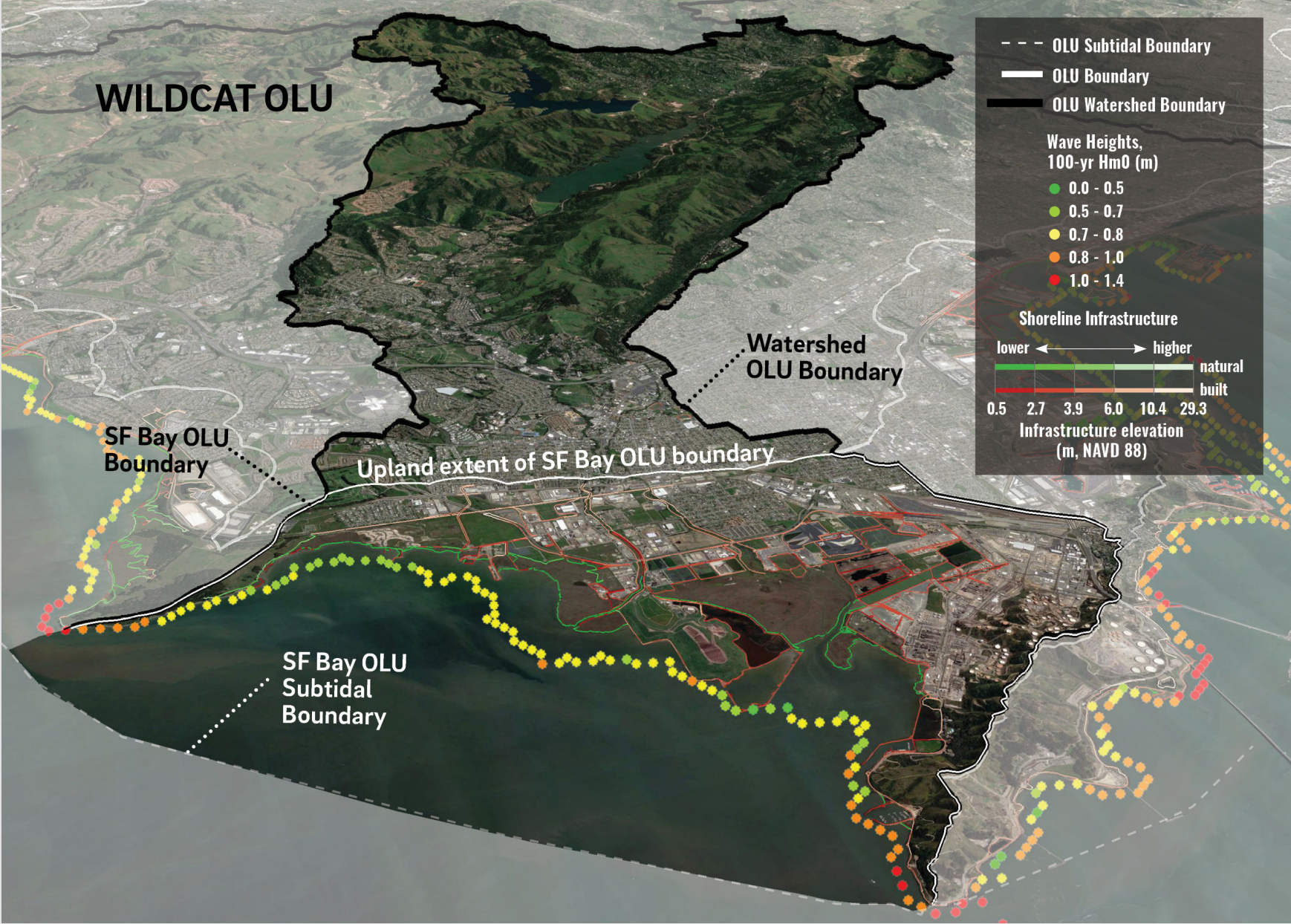
Who is the project team?

The San Francisco Estuary Institute (SFEI) has co-led the Bay Area, Delta, and statewide aquatic resource inventories and will leverage its scientific and technological resources to also lead this new mapping project. The project team will include partners in the North and South Bay, such as the **Montezuma Wetlands Restoration** Project, **South Bay Salt Pond Restoration** Project, and San Francisco Bay Joint Venture, with guidance by the **Technical Advisory Committee of the WRMP** and Mapping Committee of the **California Wetland Monitoring Workgroup**. Advice and review from additional interests will be encouraged using the outreach capacities of the San Francisco Bay Joint Venture and the San Francisco Estuary Partnership.

How much will this project cost?

Approximately \$500,000 in federal funding is being requested with another \$500,000 in non-federal matching funds assured by local and regional partners.

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