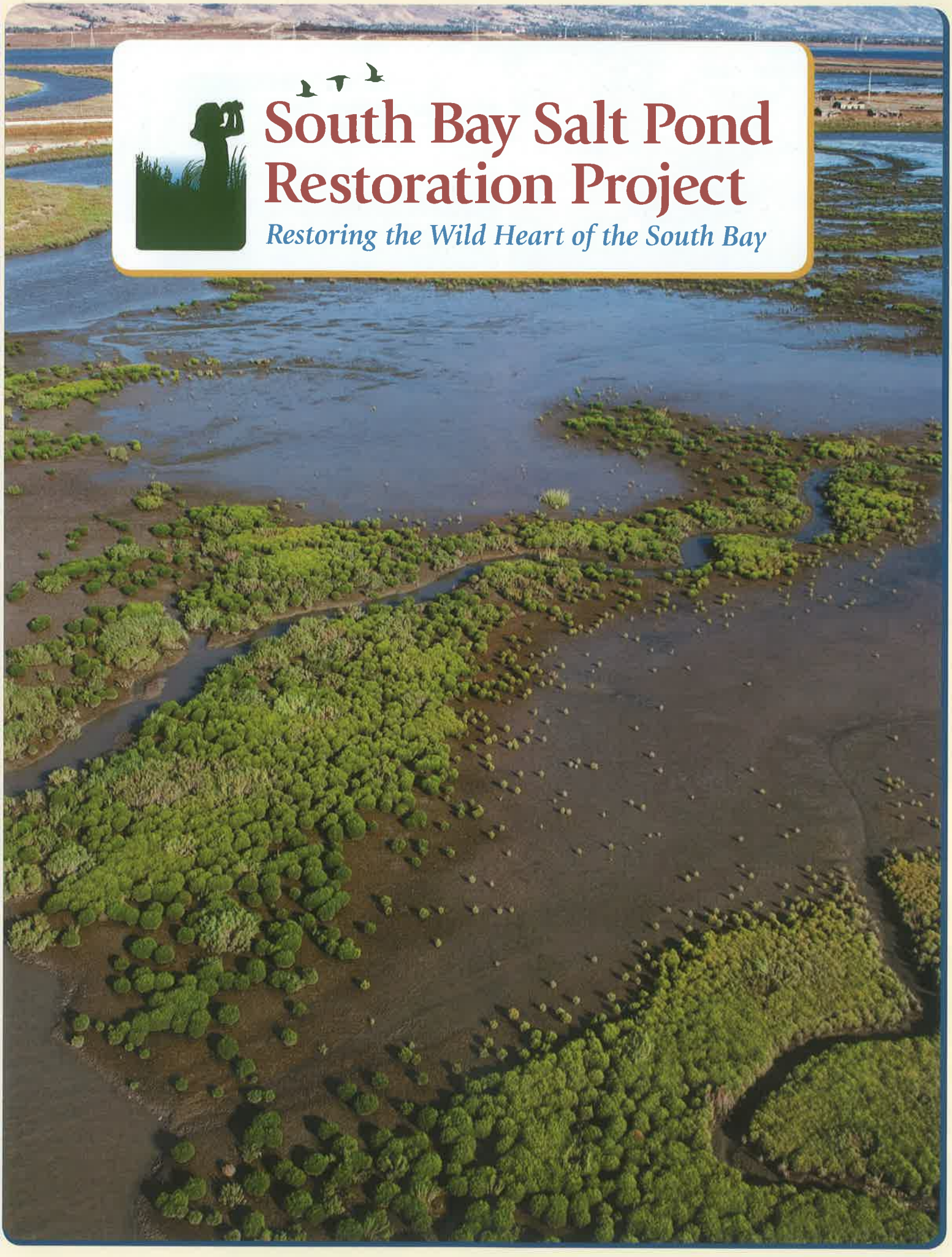


South Bay Salt Pond Restoration Project

Restoring the Wild Heart of the South Bay

Why Restore the Wild Heart of the South Bay?

Over the last century San Francisco Bay has lost more than 85% of its tidal wetlands. These important habitats serve as giant filters removing toxic pollution and nutrient runoff that otherwise impact the Bay's fragile ecosystem. Historically, Bay wetlands also served as natural sponges protecting communities from tidal flooding by absorbing and slowly releasing storm water. They also help to capture atmospheric carbon and store it for long periods of time and help protect against the effects of sea level rise. Each year, the Bay's remaining tidal marshes pulse with thousands of migrating and resident birds, fish and other species who rely on these wetlands to forage, rest, and raise their young.

Unfortunately our region's vital wetland network has been seriously compromised as we have drained and diked land near the Bay for farming, urban development and salt production. We have witnessed a dramatic decline in marsh-dependent species like the salt marsh harvest mouse and the California clapper rail, both of which are currently threatened with extinction. The loss of tidal wetlands has also contributed to decreased water quality in the Bay and increased the risk of local flooding.

The South Bay Salt Pond Restoration Project will help reverse these trends by improving the health of San Francisco Bay for years to come. By restoring over 15,000 acres of former industrial salt ponds to a thriving wetland ecosystem, we are working to reconnect the Bay and its residents to the natural processes that sustain and enhance life in our region.

Project History

Under the leadership of Senator Diane Feinstein, the South Bay Salt Ponds were purchased in 2003 from Cargill, Inc. The 15,000-acre purchase represents the largest single acquisition in a larger campaign to restore 40,000 acres of lost tidal wetlands to San Francisco Bay. The property is divided into three distinct salt pond complexes: the Ravenswood ponds on the West shore of the Bay near Menlo Park, the Alviso ponds in extreme South Bay, and the Eden Landing Ponds along the East Bay Shoreline near Hayward. Funds for the purchase and the subsequent stewardship and environmental planning were provided by state and federal resources agencies and several private foundations, including the William and Flora Hewlett Foundation, the Gordon and Betty Moore Foundation, and the David and Lucile Packard Foundation.

Photos by: Cris Benton, Mark Bittner, Dixi Carrillo, Jenny Erbes, Letitia Grenier, William Hammersky, Rob Holt, Judy Irving, Georgia Ramos, Steve Ritchie, Cheryl Strang, Dan Sullivan, Save the Bay, and U.S. Fish and Wildlife Service

Goals of the Restoration Project

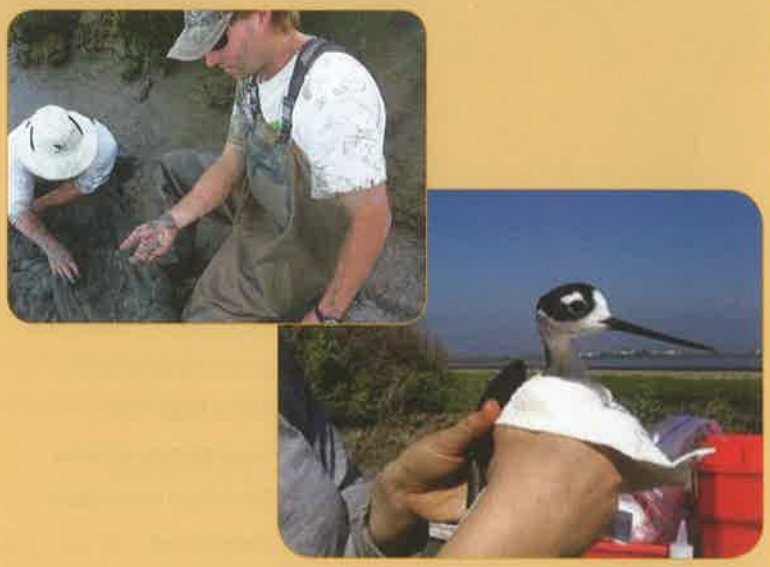
Habitat
Restore and enhance a mix of wetland habitats

Recreation and Public Access
Provide wildlife-oriented recreation and public access

Flood Risk Management
Improve flood risk management in the South Bay

Working Together

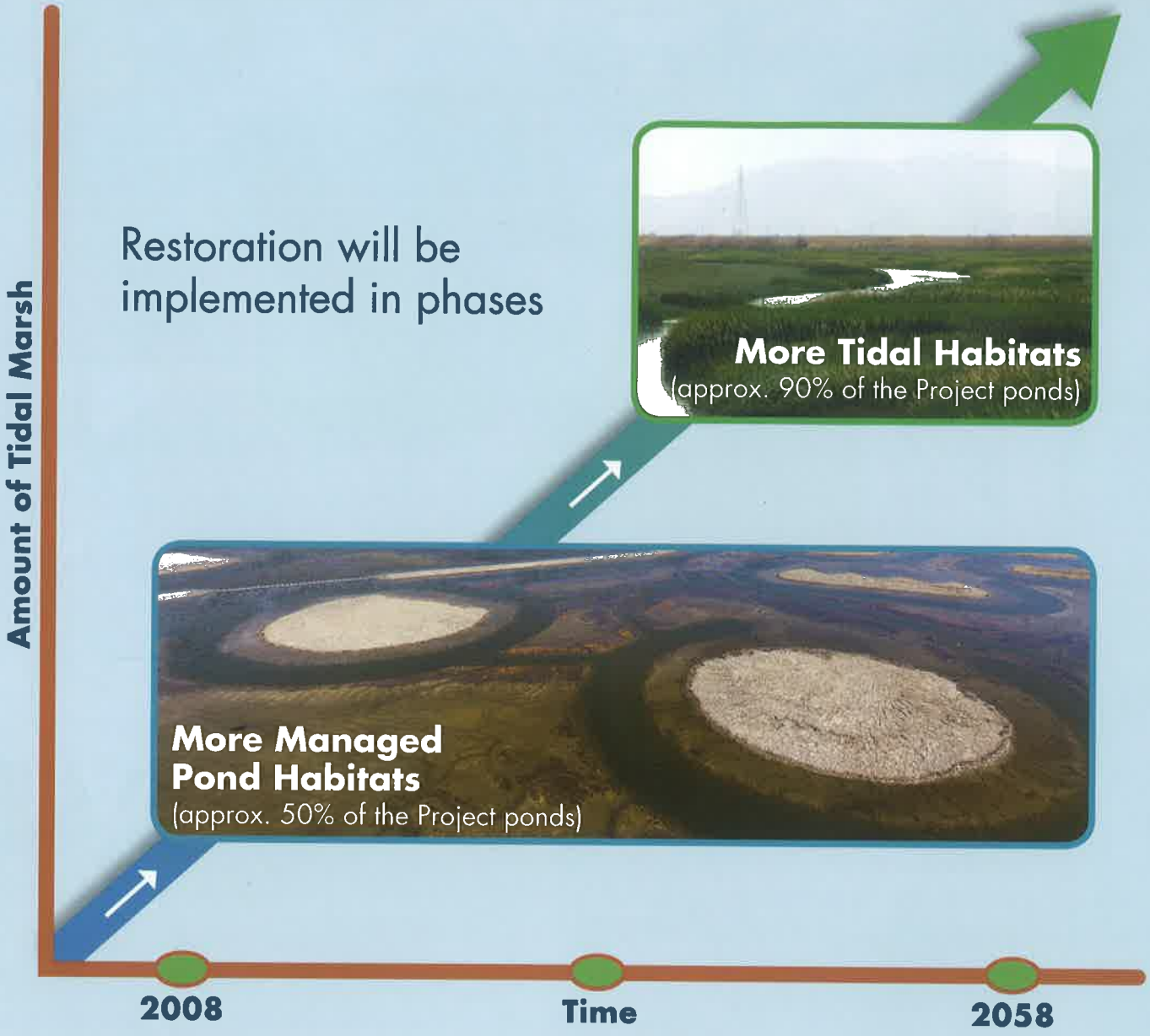
A broad coalition of agency staff, scientists and members of the public worked for five years to develop the Restoration Project and the Adaptive Management Plan (AMP) that guides and tracks its implementation. The Project and AMP serve as blueprints for habitat restoration, flood protection, and the construction of new trails, viewing platforms and other public access amenities along the edge of the Bay. Project partners and members of the public have completed a first phase of restoration actions; they are now collaborating on carrying out the next phases of this historic Project.



The Project's Stakeholder Forum serves as the main conduit for public participation. The Forum meets regularly in three geographic-based Restoration Working Groups—one for each of the three pond complexes.

You are welcome to attend these meetings. For more information about upcoming Working Group meeting locations and agendas, please visit the Events and Meetings section of the Project website at www.southbayrestoration.org/events/.

Coastal Conservancy
Santa Clara Valley Water District
Flood Control & Water Conservation District
USGS science for a changing world
The William and Flora Hewlett Foundation
the David & Lucile Packard Foundation
Gordon and Betty Moore Foundation



Adaptive Management: **Learning As We Go**

Restoring tidal marsh habitat will take decades to complete, and we do not know exactly what the end result will be. One thing we do know is that the final Project will include a combination of tidal marsh and managed pond habitats. In the graphic above, the balance of habitats shifts from managed ponds to tidal marshes over time. We expect to achieve 50% tidal habitats and 50% managed ponds by the year 2030 and then begin working toward 90% tidal marshes, if we can balance the needs of waterbird species.

As wetland habitats develop, our understanding of how to restore and manage these areas will also improve. Adaptive management—the process of capturing lessons learned on the ground and folding them into future management practices—is playing a critical role in determining which combination of habitats provides the best environment for resident and migrating species of birds, fish and other wildlife. Science is the key to our adaptive management program. Each year, our scientists monitor and evaluate new data on everything from mercury accumulation and sediment dynamics to the impact of trail use on birds. This information guides management decisions and future restoration, public access, and flood risk management decisions

Early important results of our research include the following findings:

- Restoration sites at the Island Ponds (A19, A20, and A21) and Pond A6 are accumulating sediment more rapidly than expected

Habitat Restoration

The Project will provide a mix of wetland habitats including:

Salt marsh harvest mouse

California clapper rail

Salt marsh bird's beak

Chinook salmon

Western snowy plover

Tidal Marsh

Tidal marshes are actually a range of habitat zones including heavily vegetated marsh plains, open mudflats and slough channels. Together, these zones provide habitat for a variety of fish and wildlife including the salt marsh harvest mouse and the California clapper rail, both of which are currently threatened with extinction. The rich mudflats of the tidal marsh create important feeding zones for willets and other shorebirds. The winding sloughs and channels that cut through the marsh serve as protective nursery areas for young fish including leopard sharks and steelhead.

Managed Ponds

These shallow- and deep-water ponds will be managed to provide different depths and salinities for migrating shorebirds like the western sandpiper. For these species, the Bay Area is a critical stop along the Pacific Flyway, which runs from Alaska to Argentina. Managed ponds provide excellent habitat for feeding and resting. Dry pond bottoms and islands within the ponds also provide important nesting habitat for species such as the threatened western snowy plover.

- The Island Ponds are showing significant plant colonization in less than five years
- Monitoring shows an increase in native fish inside newly restored areas and in adjacent creeks and sloughs
- Newly created nesting islands in Pond SF2 supported over 150 nesting pairs of shorebirds in their first year
- Changes in pond management are improving water quality and increasing the numbers of dabbling ducks and shorebirds in the project area
- Satellite imagery is effective in tracking large-scale vegetation shifts

For more information about the results of recent scientific work, please visit the Science page of the Project website: www.southbayrestoration.org/science/.

Recreation and Public Access

The Project is building trails, viewing platforms, and interpretive displays at all three pond complexes. Come to walk, bike, boat, or view wildlife, and see the progress of the restoration. The maps on the back of this brochure show the locations of built and planned trails and other amenities. For up-to-date information or directions to the ponds, please visit the Project website at www.southbayrestoration.org/visit-the-ponds/.

Flood Risk Management

The tidal wetlands that once circled the edge of the Bay served as natural buffers against flood events. Once established, wetlands act as giant sponges, absorbing floodwater during storm events and slowly releasing it back into the Bay.

Although it will take decades for restored tidal wetlands to develop, we are committed to maintaining flood protection in the South Bay. This task will be accomplished in the near term by maintaining a portion of the levees that Cargill and its predecessors originally built for salt making purposes. Over the years, these levees have provided *de facto* flood protection for communities in the South Bay, like Alviso, which sits twelve feet below sea level. The Project is also partnering with the U.S. Army Corps of Engineers and local flood control agencies to design a comprehensive flood control plan integrated with habitat restoration for the South Bay shoreline.

Absorbing the Effects of Sea Level Rise in the Bay Area

The Restoration Project will provide a critical habitat buffer against the effects of global climate change and sea level rise. The following questions and answers discuss the ways in which this protection happens.

Q. How do tidal marshes or wetlands help protect against flooding?

A. Tidal marshes and wetlands act as giant sponges, absorbing floodwaters during storms and then slowly releasing it back into the Bay. They protect the levees which shield inland areas from damaging storm waves and tidal surge. They also increase the flood-carrying capacity of local creeks by scouring channels and reestablishing their connection to historic flood plains.

Q. How do tidal marshes or wetlands help protect against sea level rise?

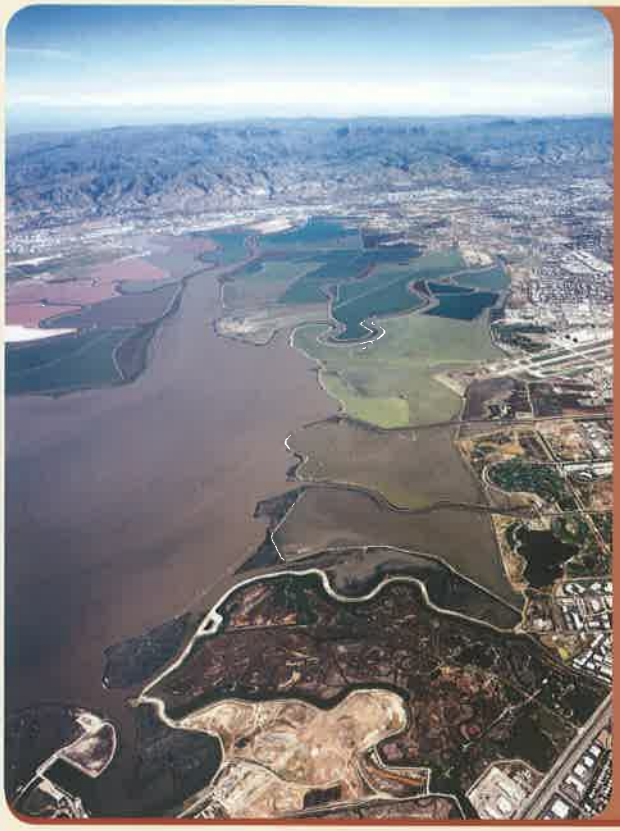
A. As sea level rises, the tides will get higher as well. These tides will import and deposit more sediment, which will settle in and become the base for tidal marsh plants. This creates a new shoreline with a higher elevation, which helps offset the effects of sea level rise.

Q. Will sea level rise cover restored tidal marshes?

A. Tidal marshes are able to keep up with sea level rise as they age, as long as there is sediment available. Though there is a lot of sediment in the system now that makes it likely that new tidal marshes will keep pace with changing sea level conditions in the near future, we are uncertain about the long term. If we wait too long to restore tidal marshes, it might be too late. The sooner we restore the salt ponds into tidal marshes and wetlands, the better chance they will have to establish themselves and grow as sea level rises.

Q. Do tidal marshes or wetland help reduce future climate change?

A. Tidal marshes are among the most biologically productive systems on the planet. The plants that grow there capture and store large amounts of carbon. Exactly how much of this carbon sequestration occurs is still being studied, but there is no doubt it is a significant amount.



What is the South Bay Salt Pond Restoration Project?

The South Bay Salt Pond Restoration Project is the largest tidal wetland restoration effort on the West Coast. The Project will restore 15,100 acres of former industrial salt ponds to a rich mosaic of wetland habitats.

The Project will also open up new areas of the South Bay shoreline to millions of local residents and visitors and provide critical new habitat for fish and birds and other wildlife, as well as needed flood protection for Silicon Valley.

This unprecedented restoration effort, in the middle of a major urban center, will transform a landscape the size of Manhattan into a thriving wetland ecosystem—thus restoring the wild heart of the South Bay for this and future generations.

How to Get Involved

Visit the Ponds

You can get a closer look at what's happening on the ground by visiting the ponds at one of the sites indicated on the maps inside this brochure or by taking a guided tour. For more information about public tours, work days and other events, please visit the Events and Meetings section of the Project website at www.southbayrestoration.org/events/. For information about regularly scheduled public tours of the Project, you can call the Don Edwards San Francisco Bay National Wildlife Refuge Environmental Education Center at 408-262-5513 (x106) or visit the Refuge's website at www.fws.gov/desfbay/.

Attend a Working Group Meeting

Want to learn the latest about trail design or species studies or meet some of the land managers? Come to a Stakeholder Forum or Working Group meeting. The meeting schedule varies depending on the degree of activity at each pond complex. All of these meetings are open to the public and you are invited to attend. For details on the next meeting or to read minutes from previous meetings please check the Events and Meetings section of our website.

Volunteer or Become a Docent

In addition visiting the ponds or attending workshops or meetings, there are other ways to get involved. The Don Edwards San Francisco Bay National Wildlife Refuge has a docent training program. Docents are individuals who lead public programs and tours to introduce the restoration project and its natural and cultural resources. To find out how you can become involved, call the Refuge at 408-262-5513 (x106) and ask about the Salt Pond Tour Docent Program. Also, some project partners have volunteer opportunities. For example, Save The Bay (www.savesfbay.org) operates volunteer marsh restoration programs at the Eden Landing and Ravenswood ponds.

www.southbayrestoration.org

South Bay Salt Po
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How to Get There

The Ravenswood Ponds are best visited at the west end of the Dumbarton Bridge (P1) or from trails in and around Bayfront Park (P2).

West end of the Dumbarton Bridge: From Highway 101 exit east on Highway 84. Just before the bridge, a frontage road exit to the right leads to a parking lot along the side of the bridge and next to the Ravenswood Ponds. From Interstate 880, exit west on Highway 84. Cross the Dumbarton Bridge, take the frontage road exit right, and follow the road to the right under the bridge to the parking area.

Bayfront Park in Menlo Park: From Highway 101, take the Marsh Road exit in Menlo Park and head towards the Bay. At the end of the road, past Bayfront Expressway, is the entrance to Bayfront Park.

For more directions and information, see the Project website at www.southbayrestoration.org/visit-the-ponds/.

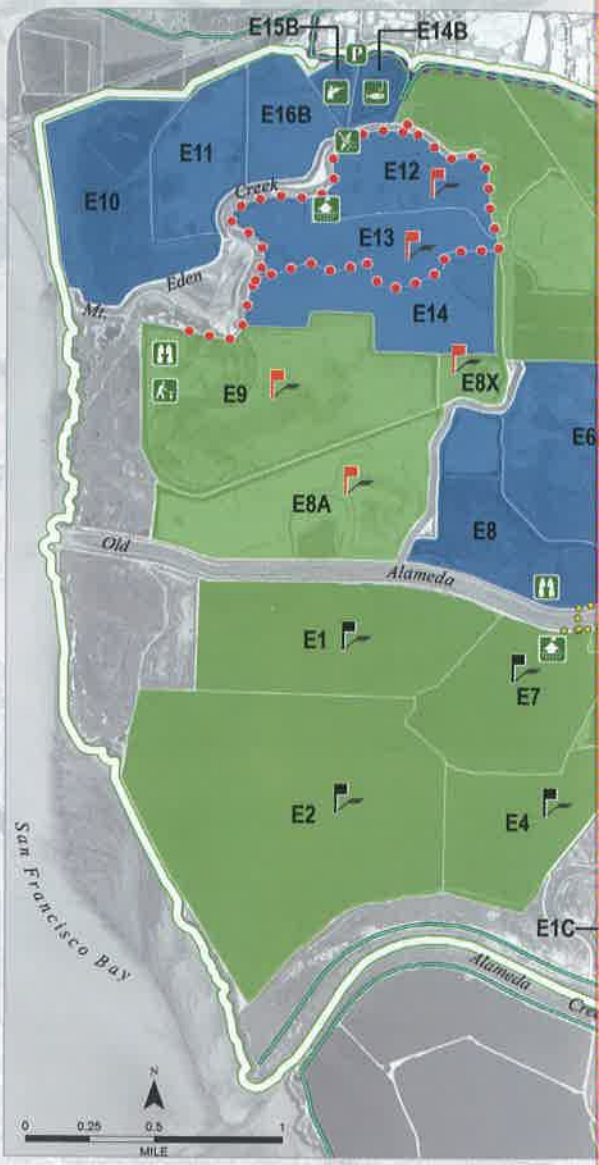
EDEN LANDI

How to Get There

The best way to see Eden Landing is to visit the newly-opened segment of the Bay Trail near Eden Landing Road (P).

Bay Trail at Eden Landing Road: From Highway 92 in Hayward, exit at Clawiter/ Eden Landing and go south of the highway on Eden Landing Road to the end near the intersection with Arden Road. Look for the gate into the staging area with parking for 58 vehicles.

For more directions and information, see the Project website at www.southbayrestoration.org/visit-the-ponds/.



Fremont

Milpit

What's Been Done?

The map (left) shows the actions that are part of the long-term vision for restoration at Eden Landing. The red flags on the map show the recently completed project actions under Phase One (2008-2014). These actions included:

- Restored 630 acres of tidal habitat for endangered species at Ponds E8A, E8X, & E9
- Created 230 acres of pond habitat for a variety of bird species including, phalaropes and eared grebes at Ponds E12 & E13
- Built 3.8 miles of new trails
- Built an interpretive site with raised walkways and viewing platforms overlooking the remnants of the historic salt works in Pond E13
- Created a kayak launch at Mt. Eden Creek

What's Next?

The next steps are being planned now. Project goals and likely actions under Phase Two (2013 and later) are labeled with black flags and include:

- Opening several of the large ponds on the southern side of Eden Landing to tidal flows
- Developing a comprehensive strategy for long-term flood protection in adjacent portions of Alameda County
- Implementing a segment of the Bay Trail spine along the eastern edge of Eden Landing and other public access features

What's Been Done?

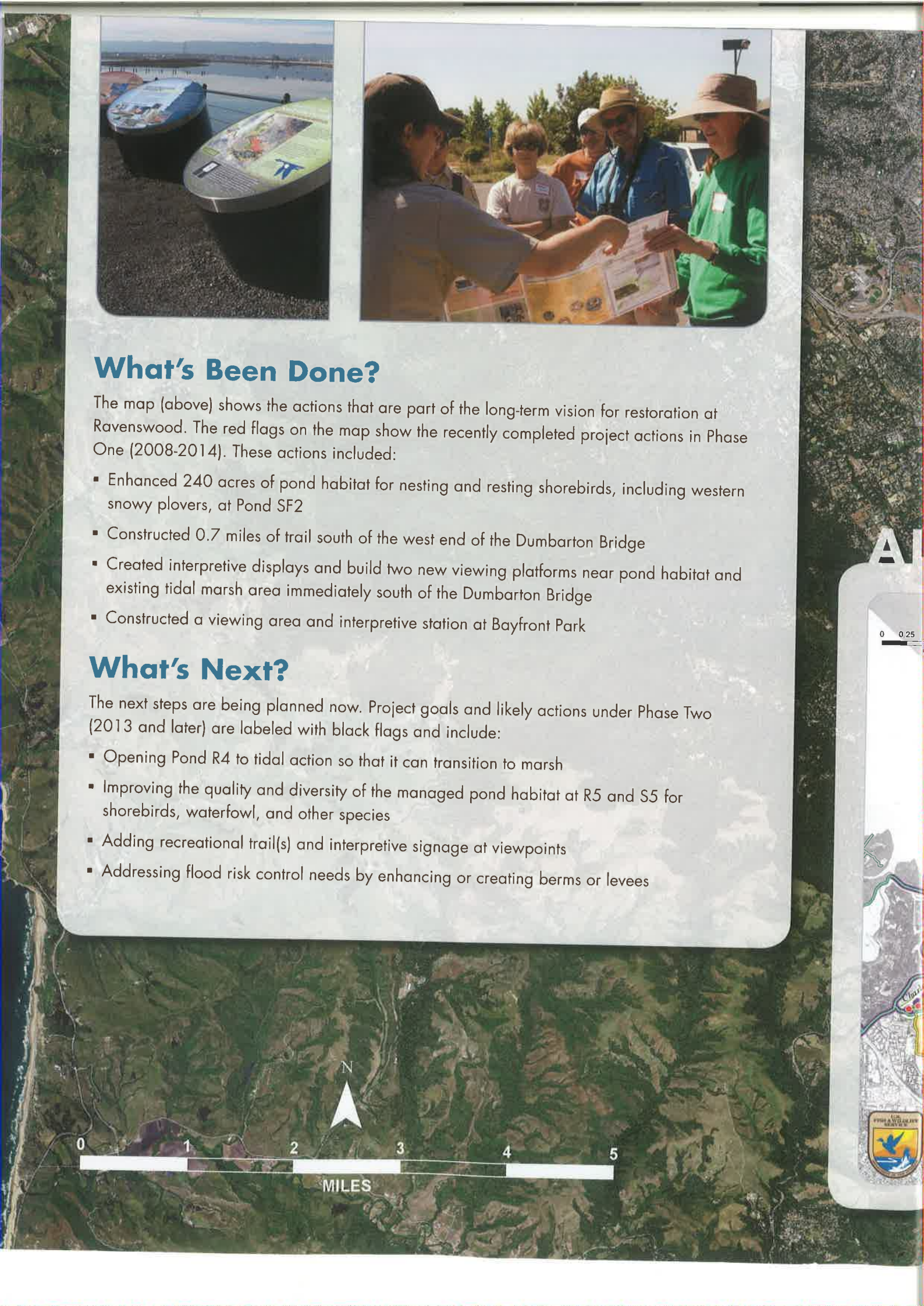
The map (above) shows the actions that are part of the long-term vision for restoration at Ravenswood. The red flags on the map show the recently completed project actions in Phase One (2008-2014). These actions included:

- Enhanced 240 acres of pond habitat for nesting and resting shorebirds, including western snowy plovers, at Pond SF2
- Constructed 0.7 miles of trail south of the west end of the Dumbarton Bridge
- Created interpretive displays and build two new viewing platforms near pond habitat and existing tidal marsh area immediately south of the Dumbarton Bridge
- Constructed a viewing area and interpretive station at Bayfront Park

What's Next?

The next steps are being planned now. Project goals and likely actions under Phase Two (2013 and later) are labeled with black flags and include:

- Opening Pond R4 to tidal action so that it can transition to marsh
- Improving the quality and diversity of the managed pond habitat at R5 and S5 for shorebirds, waterfowl, and other species
- Adding recreational trail(s) and interpretive signage at viewpoints
- Addressing flood risk control needs by enhancing or creating berms or levees



Palo Alto

VISO

How to Get There

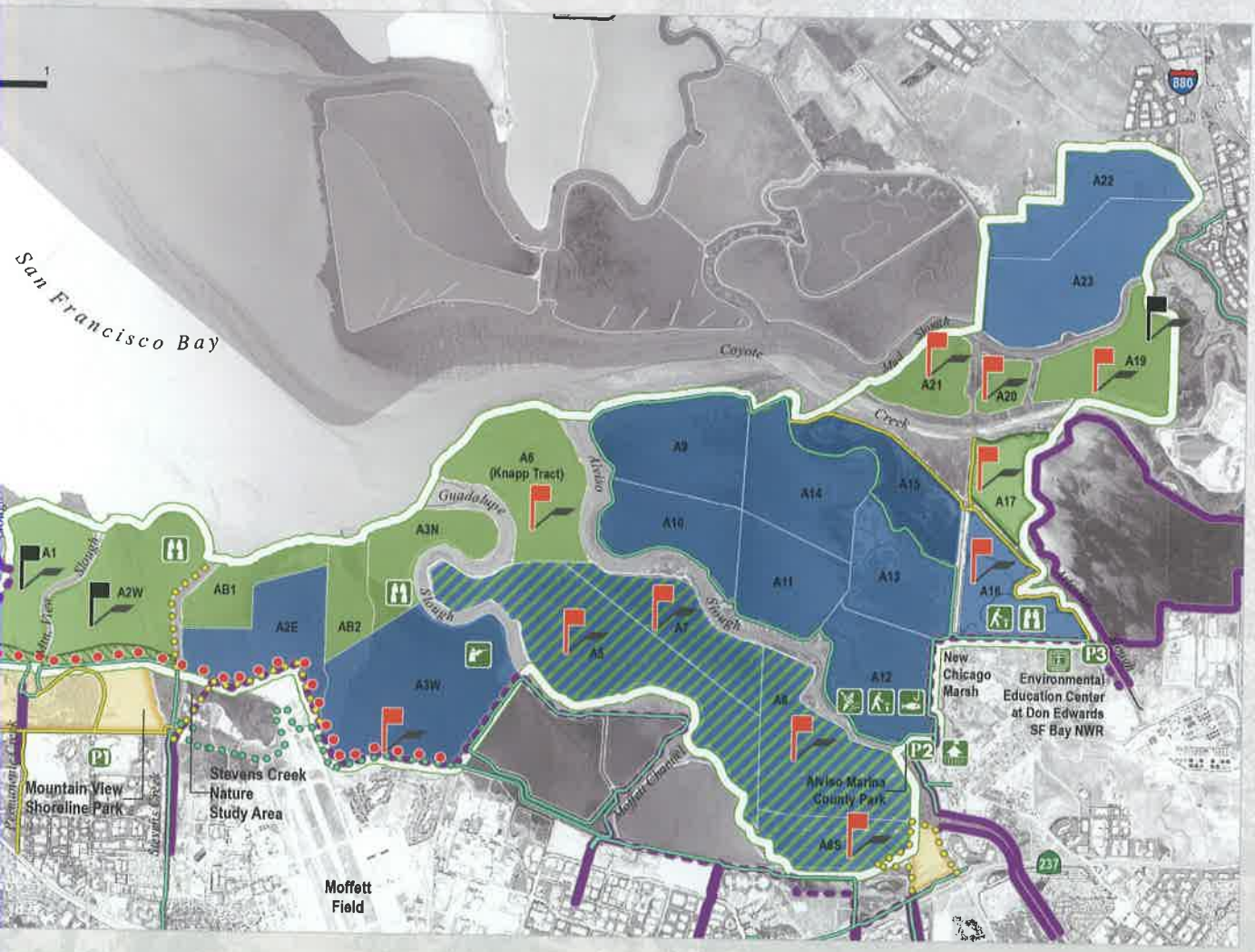
The best way to visit the Alviso Ponds is to take advantage of the Bay Trail (P1) or visit either the Alviso Marina County Park (P2) or the Refuge's Environmental Education Center in Alviso (P3).

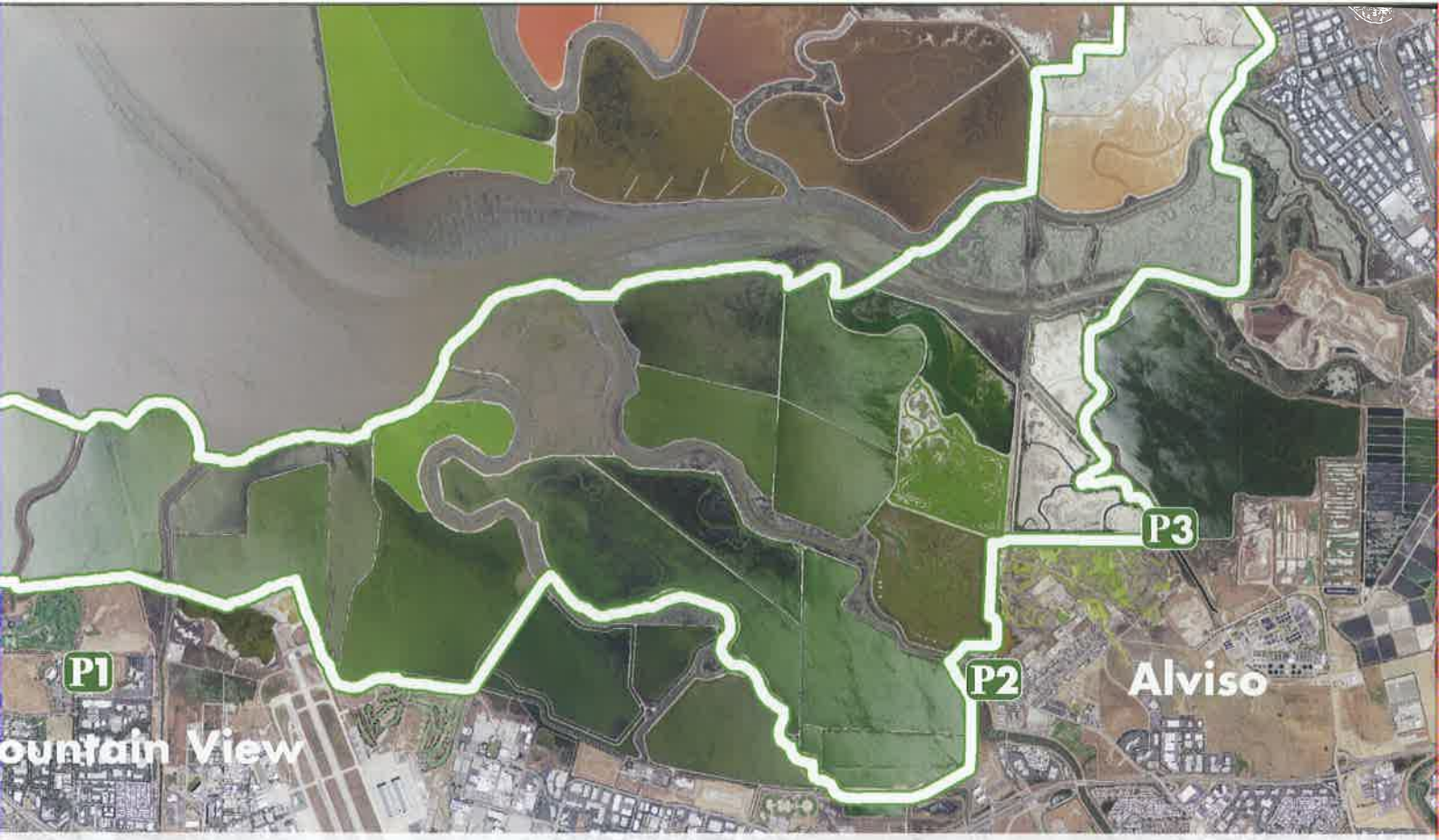
Bay Trail: From Highway 101, exit at Amphitheatre Parkway in Mountain View. Turn north on Shoreline Boulevard toward the Shoreline Park entrance. Parking is available at Mountain View Shoreline Park and Shoreline Amphitheater overflow lots.

Alviso Marina County Park: From I-880 or Highway 101, exit on Highway 237 toward Alviso. Turn north onto First Street. Continue on First Street to Gold Street which turns left and becomes Elizabeth Street. Turn right onto Hope Street and go over the bridge to the Marina.

Environmental Education Center: From I-880 or Highway 101, exit on Highway 237 toward Alviso. Turn north onto Zanker Road. Take Zanker Road, which becomes Los Esteros, to the Environmental Education Center entrance road, which is a sharp right turn off Los Esteros at Grand Boulevard.

For more directions and information, see the Project website at www.southbayrestoration.org/visit-the-ponds/.





What's Been Done?

The map (left) shows the actions that are part of the long-term vision for restoration at Alviso. The red flag map show the recently completed project actions under the Initial Stewardship Plan (2006-2008) and Ph (2008-2014). These actions included:

- Enhanced 240 acres of shallow pond habitat (Pond A16) with 12 new nesting islands for migrating sh such as avocets and stilts
- Connected over 2,600 acres of ponds to the Bay, creating new tidal marsh for endangered species (P A17, A19, A20, and A21) and shallow water habitat for shorebirds, pelicans, cormorants, and ducks A5, A7, A8 and A16)
- Opened 2.5 miles of new Bay Trail between Mountain View's Shoreline Park and Sunnyvale

What's Next?

The next steps are being planned now. Project goals and likely actions under Phase Two (2013 and later) are labeled with black flags and include:

- Opening Ponds A1 and A2W to tidal flows to begin their conversion to tidal marsh
- Developing a comprehensive strategy for long-term flood protection in adjacent portions of Mountain View and Santa Clara County
- Adding trails along inland side of ponds and/or along the lateral levees
- Modifying previous restoration actions at Ponds A19, A20, and A21 to speed their conversion to tidal marsh

In addition, the U.S. Corps of Engineers is the South San Francis Shoreline Study, which is p to build a flood control protect the Town of Alviso, Jose/Santa Clara County Pollution Control Plant an infrastructure. The flood pr that will be provided by th will also allow restoratio salt ponds on the Bay side

How to use these maps

1. The areas outlined on this aerial photo of the South Bay Area are the three Project pond complexes: Ravenswood, Alviso, and Eden Landing. See the blue boxes for directions to each.

2. The aerial photo shows the ponds as they were in 2011. Some contain open water (green), while others are dry, crusted areas (white), and others are high salinity ponds that are red due to algae growth.

3. See what we've accomplished and our long-term vision in the inset maps of each pond complex. Each shows the completed and planned habitat restoration, the existing and anticipated trails and public access facilities, and the planned levee improvements or additions.

4. The legend below shows the symbols and icons used in the maps. Note that not every symbol and icon appears in every map.

Legend

Project Area

Planned Restoration Status

- Future Upland Transition Area
- Current Managed Pond
- Current Muted Tidal
- Future Tidal Marsh Habitat
- Current Tidal Marsh Habitat
- Seasonal pond

Recreational Trails

- Completed Project Trail
- Existing Trail
- Existing Bay Trail Segment
- Proposed Trail
- Proposed Bay Trail Segment

Other Recreational Opportunities

- Environmental Education Center
- Fishing
- Hiking
- Historic Site
- Hunting
- Interpretive Trail/Signage
- Kayak Launch
- Parking
- Viewing Opportunity

Flood Protection

- Existing Levee
- Future Levee
- High Ground

Completion Status

- What's Been Done
- What's Next

San Jose

Original Poster Design by EDAW; Modified by URS