SAN FRANCISCO BAY
RESTORATION AUTHORITY

Resolution No. 92

Expressing Support for Bay Adapt: Regional Strategy for a Rising Bay

Whereas, climate change is accelerating rising sea levels, increasing storm frequency and intensity, and moving groundwater toward the surface. The confluence of more intense winter storms, extreme high tides, and higher runoff, with higher sea levels, will increase the frequency and duration of shoreline flooding long before areas are permanently inundated by sea level rise alone; and

Whereas, a major storm within the next decade in the Bay Area could result in temporary flooding impacts to 13,000 existing housing units and 70,000 planned housing units, 28,000 socially vulnerable residents, 104,000 existing jobs and 85,000 planned jobs, and 20,000 acres of wetlands habitat that may become permanently inundated within 40 years; and

Whereas, there are multiple local, regional, state, and federal government agencies with authority over the Bay and its shoreline, and while local governments have broad authority over shoreline land use they have limited resources to address climate change adaptation; and

Whereas, individual local actions, absent a regional context in which to make policy decisions, will lead to a "tragedy of the commons"; and

Whereas, the San Francisco Bay Area is a vibrant, diverse, ecologically unique, innovative, and pioneering region that will be deeply and deleteriously affected by climate change without tremendous effort and investments to adapt to a constantly changing shoreline. The San Francisco Bay shoreline constitutes approximately one-third of the California coastline, but the Bay Area is estimated to experience two-thirds of the negative economic impacts due to the flooding that would occur absent adequate measures to adapt and protect people, places, and habitat; and

Whereas, the Bay Area region's most socioeconomically vulnerable frontline communities are at the greatest risk of exposure to climate threats, and the impacts of historic and ongoing social and economic marginalization will compound the risks posed by flooding to those communities by reducing a community's or individual's ability to prepare for, respond to, and/or recover from a flood event; and

Whereas, the Bay ecosystem is already stressed by human activities that have drastically lowered its adaptive capacity, and climate change will further alter that ecosystem by inundating or eroding remaining wetlands, changing sediment dynamics, altering species composition, increasing the acidity of Bay waters, changing freshwater flows and/or salinity, altering the food

web, and impairing water quality. Moreover, further loss of tidal wetlands will increase the risk of shoreline flooding; and

Whereas, flood damage to vital shoreline development, public infrastructure, and facilities such as neighborhoods, commercial centers, airports, seaports, regional transportation facilities, landfills, contaminated lands, and wastewater treatment facilities absent adaptation will require costly repairs and likely will result in the interruption or loss of vital services, large-scale social dislocation, and degraded environmental quality; and

Whereas, the increasingly frequent and severe impacts of climate change in the Bay Area do not conform to jurisdictional boundaries or the planning and regulatory authorities of any one agency or organization; and

Whereas, in 2019, the San Francisco Bay Conservation and Development Commission (BCDC), in collaboration with a Leadership Advisory Group comprised of 35 Bay Area public, private, and non-profit leaders, embarked on the development of "Bay Adapt," a consensus-driven strategy for regional sea level rise adaptation. The Leadership Advisory Group includes representatives from numerous public agencies, including the Association of Bay Area Governments/Metropolitan Transportation Commission, San Francisco Bay Regional Water Quality Control Board, State Coastal Conservancy, Caltrans, Bay Area Regional Collaborative (BARC), Bay Area Rapid Transit, East Bay Regional Park District, US Army Corps of Engineers, San Francisco Bay Restoration Authority (Authority), and BCDC, as well as environmental justice, environmental, business, scientific, civic, organizations, local government and flood manager networks, and academia; and

Whereas, in 2020 and 2021, hundreds of stakeholders participated in the creation of the "Bay Adapt Joint Platform" through nine Leadership Advisory Group meetings, two public forums, many expert working group meetings, ten community and stakeholder focus groups, over 50 presentations to local governments around the region, and a month-long public feedback opportunity; and

Whereas, the Bay Adapt Joint Platform lays out a set of guiding principles, priority actions, and vital tasks whose implementation will enable the region, and most notably local governments, to adapt faster, better, and more equitably to a rising San Francisco Bay. If fulfilled, it will reduce flood risks for communities, businesses, infrastructure, and habitat; increase technical assistance for local governments and funding for adaptation; protect natural areas and wildlife; recognize and equitably support low-income, frontline communities; robustly integrate adaptation into community-focused local plans; and accelerate permitting and project construction of local adaptation projects; and

Whereas, the Bay Adapt Leadership Advisory Group supports the Joint Platform and many members agreed to help implement it at its October 2021 meeting, the BARC Governing Board endorsed it on September 17, 2021, and BCDC adopted the Joint Platform on October 21, 2021; and

Whereas, implementing the Joint Platform's many and varied actions and tasks goes beyond the capacity of any single organization or jurisdiction, requires strong and diverse leadership and

participation in all aspects of its implementation, and a broad coalition of stakeholders share responsibility for the success of the tasks outlined in the Joint Platform.

Now Therefore Be It Resolved, that the Authority:

1. Supports the Bay Adapt Joint Platform (Exhibit A), a regional strategy for a rising Bay, including the guiding principles, actions, and tasks contained within; and

2. Looks forward to championing and supporting the implementation of Bay Adapt to ensure that it serves Authority's mission of advancing ecological restoration, flood protection, and public access along the shoreline of San Francisco Bay, and serves the Bay Area as a whole in achieving resilient and equitable adaptation to sea level rise.

PASSED AND ADOPTED by the Governing Board of the San Francisco Bay Restoration Authority at its meeting on February 25, 2022, by the following vote:

AYES: Governing Board Members _____

NOES: Governing Board Members _____

ABSENT: Governing Board Members _____

ABSTAIN: Governing Board Members _____

_____
Dave Pine, Chair

I, Anulika White, Clerk of the Governing Board of the San Francisco Bay Restoration Authority, do hereby certify that the foregoing is a true and correct copy of the Resolution adopted by the Governing Board of the San Francisco Bay Restoration Authority at its meeting of February 25, 2022, which Resolution is on file in the office of this regional governmental entity.

_____
Anulika White, Clerk

BAY ADAPT

Regional Strategy for A Rising Bay

October 2021

JOINT PLATFORM

BAY ADAPT

Regional Strategy for A Rising Bay

Joint Platform

October 2021

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Photo credits | Page 2 from top to bottom: Jaclyn Mandoske (BCDC), Schyluer Olsen (BCDC), Jaclyn Mandoske (BCDC); Page 3 Illustration by Sophia Zaleski.

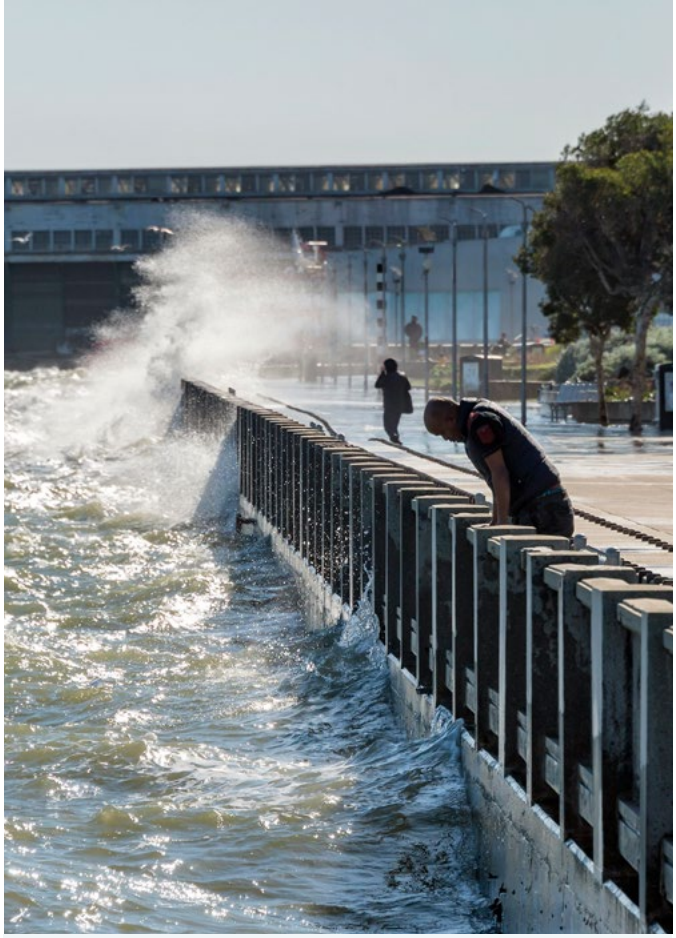
Getting ready for sea level rise

The Bay is rising. The time to come together to act is now.

For most of the eight million of us who live around San Francisco Bay, sea level rise seems like a sleeper issue. As we walk the dog along our favorite waterfront, the waves don't seem any taller. As we wait in traffic at the Bay Bridge toll plaza, the water level looks the same as ever. After a storm, however, those trying to traverse Corte Madera's Lucky Drive, Sonoma's Highway 37, or San Jose's 237 underpass are noticing more water. Sea level rise is already here and starting to affect our highways and commutes; another foot or two will seriously impact our homes, jobs and safety.

It's subtle, but the Bay, fed by a swelling Pacific and melting glaciers and ice sheets, is growing faster than you think. The rise is slow and steady now, but around 2040 scientists project it will speed up. By then, in the time it will take a current pre-schooler to graduate from college, it will be too late to start to prepare for the water that will be rising onto our airport runways and into our shoreline streets. And though you can't see it, the groundwater table is also rising under your feet – pushed up as the Bay pushes in. Before long a big storm—like the train of atmospheric river events that drenched us over and over in 2017—will bring water into our basements and BART stations, onto our bridge approaches, our ballparks, and even release decades of toxic pollution into our groundwater.

Going into another California drought and devastatingly dry fire season, it's easy to push sea level rise to the back of our minds. But the San Francisco Bay Area metropolitan region stands to be one of the hardest hit coastal areas in North America. Sea level rise will be worse here than other places for a variety of reasons relating to our unique ocean conditions, atmospheric changes, and Pacific geography—and the fact that we've built our roads and homes right up to the edge of nearly every shore. Impacts are influenced by our history of toxic dumping and exclusionary land use practices. We've done the studies - we know what's at risk when it comes to our people, our homes, our habitats, and our commutes. The threat is no longer vague. It's past time for us to get ready.



At Risk of Flooding by 2060*

28,000 socially vulnerable **residents**

1,900 residents living near **contaminated sites**

13,000 **existing housing** units and another **70,000** **new housing** units

104,000 **existing jobs** and another **85,000** **new jobs**

20,000 acres of **wetlands**, lagoon and tidal marsh habitat

5 million daily highway **vehicle** trips

60,000 daily rail **commuters**

*Impacts from flooding that could occur at 48" Total Water Level from the ART Bay Area Regional Sea Level Rise Vulnerability and Adaptation Study. According to California State Guidance, under the H++ scenario, which represents the highest risk and least likely scenario, sea level rise could reach 46.8" by 2060, which corresponds to ART's 48" TWL scenario. Under the Likely Range, or Low-Risk Aversion high-emissions scenario, 48"of sea level rise will not occur until 2120. Photo courtesy of the King Tides Project.

Community members enjoy the waterfront at Heron's Head park in San Francisco. Photo by the Port of San Francisco licensed under CC BY 2.0.

Preparing for the flooding, erosion, disruptions and losses to come – whether our home, business, commute, or favorite picnic area – is something we all have to do together. Whatever the best local solution, we have to consider our neighbors. If well-to-do waterfront towns build sea walls, the Bay will just find the next weak spots on the shore and flow there. That town next door may have a smaller tax base or more elderly or vulnerable residents. If we leave them unprotected, families will be forced to move away from their homes, schools and places of worship - their communities - sometimes with no place else to go. Waiting for the aftermath of this slow-moving disaster will just cost the region more later in emergency services, habitat loss, building repairs, and lost family time and productivity.

Many of our families came to this region for its freedoms, natural beauty, diverse cultures and myriad opportunities. Over the decades we've grown even more diverse, and ever more activist as we battle to save our local creek, or stop devastating air pollution, or fight for equity. We're restoring wetlands around the Bay, and taxing ourselves to do it, enhancing a natural first line of defense against flooding. So as we face down the advancing Bay we don't have to start from scratch. Your city, your county, your regional government is already working on it. Now it's time for everyone to join the effort.

As we face down the advancing Bay we don't have to start from scratch. Your city, your county, your regional government is already working on it. Now it's time for everyone to join the effort.

There's no way around the need to think and plan like a region - the water that's coming knows no boundaries. Space for solutions is limited. Together, we can adapt to the increasingly scary checklist of challenges in the Bay Area. But we won't get this done, and minimize the cost we pay in damage to lives and property, if we don't act now, together.

Sea level rise as an equity challenge

Tackling disproportionate impacts on vulnerable communities.

While everyone will feel the impacts of sea level rise to some degree, many factors have led to disproportionate flooding and sea level rise vulnerability for low-income communities across the Bay Area and the nation. A 2019 study by the National Academy of Sciences on urban flooding in the US revealed the populations that are most vulnerable to flooding are nonwhite, non-native English speakers, elderly, poor, chronically ill, uninsured, and renters[1].

While it is broadly accepted that environmental racism has been an overarching theme for civilizations throughout history, it is critical to understand the patterns of racial injustice that formed today's cities and towns. After Emancipation, white decision-makers forced African Americans into undesirable areas that experienced frequent flooding, unhealthy air, and unsanitary water and sewerage conditions. Industry and chemical plants were regularly constructed close to predominantly Black neighborhoods, which led to lingering pollution and high rates of cancer within these communities. In the Bay Area, this often meant pushing nonwhite communities to the marginalized and often toxic Bay shoreline. These discriminatory and deadly practices continued for several decades.

Equity is the fair and just distribution of financial and institutional resources to address impacts across communities that stand to be adversely affected by those impacts, and commitment to include those communities in the development, prioritization, and implementation of adaptation policies, programs, and services.

Definition of equity provided by West Oakland Environmental Indicators Project and the Pacific Institute.

Community members participating in the Oakland Shoreline Leadership Academy. Photo by Jordan Greedy.

1 Committee on Urban Flooding in the United States (2019). *Framing the Challenge of Urban Flooding in the United States*, National Academy of Sciences. https://www.nationalacademies.org/our-work/urban-flooding-in-the-united-states

Nuestra Casa's Parent Academy provides programs for community members and has begun environmental justice community trainings. Screenshot courtesy of Nuestra Casa.

Working *with* and listening *to* community voices.

Recognizing the critical importance of community voices and perspectives on the development of the Joint Platform, the Bay Adapt team partnered with Nuestra Casa in East Palo Alto and Vallejo Housing Justice Coalition in Vallejo to conduct a series of community focus groups. Community members were introduced to flooding issues specific to their communities and invited to share their experiences, concerns, and priorities for their communities.

In East Palo Alto, community voices were represented by African American, Pacific Islander, and Latinx cohorts, while in Vallejo, community voices were represented by residents involved in a range of local organizations such as housing, climate change, environmental justice, and others. Bay Adapt recognizes that these community meetings provided an essential first step in building trust with communities, and that continued participation and partnerships must continue to advance equitable adaptation outcomes for the region.

> *"We know we need action, but we're not ready and we don't know what to do. We need to get to solutions."*
>
> *- East Palo Alto Community Member*

Residents of these communities have often attended countless public meetings and focus groups to discuss concerns in their communities with engineers, planners, and other government staff, but these professionals are rarely trained or experienced in equitable community engagement. Historically, attempts to inform meaningful solutions for environmental justice problems have been met with lack of accountability by local and regional agencies, leading to high levels of distrust between communities and governments.

The cumulative impact of underinvestment coupled with lack of government accountability over the decades has led to an extremely disproportionate and inequitable situation for the residents of these communities.

This cycle adds insult to the daily injury of living in marginalized space and is exhausting to communities that are already struggling to meet their daily needs.

A landmark moment for the environmental justice movement occured in 1994, when President Clinton signed Executive Order 12898, a federal action to address environmental justice and included a formalized definition (the definition can be found in BCDC's report Toward Equitable Shorelines: Environmental Justice and Social Equity at the San Francisco Bay). This definition underpins the ethos that should be imbued in any sea level rise planning process or solution.

What is Bay Adapt?

A regional strategy for a rising bay.

Adapting to sea level rise will require a broad range of planning, policy, community, and project decisions that promote the protection of people, infrastructure, and natural systems. In such a diverse and engaged region, adaptation will also require balancing many interests and needs, ranging from the health of the most vulnerable residents and the Bay ecosystem to local economic growth and jobs, services, housing, and recreational opportunities.

Much adaptation will and should occur at the local city or county levels, where adaptation planning is already accelerating. However, we live in a highly networked region where impacts in one area, and responses to them, have cascading effects around the Bay. A coordinated approach across the region can reduce unintended consequences and greatly enhance local efforts. Collective action can be expedited by shared goals that help communities find and enact their own solutions. No one agency, jurisdiction or community can or should go it alone.

For the past five years, the Bay Area has been thinking about this problem in earnest. Forward-thinking planners, scientists and activists have already laid some important groundwork, and pinpointed the areas and communities that will be most at risk. Since 2019, Bay Adapt has worked to establish regional agreement on the actions necessary to protect people and the natural and built environments from rising sea levels.

Bay Adapt was convened by the San Francisco Bay Conservation and Development Commission (BCDC), a state agency, in partnership with a broad range of Bay Area leaders. The principles, actions, goals, and tasks in this document—a Joint Platform for adaptation—were developed in close collaboration among BCDC staff, a large Leadership Advisory Group, and hundreds of stakeholders.

We envision a Bay Area that is resilient and adaptive far into the future. As the region grows and changes, such resilience can only be achieved by supporting collaborative action, fostering greater equity among residents, and sustaining the unique ecosystems we all rely upon and thrive within.

Co-creating the Joint Platform.

In 2019, BCDC convened a Leadership Advisory Group (LAG) made up of a diverse group of Bay Area leaders from public agencies, interest groups, community-based organizations, and academia. Throughout 2020 and 2021, stakeholders participated in dozens of working group and small committee meetings to discuss and shape the Platform. The Platform was also informed by two public forums, ten community and stakeholder focus groups, over 50 presentations to boards and groups around the region, and an Environmental Justice Caucus convened regularly throughout the process. In other words, this platform, and the ideas in it, belong to everyone, and seek to serve everyone, now and into the future.

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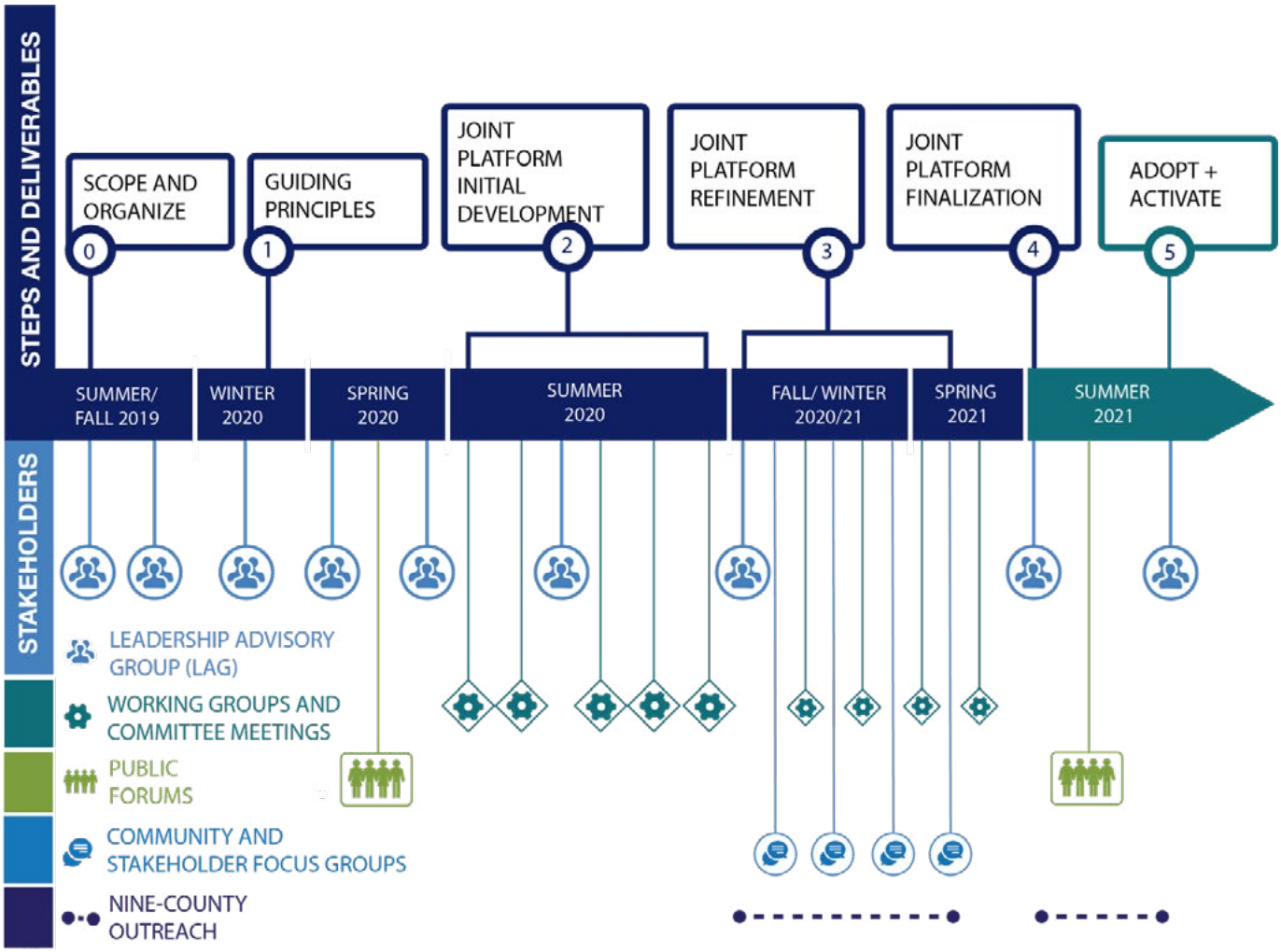
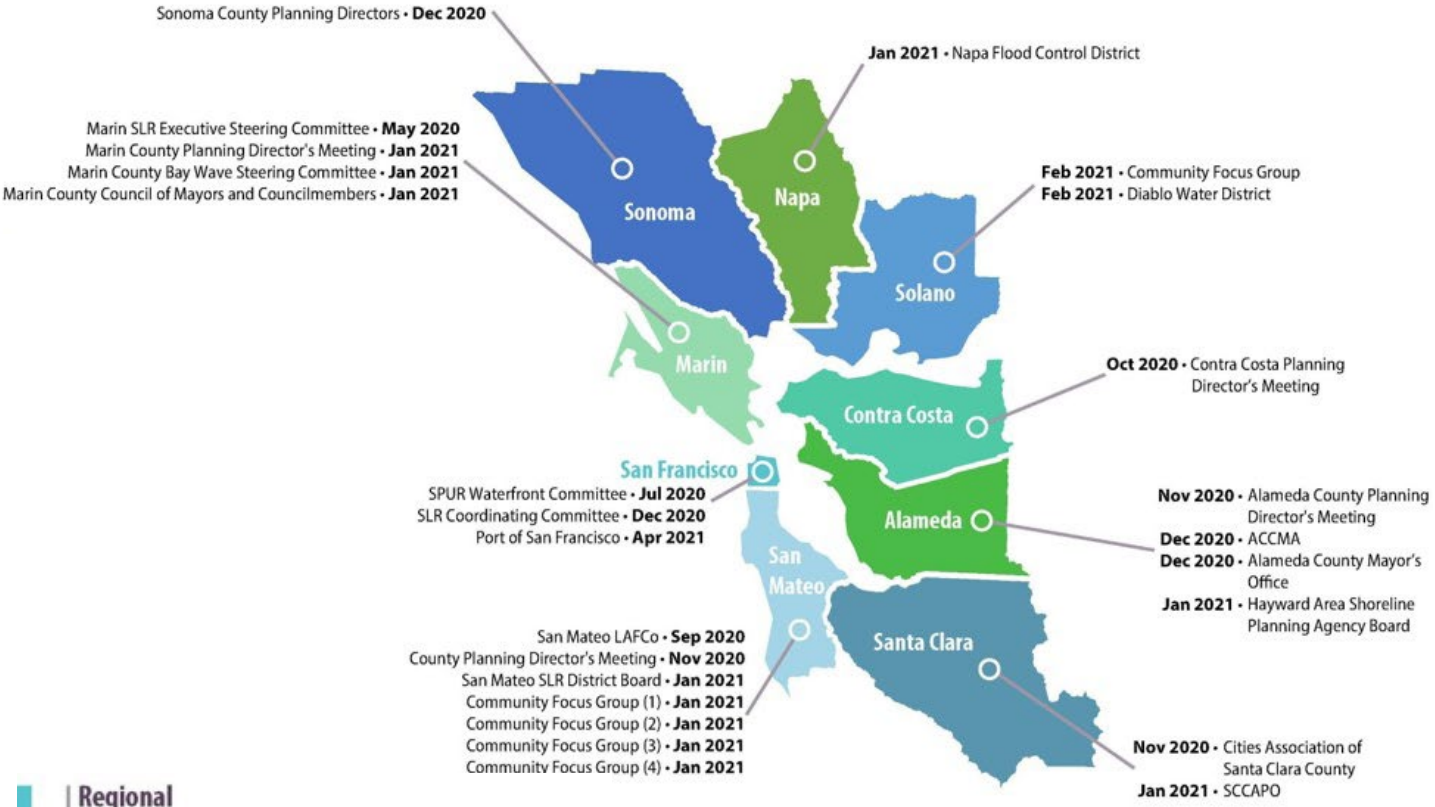


Figure 1 | The Bay Adapt process kicked off in late summer 2019. The development of the Joint Platform started in early summer 2020, convening hundreds of stakeholders to brainstorm and refine the series of actions and tasks laid out in the final Joint Platform. Over this time period, Bay Adapt also facilitated multiple working groups, committee meetings, public forums, community and stakeholder focus groups, and conducted extensive outreach throughout the nine-county Bay Area. Implementation of the tasks begins in Fall 2021.



Regional

BayCAN Bay Adapt (1) • **Jul 2019**
CHARG Forward Forum • **Oct 2019**
State of the Estuary • **Oct 2019**
BayCAN Bay Adapt (2) • **Feb 2020**
CHARG Steering Committee • **Feb 2020**
BCDC Commission (1) • **Mar 2020**
Bay Planning Coalition Summit • **Jun 2020**
BCDC Commission (2) • **Aug 2020**
BARC (1) • **Sep 2020**
Environmental Groups • **Nov 2020**
SFEP Implementation Committee • **Nov 2020**
MYN Apocolyptic Resilience Youth Conference • **Nov 2020**
BCDC Commission (3) • **Nov 2020**
NorCal Resilience Network Meeting • **Nov 2020**
Business Focus Group • **Jan 2021**
BayCAN Local Government Focus Group • **Jan 2021**
Education Working Group • Feb **2021**
Environment Focus Group • Feb **2021**
BCDC Commission (4) • **Mar 2021**
San Fransciso Water Board • **Mar 2021**
BPC Waterfront Sustainability Group • **Mar 2021**
BARC Executive Director/Deputy Director Meeting • **May 2021**

State/National

BIPOC Climate Leaders • **Nov 2020**
ULI National Resilience Summit • **Dec 2020**
RAE Summit • **Oct 2020**
UCI Conference • **Mar 2021**

Figure 2 | Summary of the presentations and focus groups BCDC staff led throughout the Bay Adapt process between 2019 and 2021. Staff engaged with a wide variety of community members, local staff, elected officials, and special interest stakeholders throughout the engagement process.

Community forums on sea level rise risks in East Palo Alto.
Photo by Jaclyn Mandoske, BCDC.

Prioritizing and elevating equity in Bay Adapt.

In an effort to ensure equity perspectives were present and included in the leadership of Bay Adapt, invitations were extended to at least five environmental justice-focused organizations to join the LAG, comprising the Environmental Justice (EJ) Caucus. The EJ Caucus received a small honorarium for their participation.

The EJ Caucus kicked off by providing a training to the LAG on EJ principles. During this training, LAG members explored how to embed principles on environmental justice, equity and inclusion into Bay Adapt's planning process, the Joint Platform, and in implementation. EJ Caucus members also provided leadership to Working Groups and met with BCDC's Environmental Justice Manager to provide input and feedback before and after each LAG meeting.

However, all of the equity practices and benefits outlined in the Joint Platform will not be achieved if the agencies and other stakeholders implementing the actions don't fundamentally change their practices to explicitly ensure that equity is front and center. Agencies and stakeholders need to deeply understand the factors that have led to inequity and commit to ongoing training to learn and improve a new essential set of skills and work directly with EJ communities in order to achieve equity benefits.

Without this commitment, the region will continue to repeat the same inequities as our predecessors. Bay Adapt is an opportunity to set a new, more equitable course for climate adaptation.

Two critical themes emerged during discussions with the EJ Caucus and other community leaders:

- The need for **fair and equitable funding for community partners**, including targeted employment and economic opportunities for diverse frontline community members; and
- **Capacity building, administrative support, and technical training and assistance** are essential to realizing truly equitable adaptation planning.

Setting the foundation for the Joint Platform.

Rather than specifying individual projects, the Joint Platform lays out guiding principles that inform overarching region-wide actions, goals and tasks. Its aim is to overcome barriers, accelerate keys to success, and share targets to help the region achieve:

- **Flood protection and reduced flood risk** for communities, businesses, infrastructure, and habitat.
- Robust integration of adaptation into **community-focused local plans**.
- Recognition, elevation, and support for **frontline communities.**
- Accelerated permitting and **faster project construction** for priority adaptation projects.
- **Technical assistance** for local governments to plan and implement projects faster.
- **More funding** for adaptation that is easier to get.
- **Metrics** for deciding what makes the best kind of adaptation plan or project (equitable, efficient, multi-benefit, nature-based, and coordinated with others) and for tracking local and regional progress.

Engaging the entire region in collective action requires clear agreement on the path forward and checks and balances to ensure no voice is left unheard, and no community left behind. This Platform provides that roadmap for adaptation.

The Joint Platform will help the Bay Area engage in faster, better, and more equitable adaptation to a rising Bay.

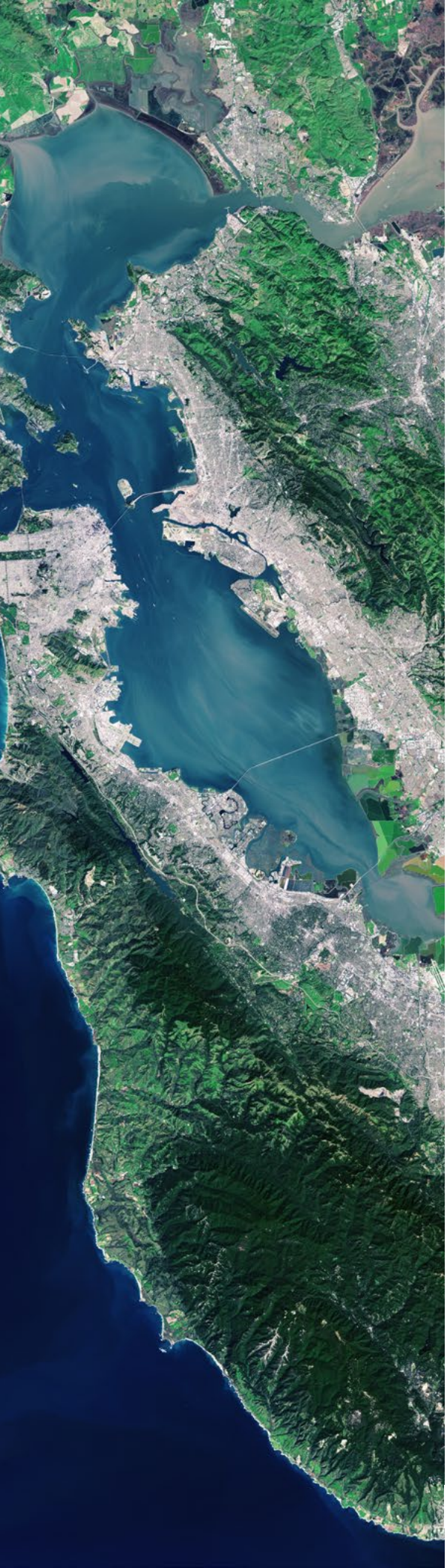
Sea level rise in our regional plans.

Plan Bay Area 2050 is the region's long-range strategic plan focused on the interrelated elements of housing, the economy, transportation and the environment. Adopted in Fall 2021, Plan Bay Area 2050 is the first multi-topic plan of its kind to question what the future will look like in the face of sea level rise and other natural hazards. How will these threats impact housing, transportation, environmental, and economic goals? What are the consequences if we don't plan ahead?

Starting with Horizon, Plan Bay Area 2050's preliminary research and analysis phase, MTC/ABAG integrated the best available sea level rise mapping into imagining the impacts of sea level rise within the 2050 timeline of the plan. To address areas of near-term sea level rise impacts, Plan Bay Area incorporated an Adapt to sea level rise strategy, mapping protections on vulnerable portions of the shoreline and calculated at $19 billion need for adaptation over the next thirty years.

Plan Bay Area 2050's Implementation Plan, which sets the strategic direction to advance strategies in the next five years, identifies key actions that MTC/ABAG and its partners should take to adapt the region to sea level rise. While these actions are compatible with Bay Adapt's tasks and will be implemented in partnership with Bay Adapt, they are part of a larger, multi-element plan and do not go into the level of detail on sea level rise that Bay Adapt does.

Plan Bay Area has been, and will continue to be, a critical tool for region-wide resilient land use decisions as sea levels rise. The Plan will continue to grow to become a comprehensive plan that brings in key regional topics, and will incorporate the best available science and regional sea level rise planning envisioned by Bay Adapt. MTC/ABAG will continue to be a key partner for planning, funding, and implementing adaptation solutions in the Bay.



Where do we start?

Preserving what we care about.

The Bay Area is the most culturally and geographically diverse region in the United States, with people of color comprising 59% of our population. More than 75% of residents believe that racial diversity is what makes the Bay Area such a great place to live. Our region is also called the "Bay Area" for a reason — the Bay is the defining characteristic of our geography and defines so much of our economy, infrastructure, and lives.

Residents cherish the beautiful blue expanse of San Francisco Bay, and their ability to walk beside it, sail over it, and gaze across its open horizons. With its diverse habitats—beaches, wetlands, grasslands, tidal flats, lagoons and more—the Bay supports hundreds of species, ranging from critically endangered salmon and marsh mice to charismatic sea lions, busy beavers, and wayward whales. Thanks to decades of careful stewardship and public investments in shoreline parks and habitats, the West Coast's largest Estuary is both more habitable and healthier for humans and wildlife alike.

Our diversity of people and habitats also supports one of the most innovative economies in the world. The Bay Area is a hub of technology, industry, agriculture, services, and more, though this has created significant challenges in income equality.

Within this context is both diversity and inequity. Across our communities, cities, and counties, we have different histories, different challenges and different opportunities. Deciding which climate change adaptation options are right for each community can be complex. Many people contribute to making these decisions, and lots of considerations go into deciding what the right solutions may be for each particular waterfront.

If we are to prepare ourselves fully for sea level rise throughout the region, cities and counties must work with local communities and the state and federal governments to make decisions about what should—and shouldn't—exist along the shoreline in the future.

San Francisco Bay Area. Photo courtesy of NASA satellite imagery.

Centering and protecting people, habitats, and wildlife.

The risks from sea level rise, and the resources necessary to address those risks, are unequally distributed among communities and ecosystems across the Bay Area.

In order to understand community vulnerability to sea level rise, BCDC's Adapting to Rising Tides (ART) Program leverages existing research on socioeconomic characteristics that may reduce ability to prepare for, respond to, or recover from a hazard event or impacts from environmental burdens. It has identified potential impacts to communities from current and future flooding including:

- Loss of property and income; displacement from their communities.
- Disrupted access to medical care and other critical services.
- Loss of power and utilities.
- Spread of disease and worsened pre-existing health conditions.
- Physical and mental distress resulting from the flooding of homes and infrastructure.

The Bay has also long been a dumping ground for polluted waste and industrial sites are still located along many parts of the shoreline. In addition to flood impacts, sea level rise may mobilize pollution as flooding becomes more prevalent, spreading to communities and ecosystems at an unprecedented rate.

All of these impacts are often disproportionately distributed to populations with certain existing socioeconomic vulnerabilities. Additionally, these populations tend to be highly sensitive to impacts, leading to potentially devastating implications from even minor flooding.

Natural ecosystems are also disproportionately impacted by sea level rise. When given a choice between an endangered salmon and a farm, a wetland or a vineyard, a nesting island or a waterfront hotel, it can be difficult

Vulnerable Communities Exposed to Sea Level Rise Around the Bay

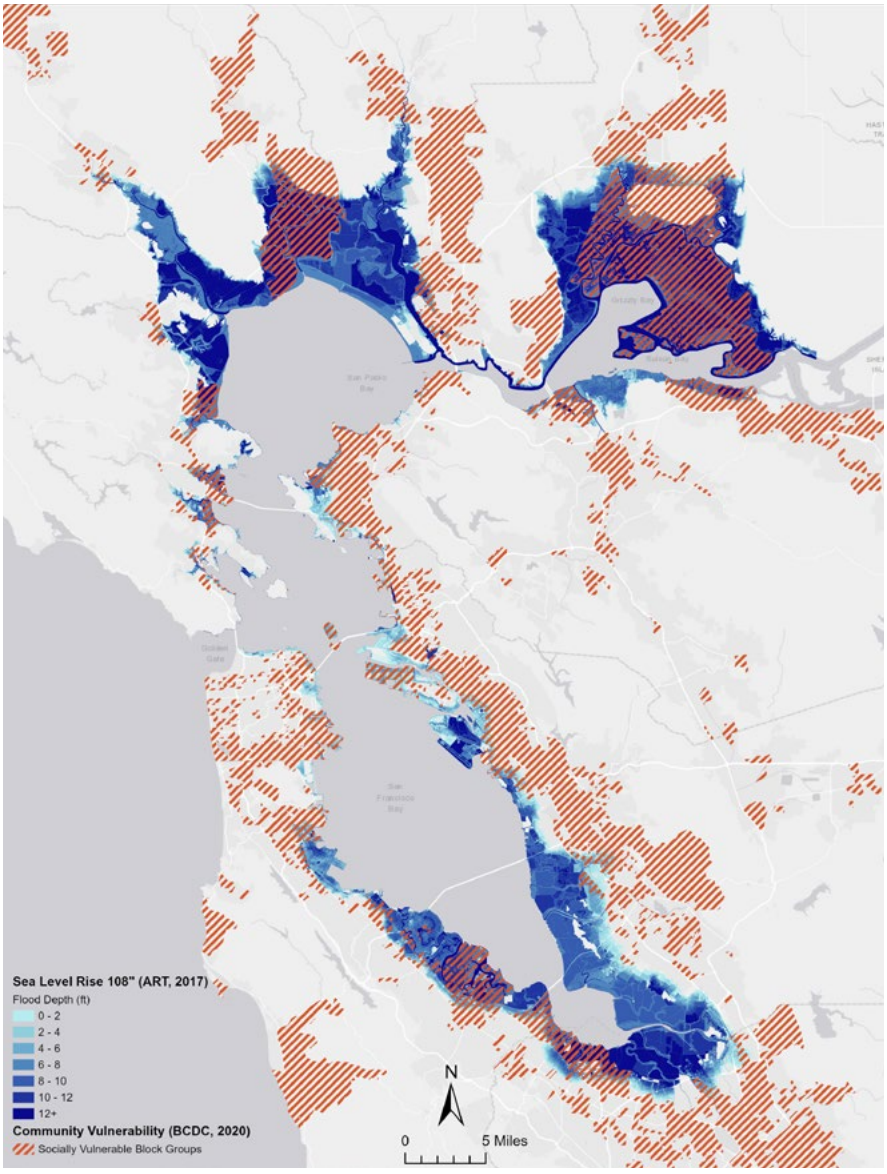


Figure 3 | Map of census block groups considered socially vulnerable in their ability to plan for, respond to, and recover from natural hazards (orange hash) and flooding depth and inundation from 108 inches of sea level rise (blue). Data from ART Bay Area Regional Sea Level Rise Vulnerability and Adaptation Study: Chapter 2.6 Vulnerable Communities (March 2020).

Communities Exposed to Contamination and Sea Level Rise Around the Bay

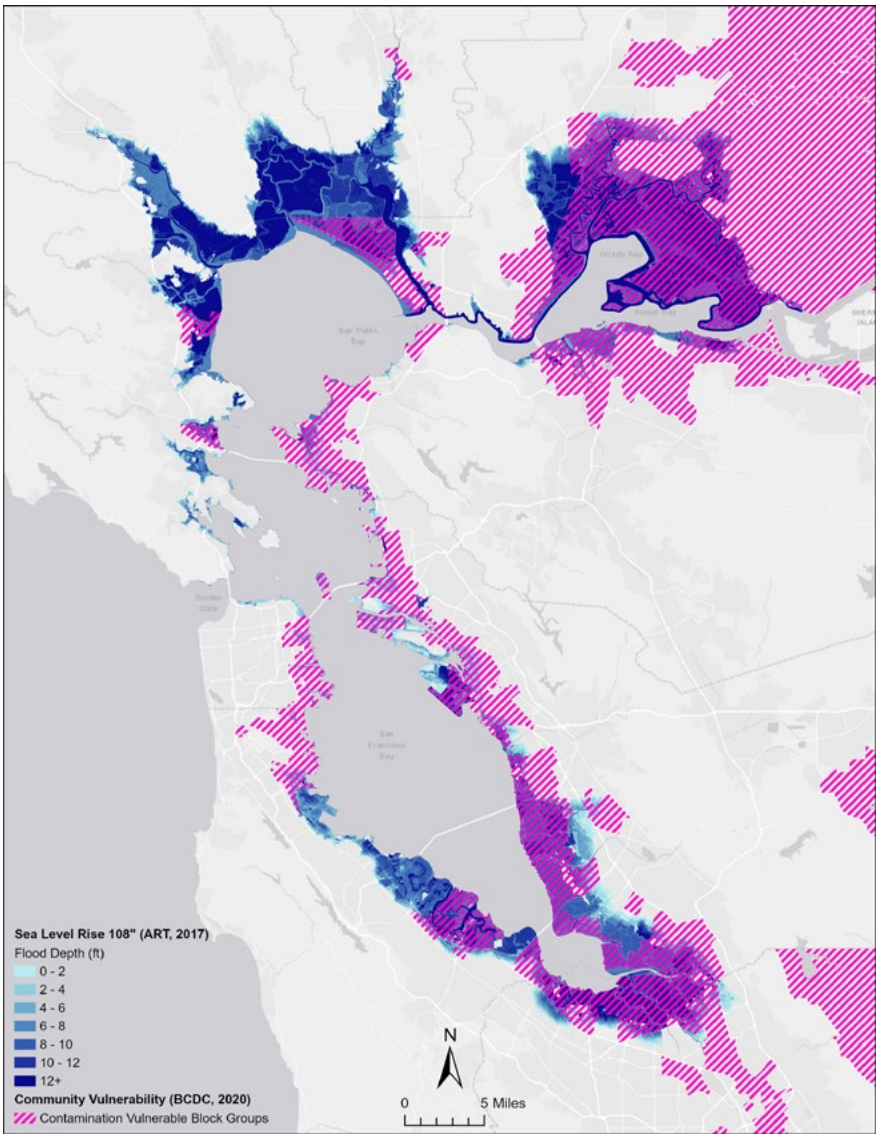


Figure 4 | Map of census block groups considered contamination vulnerable based on subset of Cal Enviro Screen 3.0 indicators impacted by flooding and flooding depth and inundation from 108 inches of sea level rise (blue). Data from ART Bay Area Regional Sea Level Rise Vulnerability and Adaptation Study: Chapter 2.6 Vulnerable Communities (March 2020).

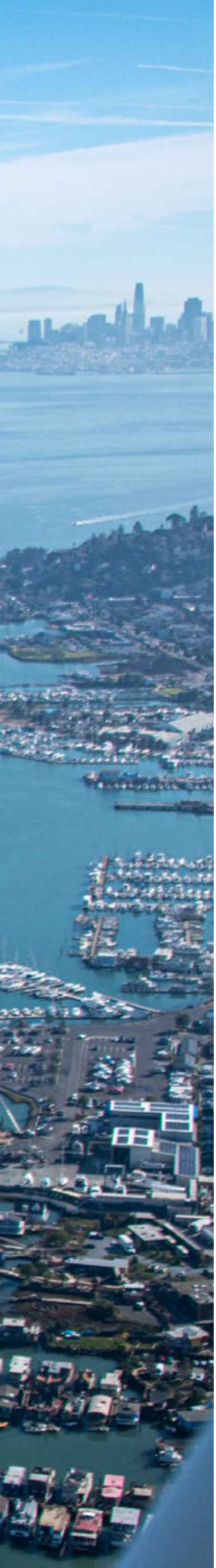
Our efforts now will affect the health and livability of the Bay Area for generations.

for wildlife and open space to prevail in the battle over human priorities and money. Preserving shoreline habitats will require prioritizing sediment to built up wetlands and providing room for habitats to migrate upslope. But sediment is limited and many wetlands abut development and levees.

The health of Bay ecosystems is inextricably linked to our way and quality of life. We continue to learn how nature protects people from natural disasters and improves public health. But as water levels rise coastal habitats risk being drowned and lost. Both nature, and people, will suffer.

The Joint Platform places a high value on both the region's diverse people and its ecosystems. Throughout the formation of the Joint Platform, a coalition of community advocates, environmental activists, and adaptation practitioners have made clear that cleaning toxic sites and reducing future pollution is a priority for our region. The resulting document explicitly acknowledges the disproportionate risks and burdens on communities of color and other historically marginalized populations, and tasks in the Joint Platform begin to outline how our region can begin to right generations of wrongdoing through elevating the role of vulnerable communities in developing solutions, filling in knowledge gaps about the challenges they face, mapping hazardous sites, and more. With people at the center of solutions, the Bay region can be a national model for equity in resilience planning.

The Joint Platform tasks also prioritize natural habitats to support a healthy, resilient Bay. Going green, meaning prioritizing nature-based strategies for shoreline adaptation as much as possible, is already a regional priority. Taking actions to support healthy Bay ecosystems now and as sea levels rise is essential, not only for the many other benefits they provide but as they are also our first —and most at risk —line of defense from rising seas. Our efforts now will affect the health and livability of the Bay Area for generations.



Guiding Principles of the Joint Platform

Support socially vulnerable communities

Actively ensure that socially vulnerable communities don't just bounce back in the face of sea level rise, but "bounce forward" by providing additional resources and support to areas where socially vulnerable communities live, work, and play and reducing negative impacts to these communities. Climate change will disproportionately impact marginalized communities with fewer resources.

Put nature first whenever possible

Prioritize natural infrastructure solutions that benefit ecosystems and the health of the Bay as well as people, especially in the near-term. Adapting to rising sea level will require a mix of green and gray infrastructure. Working with nature, instead of against it, can produce better results for both people and wildlife.

Solve interconnected problems at the same time

Prioritize adaptation actions that maximize regional risk reduction to flooding and sea level rise and minimize tradeoffs within the context of other regional priorities such as housing, economy, social equity, habitat protection, and other climate risks. Sea level rise and flooding is just one of several regionally interconnected crises facing the Bay Area.

Practice inclusive, community-led governance and decision-making

Remove barriers and enhance capacity to increase transparent, coordinated decision-making among community members and organizations and local, regional, state, and federal governments that acknowledges and leverages the unique roles, responsibilities, and authorities at each scale. Adaptation outcomes will better protect the entire region when all interests, including those who know their neighborhoods and communities best, contribute and collaborate in reducing risk.

Support existing efforts but plan for the long term

Support, encourage, and learn from early innovators charting a new course for the region, especially for wetland restoration, while maintaining a long-term vision for more complex planning and investments. Early action is important for regional learning, setting precedents, and shorter-term flood control, and widespread or significant capital investments require careful and collaborative planning.

Pick the right strategy for the right place at the right time

Ensure that local and regional investment strategies to address flooding and sea level rise are grounded in local needs, conditions, and plans, and are phased to allow for uncertainty, flexibility, and iteration. The Bay is a collection of distinct places with unique physical and social conditions and there is no "one size fits all" solution – or timeline - to address climate-related impacts.

The San Francisco Bay connects nine counties and millions of people together. Photo SF Baykeeper, Cole Robb Most, and LightHawk.

What does adaptation look like?

Developing targeted solutions.

Regional Hot Spots Around the San Francisco Bay

In climate change, adaptation is different from mitigation, which are the ways we try to reduce our carbon footprint. Adaptation refers to making changes to how we live in the face of change to reduce hazards and increase resilience to future conditions.

In the Joint Platform, adaptation specifically means the plans and projects that either prepare us for sea level rise or alter our shorelines to reduce its impacts.

In some cases, we will adapt by restoring natural wetlands to absorb more water and buffer us from storms, while in other places when nature-based solutions are not feasible, we will build higher protections, such as seawalls, to keep water out. We may also avoid building new roads or homes in areas that are likely to flood or provide migration space for wetland habitats. Sometimes adaptation may even require removing things that are already built out of harm's way. Adaptation also will spur innovative solutions as we learn how to co-exist with more water in the future.

The adaptation solutions we choose in one part of the Bay are inextricably linked to everywhere else along the shoreline. Since the Bay is an interconnected system, flood protection measures in one location of the Bay may increase the risk of flooding in other areas. It is critical that we consider shoreline solutions as a whole Bay, rather than on a project-by-project basis.

Bay Adapt helps to set the stage for successful adaptation region-wide. While each community will need to decide which approach is best now and over time, the actions in Bay Adapt help support multiple adaptation approaches within the larger regional context we need to think about before it's too late.

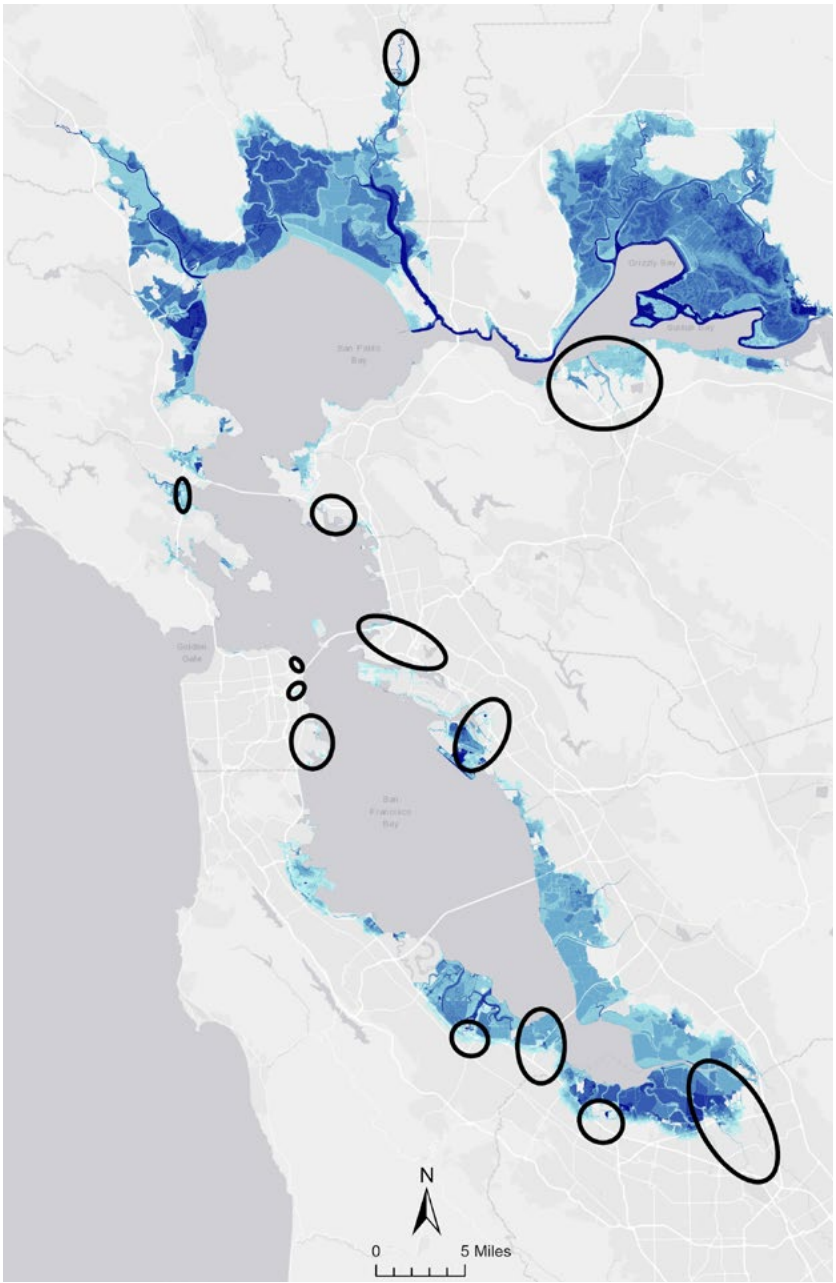


Figure 5 | Regional "hot spots" identify areas in the region with highest consequences from flooding at 108" TWL to both vulnerable communities, transportation networks, and urban growth areas or open space. Data from ART Bay Area Regional Sea Level Rise Vulnerability and Adaptation Study: (March 2020).

Adaptation Actions that Prepare

- Actions that help us set the stage to make decisions about what to do next that are equitable, inclusive, and based on science, local knowledge and values, such as increasing information or community capacity.
- Changes to regulatory environments, political settings, land use, or other contexts for decision-making that improve the outcomes of adaptation decisions.
- Agreement on a shared approach about who makes decisions, what informs those choices, and how we plan and fund those decisions equitably to addresses disproportionate impacts on the most vulnerable.

Adpatation Actions that Protect, Accommodate, Avoid or Retreat

- Actions that change the physical characteristics of the shoreline, such as integrating natural ecosystems (green infrastructure) and/or building engineered structures (gray infrastructure) to protect shorelines from flooding.
- Projects that accommodate flooding such as preserving transition zones for wetlands, elevating structures, or using flood resistant materials.
- Efforts to retreat from the shore, such as removing existing development or avoiding placing new development in areas at risk of flooding.

Sea level rise will change our way of life in the Bay Area dramatically. Our daily commutes, the goods and services we depend on, the places where we live and work, the natural spaces that provide habitats and make the Bay Area a beautiful place to live, will all be affected. The Bay Adapt Joint Platform's 6 Guiding Principles, 9 actions and 21 tasks suggest a way forward for us all.

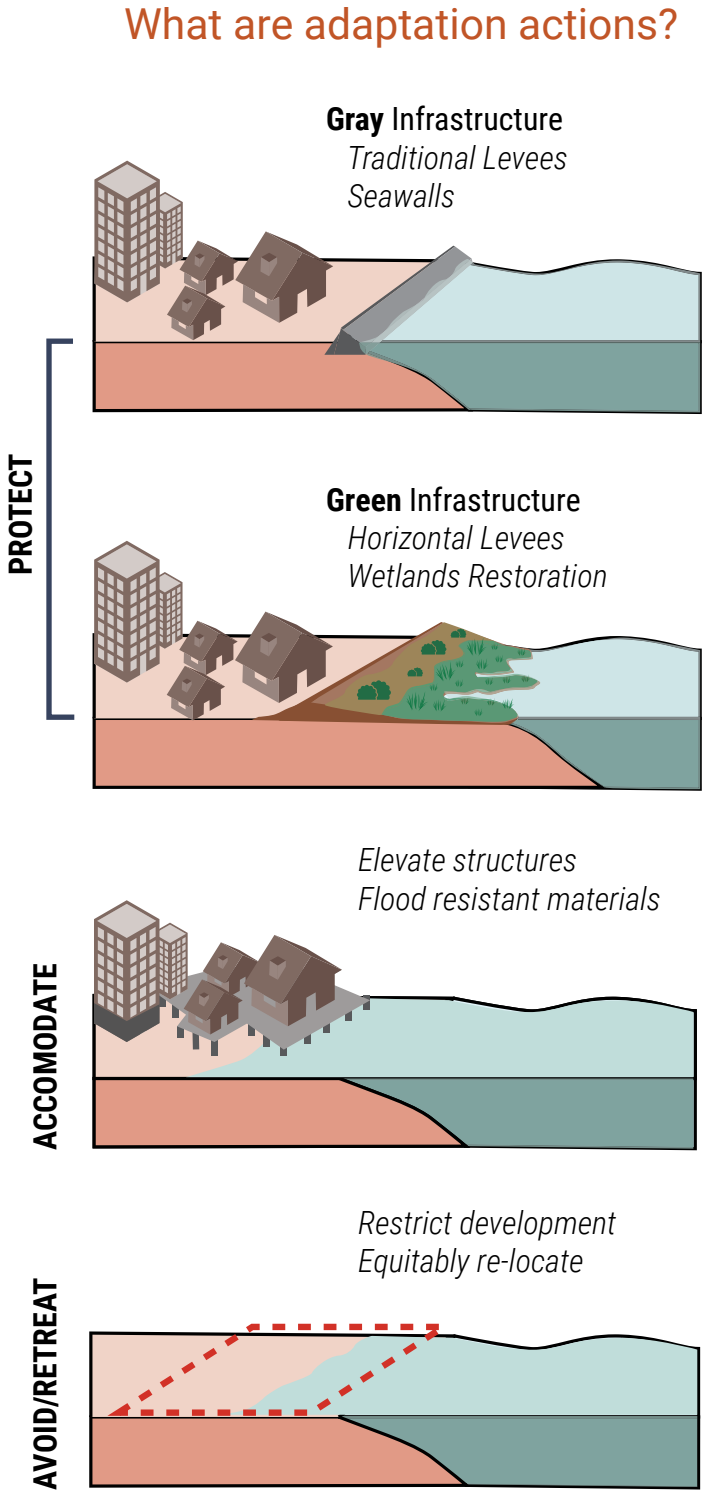


Figure 6 | Different adaptation approaches facilitated by the actions in Bay Adapt seek to prepare the region to equitably respond to sea level rise, while also strengthening implementation and ensuring lessons are learned over time.

The Joint Platform

9 actions, 21 tasks, 1 region *moving forward together*

PEOPLE

Action 1: Collaborate on a "One Bay" vision to adapt to rising sea levels.

Task 1.1: Create a long-term regional vision rooted in communities, bay habitats, and the economy.

Task 1.2: Lay the foundation for a proactive regional legislative agenda.

Action 2: Elevate communities to lead.

Task 2.1: Improve how communities and public agencies learn from each other and work together.

Task 2.2: Fund the participation and leadership of community-based organizations (CBOs) and frontline communities in adaptation planning.

INFORMATION

Action 3: Broaden public understanding of climate change science and impacts.

Task 3.1: Tell local and regional stories about people and places adapting to climate change.

Task 3.2: Weave climate literacy into school programs.

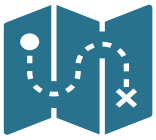
Action 4: Base plans and projects on the best science, data, and knowledge.

Task 4.1: Align research and monitoring with information gaps.

Task 4.2: Make scientific data, information, and guidance easier to use.

Task 4.3: Increase access to technical consultants for local adaptation partners.

PLANS



Action 5: Align local and regional plans into a unified adaptation approach.

Task 5.1: Provide incentives for robust, coordinated adaptation plans.

Task 5.2: Align state-mandated planning processes around adaptation.

Action 6: Figure out how to fund adaptation.

Task 6.1: Expand understanding of the financial costs and revenues associated with regional adaptation.

Task 6.2: Establish a framework for funding plans and projects.

Task 6.3: Help cities and counties expand ways to fund adaptation planning and projects.

PROJECTS

Action 7: Refine and accelerate regulatory approvals processes.

Task 7.1: Accelerate permitting for equitable, multi-benefit projects.

Task 7.2: Assess environmental regulations and policies that slow down progress on projects.

Action 8: Fund and facilitate faster adaptation projects.

Task 8.1: Incentivize projects that meet regional guidelines.

Task 8.2: Encourage collaboration among people doing projects in the same places.

Task 8.3: Facilitate faster construction of nature-based projects.

PROGRESS

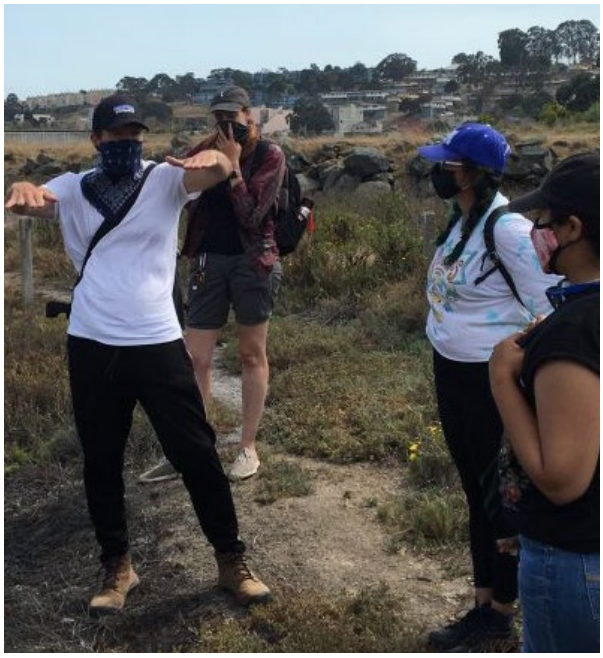
Action 9: Track and report progress to guide future actions.

Task 9.1: Measure regional progress using metrics and share results.

Task 9.2: Monitor and learn from pilot projects.

PEOPLE

As we adjust the way we live, work, and play to adapt to a changing climate, we must act together with a true regional vision and ensure that this transition does not reinforce pre-existing inequities. Who will lead who will decide, and how do we all get on the same page? Frontline communities that feel the most acute impacts from sea level rise have local knowledge critical for equitable solutions. Likewise, legislators in Sacramento and Washington need to hear our collective voice loud and clear—two-thirds of the State's total sea level rise impacts will occur in the Bay Area, so our collective voice must be strong.



People learning about shoreline restoration. Photo by LEJ from Estuary News from March 2021.

ACTION 1

Collaborate on a "One Bay" vision to adapt to rising sea levels.

Goals:

- A shared vision for regional adaptation that reflects the Bay Area's diverse conditions and communities.
- A proactive legislative agenda supporting sustained Bay Area adaptation.

TASK 1.1: Create a long-term regional vision rooted in communities, bay habitats, and the economy.

Engage communities and stakeholders in envisioning a resilient future shoreline, relying on grassroots input from start to finish. Using Bay Adapt's Guiding Principles to guide the process, it should define and articulate what successful adaptation should like at ground level, and around the Bay, beginning in the most at-risk frontline communities.

The vision must be built on a deep understanding of communities' unique social, cultural, economic, and physical needs and be developed through a participatory, transparent, and iterative process and create opportunities for diverse stakeholders to learn about each other and have conversations.

The vision must also be built on regional environmental, housing, transportation, recreation, economic and other priorities, including visions already established for these sectors, such as in Plan Bay Area 2050 or the San Francisco Estuary Blueprint.

The vision should be expressed through multiple deliverables that will be utilized throughout many other tasks included in the Joint Platform, including:

- A "vision statement" for the Bay shoreline that sets a long-term picture of successful adaptation.
- Regional and sub-regional objectives, tied to measurable metrics (such as safety, equity, a functioning and thriving ecosystem, reuse of sediment resources, shoreline access, and economic growth), to be used for tracking progress in Task 9.1.
- Specific regional and sub-regional strategies, actions, and an assessment of priority project locations, types, and timelines, building off existing analysis such as on vulnerable communities, Bay interconnectedness, and the Adaptation Atlas. This can be used in conjunction with the above guidelines to incentivize and prioritize the right kinds of actions in the right locations.
- Guidelines, evaluation methodologies, and technical modeling capacities for evaluating local plans and projects for funding and other incentives that align with desired outcomes (Tasks 5.1, 6.2, and 8.1).

How the regional vision can inform Joint Platform actions

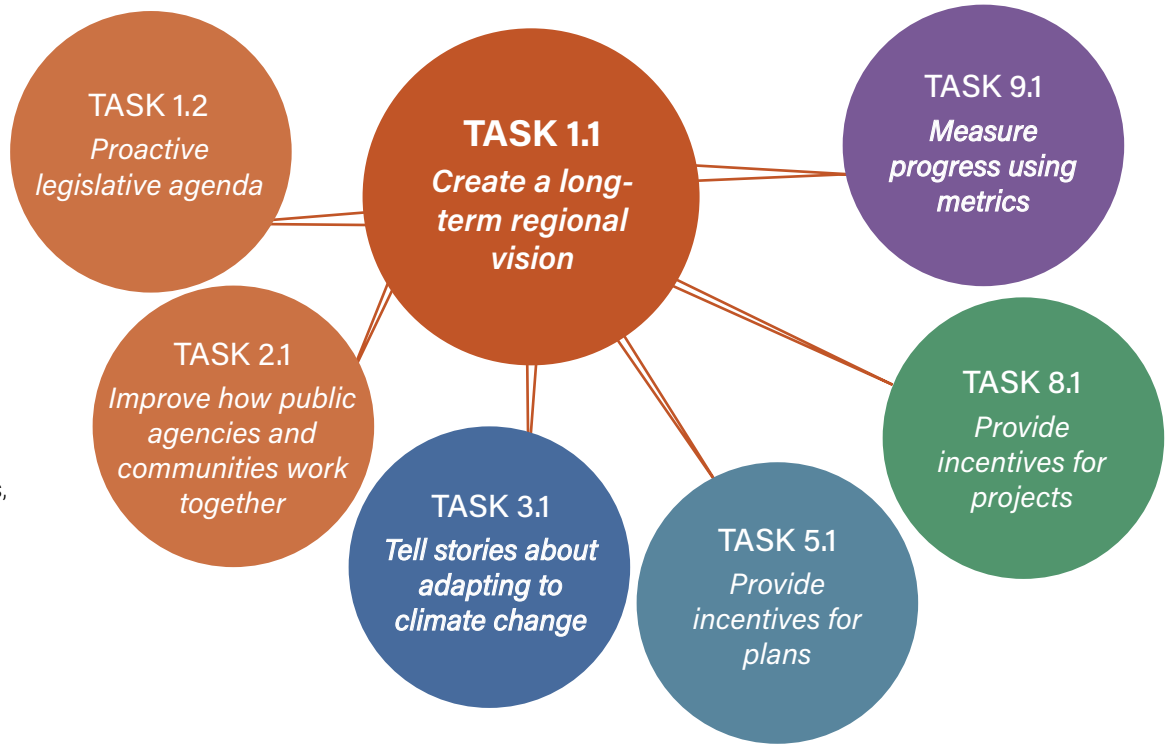


Figure 7 | Many different tasks outlined in the Joint Platform flow from the vision, guidelines, and metrics outlined in Task 1.1, either directly or indirectly.

TASK 1.2: Lay the foundation for a proactive regional legislative agenda.

Build a unified advocacy voice for Bay Area adaptation needs. In the short term (next two years), pilot a legislative working group to work toward consensus on regional priorities and shared criteria for future legislation while taking advantage of opportunities within current state and federal legislative sessions. Foster relationships with state and federal legislators to lay the groundwork for future legislation. Build support for the nine-county Bay Area as the focus for new regional climate adaptation programs. In the mid-term (2-4 years), build support for multi-year sources of funding for a wide range of adaptation activities, such as a regional ballot measure. Identify and collectively advocate for additional regional priorities that would require legislation, such as regulatory changes, planning guidance, new fiscal authorities, and funding support. In the long term (5+ years), coordinate, update and communicate legislative needs on a biennial basis, such as through an annual legislative agenda.

Action 1 Benefits

EQUITY
Elevates frontline community voices in long-term regional visioning and advocacy.

ENVIRONMENT
Elevates environmental advocacy voices in long-term regional visioning and advocacy.

ECONOMY
Elevates business and economic voices in long-term regional visioning and advocacy.

ACTION 2

Elevate communities to lead.

Goals:

- Adaptation grounded in local vision and needs.
- Increased capacity of community members, especially those historically excluded from decision-making, to contribute to the process.
- Long-term funding that supports sustained community leadership and equitable partnerships among communities and governments.

TASK 2.1: Improve how communities and public agencies learn from each other and work together.

Build community capacity to influence government and support a region-wide training program led by communities and geared towards government to shift values towards place-based expertise. Adopt and share best practices for equity-focused adaptation decision-making throughout the region. Ensure that best practices nurture meaningful relationships, center community concerns and priorities, and make community and social benefits clearer.

Support community leaders in raising awareness and capacity within their own communities. Host trainings for communities on sea level rise risks, adaptation options, community storytelling, and best practices for engaging effectively with governments. Whenever possible, choose community-based organizations (CBOs) or community members to lead trainings geared toward government and communities.

Training topics for agency staff may include general environmental justice and local histories, community mapping, culturally appropriate communication, meaningful community engagement at all phases of planning, use of community benefit agreements, alternative approaches to traditional cost-benefit analyses that elevate community value, and measuring successful engagement.

"Conversations and decisions are being made without the community's input. How do we make sure that people's stories and perspectives are at the forefront?"

- East Palo Community Focus Group Participant

Ideas for the Bay Area

***The Greenlining Institute**, an Oakland-based advocacy group, has created a guidebook to help users embed equity in a meaningful way in climate adaptation and community resilience policies and programs. Access the Guidebook.*

*A coalition of community organizations in East Oakland partnered with the City of Oakland to secure a **Transformative Climate Communities** grant for local equitable climate planning. City staff and community groups collaborated on the scope of work, goals, and budget for the project. The resulting community-driven plan led to a $28 million implementation grant. Access the Plan.*

*The **West Oakland Environmental Indicators Project** received a Restoration Authority grant to lead a Shoreline Leadership Academy to raise the capacity of local frontline community residents to engage and lead in climate adaptation. Participants are paid for their time to develop plans for the shoreline while increasing their knowledge and participation.*

*The **Resilient Communities Initiative** created an equity checklist and sample partnering agreement that could be a model for successful future partnerships. Access them Here.*

*The **Bay Area Regional Health Inequities Initiative (BARHII)** recently released a new report on best practices for community engagement to create healthy and resilient communities. This report can serve as a resource for governments. Access it Here.*

Community forum in East Palo Alto on rising sea level. Photo by Jaclyn Mandoske, BCDC.

TASK 2.2: Fund the participation and leadership of CBOs and frontline communities in adaptation planning.

Establish a stable and ongoing funding program to support frontline communities and CBOs as full partners and leaders in adaptation planning. Use the funding to build and sustain community capacity to participate in decision-making as described in Task 2.1. Support CBO operating expenses, staffing, stipends for community representatives in planning processes and meetings, and expenses associated with participation such as transportation, food, and childcare. Also fund the community-led training programs identified in Task 2.1.

Consider state budget or bond allocations, legislation, grants, development fees, or regional funding measures as sources of funding. Equity initiatives could receive a dedicated percentage of any resilience-focused funding, for example. Other initiatives to increase community access to funds could include supporting collaborative grant-writing, or streamlining the process for governments or industry partners to contract with CBOs (such as setting up a bench of CBOs available for fee-based consulting and managing those contracts on behalf of the CBOs).

> *"It is harder to ask communities to engage on something that they have not been involved in shaping. You need representatives with direct experience and engagement in these communities, what they want, and agency staff typically doesn't have that."*
>
> *- Bay Adapt EJ Caucus Member*

Action 2 Benefits

EQUITY
Elevates frontline community members as key decision-makers and compensates them for their time and expertise.

ENVIRONMENT
Prioritizes natural resources that people value, promoting local stewardship.

ECONOMY
Prioritizes local businesses and jobs, keeping local economies thriving.

INFORMATION

Cities, landowners, residents and students all need to understand how the latest science on sea level rise applies to their lives and decisions. Understanding risks, consequences, options, and tradeoffs enables everyone to be part of the solution. We also need ways to share our stories, struggles, and successes as we confront climate change and learn to adapt. Stories of individual and shared experiences of change are the foundation of future action. But where do we find and keep up with the latest science and these evolving stories? And how do we share the best of them?

BCDC staff presenting to stakeholders on sea level rise vulnerability. Photo by Jaclyn Mandoske, BCDC.

ACTION 3

Broaden public understanding of climate change science and impacts.

Goals:

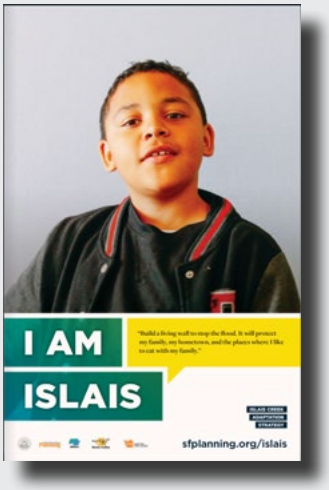
- Increased climate literacy in the region's general public.
- Communities and youth who are better prepared to plan and implement adaptation solutions.
- More value placed on community history and first-hand experience.

TASK 3.1: Tell local and regional stories about people and places adapting to climate change.

Launch a sustained storytelling campaign to amplify awareness of climate change, sea level rise impacts, and Bay health in the Bay Area. Listen and learn from residents' direct experiences and empower them to advance their own solutions for climate adaptation. Encourage youth, neighborhoods, and frontline communities to shape and share their own stories. Base stories on local successes and hopeful narratives about what makes the Bay Area special, including the Bay's unique natural ecosystems and culture of environmental and social activism. Allow communities to share their stories of concern, risk, needs, and loss in order to center these narratives and base future adaptation planning on mitigating these challenges. Share stories widely, and make them available on diverse platforms – newspapers, radio, television, social media, neighborhood news apps, and the web. Use these stories to train local government staff about the communities they serve and increase trust between communities and local staff (coordinated with the trainings outlined in Task 2.1).

Ideas for the Bay Area

As part of the **Islais Creek Adaptation Strategy,** *the San Francisco Planning Department developed a magazine,* **I Am Islais**, *that provided a platform for residents and stakeholders to speak about sea level rise in the neighborhood and how it would affect their lives. Platforms like these allow residents to have their voices heard.*



Middles schoolers from Oakland learn about rain catchment systems. Photo courtesy of Estuary News from March 2019.

TASK 3.2: Weave climate adaptation literacy into school programs.

Support partnerships between public and private schools and community-based organizations (especially those led by youth and frontline community members) to educate students about the health and future of the Bay and ways to adapt to climate change. Share adaptation visions, solutions, and local pilot projects showcasing innovation with teachers, students, school districts and parent associations. Support schools so they can get more involved as partners in educating their local communities about rising sea levels and as leaders in elevating the importance of climate action and adaptation. Help schools offer both climate-literate curricula and career pipeline opportunities based in diversity and inclusivity. Consider partnerships with local employers to connect training with local jobs. Provide our future decision-makers and workforce with the knowledge and experience to tackle climate problems with equitable and innovative solutions.

Ideas for the Bay Area

The **Mycelium Youth Network** *partnered with The Exploratorium and BCDC to engage local youth in the science, political issues, and civic processes involved in responding to climate change and its impacts on infrastructure and people. The collaboration produced* **Water Is Life**, *a program that offered an in-depth analysis of water justice issues with a specific focus on sea level rise and how it will impact the entire Bay Area. The program reached 150 students at several Title I schools around the Bay Area, including Leadership High School and Mission High School in San Francisco, and Elmhurst United Middle School in Oakland. Learn More Here.*

The **San Mateo County Environmental Literacy Program** *works with school districts, community-based environmental literacy partners, educators, and youth to actively integrate environmental sustainability into school communities, classrooms, and programs. Learn More Here.*

Action 3 Benefits

EQUITY
Empowers frontline community members by increasing awareness of climate risks, sharing stories about their own communities, and engaging youth in schools.

ENVIRONMENT
Raises awareness of the health and future of the Bay and its resources and the value of natural and nature-based solutions in addressing rising sea levels.

ECONOMY
Reduces likelihood of economic damage by flooding by building public support for adaptation measures; prepares youth to enter climate resilience careers.

ACTION 4

Base plans and projects on the best science, data, and knowledge.

Goals:

- Data and research tailored to the region's specific needs.
- Accessible science, analysis, and monitoring information.
- User-friendly technical support.

TASK 4.1: Align research and monitoring with information gaps.

Partner with academics, scientists, and communities to fill information gaps through original research, data collection, analysis, and monitoring. Tailor the interpretation of science to the audience or user, ranging from the general public to academics. Curate and archive information for use and updates across decades. Align with similar statewide initiatives but ensure data is tailored to the Bay Area.

From a technical perspective, identified information needs include:

- Enhanced regional flood modeling related to multiple hazards (such as groundwater, watershed, riverine/tidal, subsidence, erosion).
- Expanded networks of water elevation monitoring stations for real-time updates to the rate and timing of sea level rise in the Bay.
- Expanded open data initiatives to facilitate sharing.
- Standard operating procedures for validating and nominating data for common use.
- More research on the cost and suitability of adaptation strategies for different Bay conditions.
- Identification of potential wetland migration pathways.
- Tracking, sharing, and integrating data from various sectors to spotlight opportunities to reuse sediment.
- Research on the equitable distribution of burdens and benefits of adaptation.
- More explicit research on the impacts and consequences of contaminated sites as they intersect with flooding and/or rising groundwater and strategies for mitigating these impacts.

Solicit and value local knowledge from residents, particularly in frontline communities, and use it to inform research needs and priorities and to confirm and validate academic research. Prioritize co-production of data and tools with communities through community-based asset mapping and storytelling or participatory science to form a more complete data picture.

Ideas for the Bay Area

Created in 2000, the **California Ocean Science Trust** *recognizes the value of independent science and the opportunity to better connect the wealth of scientific expertise in academia with policy and management decisions in the state. The Ocean Science Trust seeks and provides funding for ocean resource science projects and encourages coordinated, multi-agency, multi-institution approaches to ocean resource science. It can serve as a model for how to connect real-world planning and policy needs with scientific and academic research but be adapted for the unique needs and constraints of the Bay Area. Learn More Here.*

The **Wetlands Regional Monitoring Program** *(WRMP) is convening stakeholders from a broad range of backgrounds and expertise to develop a regional monitoring program for wetlands in the Bay Area. The program aims to use wetland habitat data to improve the efficiency of permitting and monitoring wetland restoration projects and to evaluate the condition of the tidal marsh ecosystem at a regional scale. Learn More Here.*

CALIFORNIA OCEAN SCIENCE TRUST

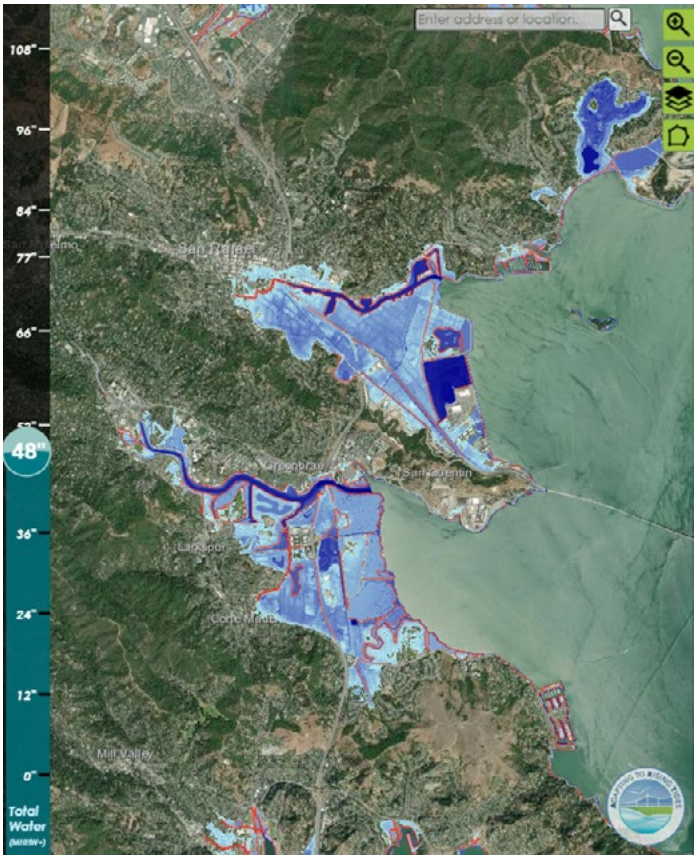
TASK 4.2: Make scientific data, information, and guidance easier to access and use.

Help users creating adaptation plans and projects understand where, when, and how to use climate science and planning tools. Facilitate widespread access to, and understanding of, technical information and guidance. Improve and ease access to the most relevant information.

Establish or support an independent Climate Science Consortium that provides high-quality science translation tailored to the Bay Area's needs and fed by the research outlined in Task 4.1.

Also offer a separate technical assistance "storefront" to support plans and projects that provides users:

- Standardized, up-to-date scientific data, such as common flood models and sea level rise projections, as created by the Climate Science Consortium.
- Best available science white papers on specific issues, as curated or developed by the Climate Science Consortium.
- Individualized consultations via a professional help desk network.
- How-to guidance on the steps of assessing vulnerability and developing adaptation plans.
- Adaptation plan and project examples and case studies.
- Tools for evaluating adaptation options.
- Funding and financing assistance.
- Lecture series, conferences, trainings, working groups, and/or workshops.
- Access to a technical consultant bench (Task 4.3).



The Adapting to Rising Tides Bay Shoreline Flood Explorer is a tool developed by BCDC to explore current and future flooding scenarios. This information is available at explorer.adaptingtorisingtides.org.

How science and planning assistance can assist other Joint Platform actions

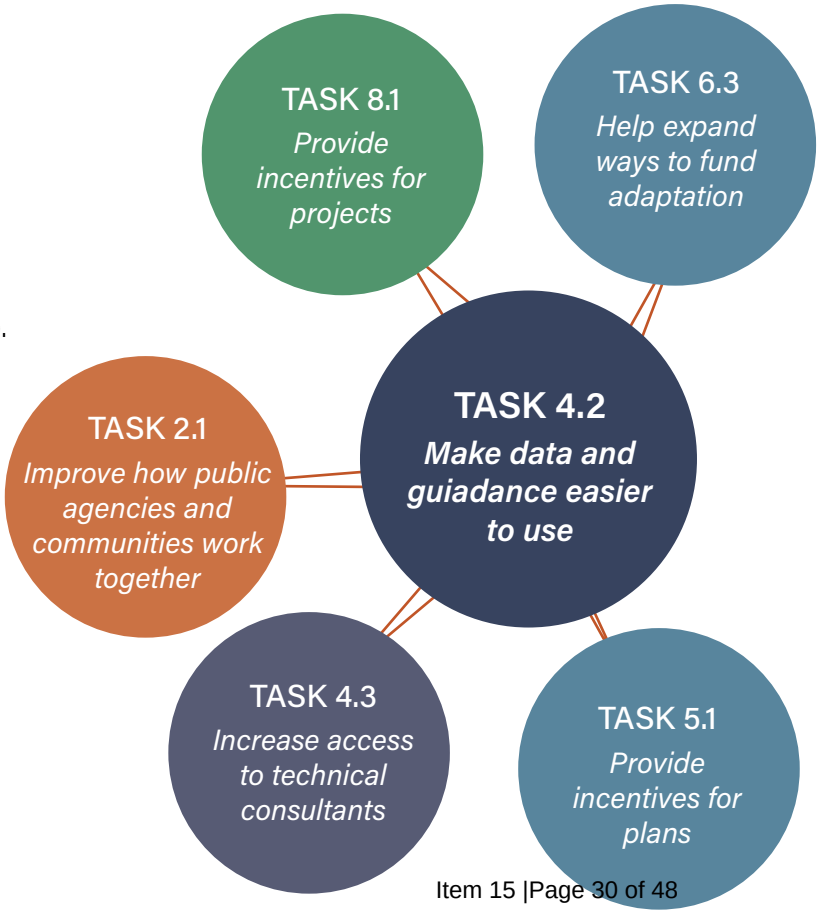


Figure 8 | Many different tasks outlined in the Joint Platform should connect to and coordinate with the technical assistance outlined in Task 4.2; however, they are not included in the task because they have technical assistance as their secondary function and/or have a natural home elsewhere.

Levee breach in the Montezuma wetlands restoration project.
Photo courtesy of the Montezuma wetlands project.

TASK 4.3: Increase access to technical consultants for local adaptation partners.

Establish a region-wide consultant bench that cities, counties, and others can tap for technical services. Use regional planning and project guidelines (Task 1.1) to articulate common technical needs in region-wide RFPs for consultants to serve on the bench. Also use guidelines to guide evaluation of proposals from potential consultants. Contract with consultants to be "on call" for cities and counties, as needed. Simplify and manage contracting processes for users when accessing a consultant. Vet consultant-led goods and services to ensure they align with the region's vision and objectives.

Ideas for the Bay Area

MTC/ABAG's Housing Technical Assistance (TA) Consultant Bench *is an effort to recruit and vet multiple consultants with various skill sets to support local planning at favorable rates and facilitate access to consultant resources, achieve economies of scale, and reduce costs. This bench supports regional TA efforts and local jurisdictions can use it to connect with specialized resources on a wide range of issues and services using their SB2, LEAP, REAP, and PDA planning funds.* *Learn More Here.*

Action 4 Benefits

EQUITY
Elevates local knowledge and needs in the development of data to inform decision-making and ensures data transparency and accessibility to communities.

ENVIRONMENT
Improves guidance, data, and feedback on projects that preserve and enhance habitats and on natural and nature-based solutions to increase implementation of these projects.

ECONOMY
Increases information and better planning and project processes to expedite shoreline protection projects.

PLANS

Now is the time to plan for carrying out the region's adaptation vision and seeking the billions of dollars needed to pay for it. As shoreline communities incorporate adaptation into local plans, we must ensure that those plans contribute to a "One Bay" solution, whose goals and objectives are shared across cities, counties and the region. Decisions in one community, municipality or new development can displace costs and impacts to others. How can we help locals make successful, coordinated plans? And how will we pay for new initiatives?

Community engagement for Plan Bay Area 2050. Photo by Karl Nielsen.

ACTION 5

Align local and regional plans into a unified adaptation approach.

Goals:

- Local plans that are coordinated across the region, and incentivized by expanded adaptation funding.
- Improved and coordinated state planning requirements for adaptation plans and projects.

TASK 5.1: Provide incentives for robust, coordinated local adaptation plans.

Utilize collectively-developed plan guidelines and minimum requirements (Task 1.1), tied to financial incentives (Task 6.2), to develop strong local and community-driven adaptation plans that also contribute to regional goals and align with current state guidelines for adaptation plans. Incentives should include funding to develop the plans. Plans should also include planned projects that contribute to regional goals (Task 8.1).

Guidelines should be developed with the input of many stakeholders but may provide:

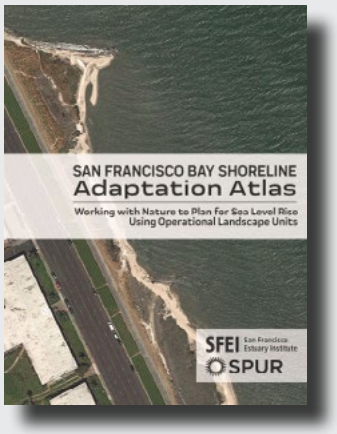
- Guidance on how to prioritize and include vulnerable communities in sea level rise planning, including best practices for community engagement and community-led adaptation planning processes.
- Common minimum short and long-term sea level rise climate projections for planning.
- Standard flood data sets.
- Regionally-appropriate strategies for protecting natural areas, frontline communities, public access, regional transportation links, and other critical regional assets.
- Guidance on how and where to prioritize nature-based solutions along the shoreline where feasible and appropriate.
- Land use guidance, such as how to plan for habitat migration with sea level rise.
- Guidance on how to plan for long-term implications of sea level rise beyond current planning horizons.
- Guidance on how to connect sea level rise planning to other critical topics, including public and environmental health, emergency response, and housing considerations.

Assistance on applying the guidelines should be available through regional technical assistance programs (Task 4.2).

Wetlands and development near Highway 37. Map data ©2019 by Google Earth Pro.

TASK 5.2: Align state-mandated planning processes around adaptation.

Assess the state's myriad planning requirements beyond adaptation (such as those for housing, emergency response, local hazard mitigation, social equity, and climate action) through the lens of adaptation planning for conflicts, redundancies, and synergies. Jointly advocate for updated legislation to coordinate these requirements. Also create opportunities and incentives at the state level for cross-jurisdictional planning to improve the siloed scope of local plans that are often limited to jurisdictional boundaries.



Ideas for the Bay Area

The **San Francisco Bay Shoreline Adaptation Atlas** *has extensively evaluated the Bay shoreline to identify the most appropriate adaptation strategies for the unique physical characteristics shared by different "Operational Landscape Units" around the Bay. It identifies where nature-based approaches can help create a resilient shoreline with multiple benefits and where these solutions can work together across the interconnected Bay to avoid unintended impacts in neighboring locales. The Adaptation Atlas can provide a guide toward appropriate plans and projects in different locations around the Bay to ensure that the most appropriate strategies are considered in any given location. See it Here.*

Action 5 Benefits

EQUITY
Rewards planning processes that value inclusive engagement and equitable outcomes.

ENVIRONMENT
Rewards planning processes that value long-term protection of Bay habitats and prioritization natural and nature-based adaptation outcomes.

ECONOMY
Rewards planning processes that value the protection of jobs, businesses, and infrastructure.

The East Bay Shoreline looking towards Emeryville and Oakland. Photo by Andre Perrin-Martinez.

ACTION 6

Figure out how to fund adaptation.

Goals:

- Clear assessment of the region's adaptation funding needs.
- Identification of local and regional funding sources and financing tools.
- Mechanism for prioritizing and distributing funds for adaptation over the next several decades.

TASK 6.1: Expand understanding of the financial costs and revenues associated with regional adaptation.

Reduce unknowns and uncertainties related to the costs of adaptation. Start by expanding on the existing MTC/ABAG Sea Level Rise Needs and Revenue Assessment, which supports Plan Bay Area 2050 and also advocates for more state and federal funding. Build on and improve the assessment's calculations of what it may cost the region to adapt to sea level rise as well as the cost of inaction. As part of this calculation, consider both actual costs of current projects and the anticipated costs of untested or new construction or restoration techniques, as well as the costs for pre-construction phases of projects such as engagement, planning, and land acquisition or post-construction costs such as monitoring and maintenance. Consider when future funds may be needed as sea levels rise and impacts accelerate. Also develop a more in-depth understanding of possible revenue from related special assessments, taxes, and fees to refine estimates of the potential funding gap.

Ideas for the Bay Area

The **San Francisco Bay Restoration Authority** *is a regional agency created to fund shoreline projects that will protect, restore, and enhance San Francisco Bay through the allocation of funds raised by the Measure AA parcel tax. This parcel tax generates $25 million in grants annually for wetland restoration projects throughout the region. The Restoration Authority is overseen and staffed by representatives from several Bay Area government agencies with various types of expertise and authority. The Restoration Authority could either be expanded to fund a wider variety of adaptation projects or could serve as a model for a new adaptation-focused finance authority for the Bay.* Learn More Here.

SAN FRANCISCO BAY
RESTORATION AUTHORITY

TASK 6.2: Establish a framework for funding plans and projects.

Develop and implement a framework or process to aggregate, generate, and distribute adaptation funding for communities, plans and projects. Use guidelines developed in Task 1.1 to direct funding to incentivize successful local planning (Task 5.1), and to evaluate and assign funding to proposed adaptation projects included in such plans (Task 8.1). Consider modeling the process on the MTC/ABAG Transportation Project Performance framework, in which partners nominate local projects for evaluation based on specific criteria and then prioritize them for funding. Actively advocate for adaptation funding for the region (Task 1.2) and consider spearheading new regional taxes, fees, or other financing mechanisms to fund plans and projects.

> *"How can we see future things happening if we can't even fix our streets and drains?"*
>
> *- East Palo Community Focus Group Participant*

How the funding framework can assist other Joint Platform actions

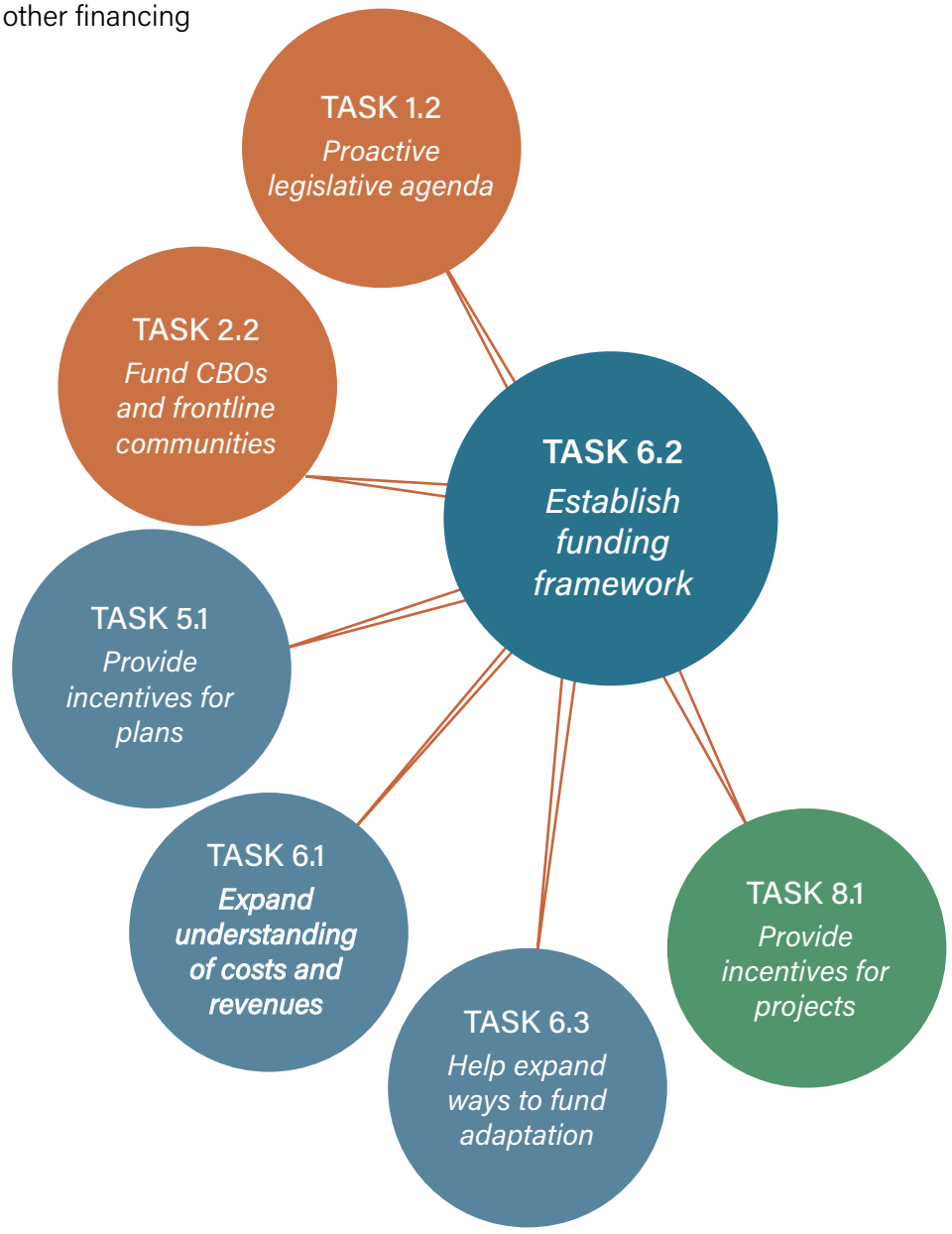
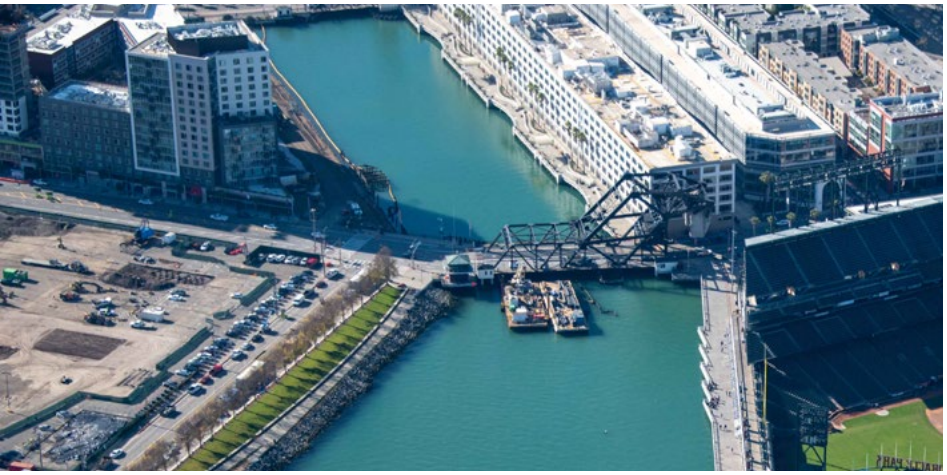


Figure 9 | Many different tasks outlined in the Joint Platform should be considered in the funding framework outlined in Task 6.2; however, they are not included in the task because 6.2 focuses on the *creation* of the funding framework while the related tasks rely on the *outcomes* of the funding framework.



Isais Creek in San Francisco. Photo by SF Baykeeper, Robb Most, and LightHawk.

TASK 6.3: Help cities and counties expand ways to fund adaptation planning and projects.

Provide local governments with expertise and assistance to generate additional funds by identifying, evaluating, and applying local financing tools and to apply for other sources of funds for local adaptation needs (above and beyond any regional funds identified in Task 6.2). Work with cities and counties to identify their needs and match the myriad federal, state, regional, and local funding sources to local needs for planning, community engagement, project implementation and costly project resources (i.e. sediment). Help local governments understand grant requirements and shape projects to fit them. Assist with project cost-benefit analysis, grant writing, and fulfilling reporting requirements. This assistance should be provided through the regional technical assistance storefront outlined in Task 4.2.

Ideas for the Bay Area

There are several existing resources that can help serve as the foundation for the services outlined in Task 6.3:

- **Finance Guide for Resilient by Design Bay Area Challenge Design Teams**, *NHA Advisors, 2018*
- **Paying for Climate Adaptation in California**, *AECOM, 2018*
- **Climate Adaptation Finance and Investment in California**, *Routledge Focus, 2018*
- **Adaptation Finance Challenges: Characteristic Patterns Facing California Local Governments and Ways to Overcome Them**, *California Natural Resources Agency, 2018*
- ***The* California Grants Portal** *is an access portal to all grants and loans offered on a competitive or first-come basis by California state agencies. Learn more here.*
- ***The* Funding Wizard,** *hosted and maintained by the California Air Resources Board, is a searchable database of grants geared toward sustainability projects, including climate change mitigation and adaptation. Learn more here.*

Action 6 Benefits

EQUITY
Outlines a process to pay for adaptation that does not rely on a community's wealth, advocacy skills, or grant-writing success to fund plans and projects.

ENVIRONMENT
Identifies ways to prioritize long-term protection of Bay habitats and natural and nature-based adaptation outcomes in funding decisions.

ECONOMY
Increases funding for shoreline projects and protection of key assets critical to the region's economic health.

PROJECTS

Getting adaptation projects approved and built can be challenging. Permitting and construction should accelerate, not hold back, resilient shoreline adaptation projects that value ecosystems and people, align with the region's vision and funding priorities, and apply innovative approaches. Measures to smooth and speed regulatory approvals for multi-benefit projects are important. Other measures can help facilitate place-based collaboration around project development and remove logistical challenges to construction.

Conceptual drawing of the Islais Hyper-Creek project from Resilient By Design.

ACTION 7

Refine and accelerate regulatory approvals processes.

Goals:

- Less time and fewer resources spent on permitting adaptation projects so they can be constructed ahead of sea level rise.
- Updated laws, regulations, and policies that reflect the changing shoreline.

TASK 7.1: Accelerate permitting for equitable, multi-benefit projects.

Dedicate a multi-agency group to work collaboratively on permits for adaptation projects that reflect regional guidelines and have been identified as regional priorities (see *Ideas for the Bay Area* at right for a possible model or forum). Achieve smoother, speedier regulatory approvals that don't compromise environmental protections, transparency, or community engagement by:

- Using standard, transparent criteria and checklists (linked to Task 1.1. guidelines) to evaluate candidate projects for eligibility for accelerated permitting.
- Providing opportunities for proactive coordination and collaboration between agencies and project proponents and sharing criteria and checklists with project proponents early in their design process.
- Improving coordination across agencies and between potential project proponents and regulators before projects are even designed (such as regular engagement with the groups

Ideas for the Bay Area

The **San Francisco Bay Restoration Regulatory Integration Team (BRRIT)** *is a multi-agency team dedicated to improving the permitting of multi-benefit habitat restoration projects and associated flood management and public access in and along San Francisco Bay. The BRRIT consists of staff from state and federal regulatory agencies who work closely with project proponents from the pre-permit application stage through permit completion. However, the BRRIT is a small team that reviews only a limited number of habitat projects and has a limited scope. The BRRIT could be expanded to cover additional green or hybrid shoreline protection projects, or a similar team could be created to handle projects that provide regional adaptation benefit but do not meet current BRRIT criteria.*

BRRIT Partners

bcdc · United States Environmental Protection Agency · Water Boards · NOAA · California Department of Fish & Wildlife · U.S. Fish & Wildlife Service · US Army Corps of Engineers San Francisco District · NOAA FISHERIES

(TASK 7.1 *continued)*

outlined in Task 8.2).

- Establishing a dispute resolution process among permitting agencies.
- Conducting CEQA and permitting concurrently.
- Enhancing the technical knowledge of permitting staff (via working groups and by tapping outside expertise).
- Increasing regulatory capacity for permit review.

TASK 7.2: Assess environmental regulations and policies that slow down progress on projects.

Review plans and laws, including BCDC's Bay Plan, RWQCB's Basin Plan, the California Endangered Species Act, California Environmental Quality Act, National Environmental Policy Act, Federal Clean Water Act, and Federal Endangered Species Act, to pinpoint policies that may unintentionally impede permitting or construction of adaptation projects. Starting with local and regional plans and policies, develop consensus on recommended policy changes that balance original intent with changing conditions due to sea level rise, and help facilitate multi-benefit projects. The scope of the review could include:

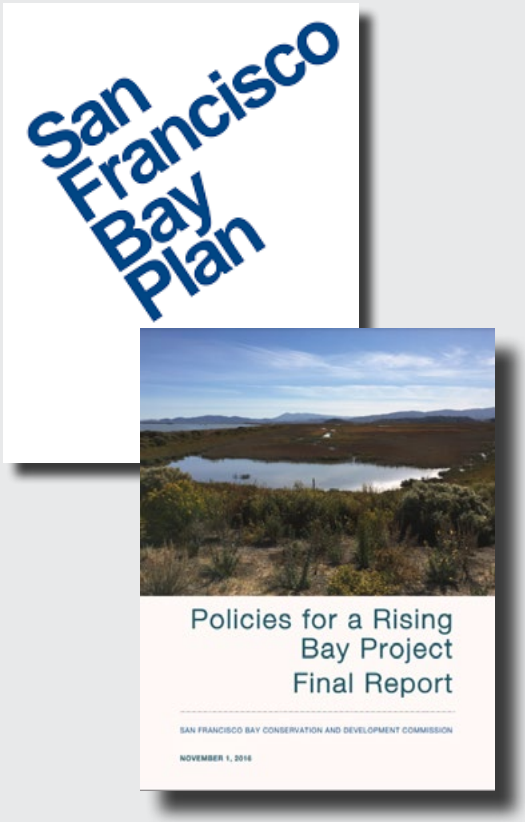
- Clarifying or creating new policies on climate change.
- Identifying conflicting regulatory mandates.
- Identification of "regulatory gaps," such as wetland migration space that is not currently protected.
- Clarifying design standards for nature-based projects.
- Integrating data from pilot projects into planning for new projects.
- Reevaluating restrictions on Bay fill for shoreline protection.
- Reevaluating criteria for dredged material disposal to incentivize beneficial reuse over in-Bay or ocean disposal.
- Reevaluating contaminant criteria for beneficial reuse.
- Identifying more funding sources for sediment delivery to beneficial reuse sites and other adaptation projects.
- Updating land use policies to allow for habitats to migrate upland.
- Permitting that allows for temporary impacts to achieve long-term adaptation goals.
- Ensuring that construction work windows provide the expected benefit to special status species.
- Addressing the short and long-term impacts of turbidity plumes in water.
- Strengthening requirements around long-term monitoring of adaptation outcomes to inform regulatory and policy updates.

Ideas for the Bay Area

In 2016, BCDC completed **Policies for a Rising Bay,** *which outlines the policy issues identified in the Commission's laws and policies in light of new challenges, including sea level rise. The report identifies four policy issues where BCDC's policies were found to be inadequate regarding risks associated with rising sea levels, including:*

1. *Fill for Resilience and Adaptation - Habitat Restoration and Protection*
2. *Fill for Resilience and Adaptation - Innovative Shoreline Solutions*
3. *Environmental Justice and Social Equity*
4. *Adaptive Management*

In 2019, BCDC adopted its **Fill for Habitat** *and* **Environmental Justice Bay Plan Amendments** *that formally amended its regulatory program to address these policy gaps.*



Wetlands along the San Jose shoreline during King Tides in December 2019. Photo by SF Baykeeper, Robb Most, and LightHawk.

Action 7 Benefits

EQUITY
Rewards projects that value inclusive engagement and equitable outcomes.

ENVIRONMENT
Rewards projects that value long-term protection of Bay habitats and natural and nature-based adaptation outcomes.

ECONOMY
Rewards projects that protect jobs, businesses, and infrastructure.

ACTION 8

Fund and facilitate faster adaptation projects.

Goals:

- Accelerated and funded projects that advance the regional adaptation vision.
- More efficient construction processes for multi-benefit, equitable shoreline adaptation projects.

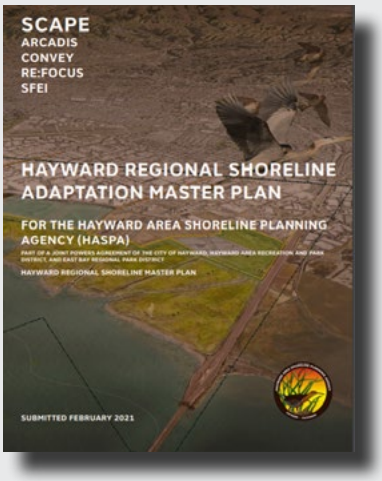
TASK 8.1: Incentivize projects that meet regional guidelines.

Jump start critical local projects that also contribute to regional goals using collectively developed plan guidelines and minimum requirements (Task 1.1), tied to financial incentives (Task 6.2) and permitting incentives (Task 7.1). Projects eligible for financial incentives should be included in successful local plans that follow compatible guidelines (Task 5.1).

Guidelines should be developed with the input of many stakeholders but may provide:

- Guidance on how to prioritize and include vulnerable communities in sea level rise projects, such as through robust and meaningful community engagement in the project planning process.
- Evaluation of the degree to which a project protects the health of the bay and local ecosystems, and considers space for habitat migration.
- Evaluation of project impacts on flooding or wave erosion in other areas of the Bay, and guidance for best practices to avoid unintended consenquences in an interconnected Bay system.
- Evaluation of project impacts on natural areas, frontline communities, public access, and other consequences to neighbors or the region, such as displacement.
- Use of an equitable cost-benefit analysis that values frontline communities and other non-monetary benefits.
- Adaptive project plans that consider flooding above and beyond the design level or flooding that occurs more rapidly than planned.

Guidelines should be made easily accessible via regional technical assistance programs (Task 4.2).



Ideas for the Bay Area

The **Hayward Area Shoreline Planning Agency Joint Powers Authority** *brings together the City of Hayward, East Bay Regional Parks District, and Hayward Area Recreation and Parks District and works with the Hayward Area Shoreline Citizens Advisory Committee to coordinate agency planning activities and adopt and carry out policies for the improvement of the Hayward Shoreline. It has recently completed and adopted a Shoreline Master Plan that outlines adaptation measures to prepare for sea level rise.* *Read it Here.*

TASK 8.2: Encourage collaboration among people doing projects in the same places.

Establish place-based, ongoing work groups to coordinate large-scale, multi-jurisdictional plans and projects. Provide a forum for building relationships among agencies, project proponents, and communities, enhancing communication, transparency, and synergies among diverse players, and connecting communities to projects they care about.

Create local visions tied to the regional vision (Task 1.1) and share best practices for project design, governance, and delivery. Use a neutral, third-party facilitator to facilitate these groups and help ensure a balance of voices, achieve consensus on common project goals, resolve challenges and conflicts, identify and nurture of project champions, and broker community benefits agreements. Consider formalizing these structures such as in the Hayward example (above) to accelerate project funding, development and construction across jurisdictional boundaries.

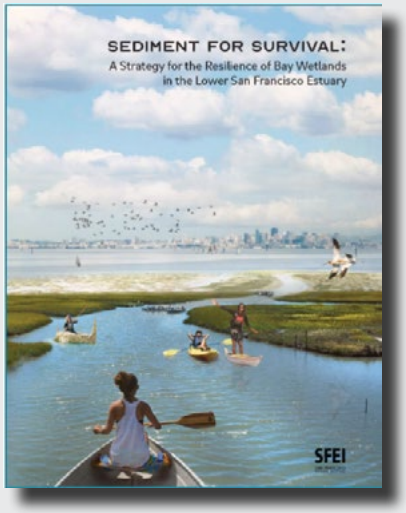
South Bay Salt Ponds restoration project. Photo by San Francisco Restoration Authority.

TASK 8.3: Facilitate faster construction of nature-based projects.

Increase the capacity of contractors to build multi-benefit or nature-based projects. Establish training programs on techniques and approaches to construct natural and nature-based shoreline projects for contractors, aligned with regional project guidelines (Task 1.1) and informed by monitoring data (Task 9.2). Coordinate the use of the limited regional supply of fill across the region and improve fill logistics (e.g. stockpiling, contaminant testing, delivery, etc). Strengthen partnerships with regulated communities. Expand RFP and State bond proposition language to make funding such complex projects more flexible.

Improve construction bidding and contracting processes by:

- Demystifying project costs.
- Contracting earlier in the design process (via construction management general contracts).
- Incentivizing contracts with local or equity-focused businesses.
- Incentivizing the reduction of construction impacts on communities.



Ideas for the Bay Area

Sediment for Survival, *published by the San Francisco Estuary Institute in 2021, analyzes current data and climate projections to determine how much natural sediment may be available for tidal marshes and mudflats and how much supplemental sediment may be needed under different future scenarios, and offers a strategy for sediment delivery that will enable wetlands to survive a changing climate and provide benefits to people and nature for many decades to come. This report can form the foundation for a region-wide conversation about how to meet the region's future sediment needs for nature-based shoreline adaptation projects.* Read it Here.

Action 8 Benefits

EQUITY
Advocates for community voices in projects; supports construction practices that minimize impacts to communities and support local businesses.

ENVIRONMENT
Expands the ability of contractors to build natural and nature-based solutions.

ECONOMY
Facilitates cross-pollination early on, resulting in multi-benefit projects with shared costs; supports construction practices that support local businesses.

PROGRESS

The cycle of adaptation never stops. Science evolves and we learn lessons from existing projects, often requiring updates to our plans and policies. But how do we know if our efforts have been successful, and whether everything is working out as planned? Tracking and learning from our successes and failures will allow the region to adjust course, celebrate progress, maintain transparency, and adapt to uncertainty. Accountability for how well we achieve our collective adaptation goals goes hand-in-hand with future support for this critical work.

People visiting recreational trails near the Palo Alto Baylands. Photo by Jitze Couperus licensed under CC BY 2.0.

ACTION 9

Track and report progress to guide future actions.

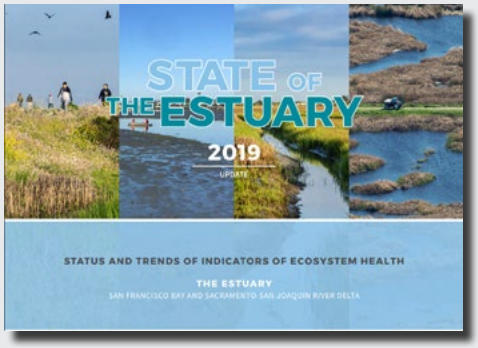
Goals:

- A process for gathering feedback and measuring progress on local and regional adaptation efforts.
- Clarity on how to adapt plans and projects to changing conditions and outcomes.
- Enhanced monitoring of nature-based projects to better understand the benefits and challenges of an ecosystems approach to adaptation.

TASK 9.1: Measure regional progress using metrics and share results.

Regularly check and report on adaptation progress based on the established and shared regional metrics identified in Task 1.1. Metrics should measure the difference between today's "baseline"—the region's current risk profile and adaptation status—and changes related to adaptation activities, or other measures of long-term sustainability. Also consider collecting qualitative reports, such as narratives and community feedback.

Resulting "report cards" should be transparent and understandable (through visually compelling online dashboards) to partners, stakeholders and the public. When appropriate, they should suggest ways to increase alignment with the regional vision, such as changes to incentives (Tasks 5.1 and 8.1), funding models (Task 6.2), technical assistance programs (Task 4.2), or the legislative agenda (Task 1.2).



Ideas for the Bay Area

*The **State of the Estuary** report tracks indicators and trends that measure the San Francisco Estuary's ecological health. Likewise, the Delta Stewardship Council's **Delta Plan Performance Measures** uses several metrics to measure, progress, and track performance across the coequal goals of a reliable water supply for California and a healthy Delta ecosystem. It uses an easy-to-access, graphics-rich online interface to illustrate performance measure information and data to ensure transparency around the Delta Plan's goals and performance measures. This website and the metrics it tracks could be a model for how the Bay Area could transparently track its adaptation goals and progress.*

Creosote-treated pilings at the Red Rocks warehouse site in Richmond. Photo by Marilyn Latta, State Coastal Conservancy.

TASK 9.2: Monitor and learn from pilot projects.

Monitor pilot projects to identify lessons learned and update or establish guidance based on these lessons. Expand and support existing monitoring programs, such as the Wetland Regional Monitoring Program and the San Francisco Bay National Estuarine Research Reserve, to increase the context for learning and adaptation. Use monitoring to update and refine best practices for innovative, multi-benefit projects covered in regional vision (Task 1.1), funding criteria (Task 6.2), technical assistance guidance (Task 4.2), and permitting processes (Task 7.1).

Ideas for the Bay Area

*Pilot projects don't have to be limited to nature-based solutions. The **San Francisco Bay Area Rapid Transit District (BART)** can serve as a model for other agencies pursuing adaptation. With limited funding and resources, BART has conducted a number of pilot projects to evaluate resiliency risks and develop adaptation solutions. Pilot findings have been used to inform BART capital projects of risks. As a pilot outcome, BART requires in the BART Facilities Standards (BFS) that capital projects account for SLR risk in their designs. BART's approach to leverage existing data and partnerships to maximize pilot outcomes are examples of practices that can be shared and benefit other agencies.*

Action 9 Benefits

EQUITY
Ensures accountability for equity and community-focused adaptation outcomes.

ENVIRONMENT
Ensures accountability for nature-based, ecosystem, and habitat-based adaptation outcomes; monitoring and reporting will improve the design, permitting, funding, and construction of nature-based adaptation strategies.

ECONOMY
Ensures accountability for job and housing growth adaptation co-benefits; monitoring of pilot projects will lead to more efficient and effective projects and expedited protection for critical assets.

Bay Adapt Implementation Chart

Draftas of October 2021.

		GOVERNMENT												NON-GOVERNMENTAL ORGANIZATIONS												
		BCDC	*RW QCB*	*MTC/ ABAG*	*SFEP*	*SCC*	*BARC*	*Cal-trans*	*DSC*	*Other State*	*NOAA*	*US-ACE*	*Other Federal*	*Local Juris.*	*Bay-CAN*	*SFEI*	*CHARG*	*Nor-Cal RN*	*WOE-IP*	*CBOs*	*EJ Advo*	*Enviro Orgs*	*Busi-ness*	*Priv Phil*	*Aca-demia*	*Media**	*Education/ Cultural Orgs*	**CO-LEADS IDENTIFIED**
PEOPLE	Task 1.1: Create a long-term regional vision rooted in communities, bay habitats, and the economy.	L	·	••	••	·	·	••						L	·	••	·			L	·	·	·		••		••	BCDC Local Jurisdiction(s) CBO(s)
	Task 1.2: Lay the foundation for a proactive regional legislative agenda.	••		••			L							••	••	••	••				••	••	••					BARC
	Task 2.1: Improve how communities and public agencies learn from each other and work together.	••	••	••	••	••	••		·		••			••	L			L	L	·	·				••				BayCAN, Norcal Resilience Network, WOEIP
	Task 2.2: Fund the participation and leadership of CBOs and frontline communities in adaptation planning.	••		••	••		L							••	••			L	L	·					••				BARC, Norcal Resilience Network, WOEIP
INFORMATION	Task 3.1: Tell local and regional stories about people and places adapting to climate change.	·		·	••	·	L							••	••					••					••		L		BARC Media*
	Task 3.2: Weave climate literacy into school programs.	·								·				••											••	•		••	TBD
	Task 4.1: Align research and monitoring with information gaps.	••	L		••			·	••		••		••	·	L	L	••			••	·	·	·			••			RWQCB, BayCAN, SFEI
	Task 4.2: Make scientific data, information, and guidance easier to access and use.	L	••	L	••	••			••		••		••	·	L	L	••				·	·	·			•			BCDC, MTC/ABAG, BayCAN, SFEI
	Task 4.3: Increase access to technical consultants for local adaptation partners.			L	L	••								·	••	••	••			•									MTC/ABAG, SFEP
PLANS	Task 5.1: Provide incentives for robust, coordinated adaptation plans.	••		L		••	·								••	••	·												MTC/ABAG
	Task 5.2: Align state-mandated planning processes around adaptation.	·		••						·				••	••														TBD
	Task 6.1: Expand understanding of the financial costs and revenues associated with regional adaptation.	L	••	L			••							·			·									•			BCDC, MTC/ABAG
	Task 6.2: Establish a framework for funding plans and projects.	L		L	·	••	·	·				·		·						·	·	·	·						MTC/ABAG
	Task 6.3: Help cities and counties expand ways to fund adaptation planning and projects.	·		L	·	••	·	••						·	••														MTC/ABAG
PROJECTS	Task 7.1: Accelerate permitting for equitable, multi-benefit projects	L	L		L	••			·			••		·			·			·	·	·	·						BCDC, RWQCB, SFEP
	Task 7.2: Assess environmental regulations and policies that slow progress on projects.	L	L		L	••			·			••		·						·	·	·	·						BCDC, RWQCB, SFEP
	Task 8.1: Incentivize projects that meet regional guidelines.	·	·	L	••	••		••				••	••				·	••		·									MTC/ABAG
	Task 8.2: Encourage collaboration among people doing projecs in the same places.	••	••	••	••	L	••	·	·					••	••	L	·			••						•			SCC, SFEI
	Task 8.3: Facilitate faster construction of nature-based projects.	••	·		L	••		·	·			·		·		••	·			·	·	·	·						SFEP
PROGRESS	Task 9.1: Measure regional progress using metrics and share results.	L		••	L		••							·		L				·	·	·	·			•			BCDC, SFEP, SFEI
	Task 9.2: Monitor and learn from pilot projects.	••	L	·	••	••			·		·	·		·			·			·	·	·				••			RWQCB
	*Tasks Assigned as **Lead***	**7**	**4**	**7**	**5**	1	3	0	0	0	0	0	0	**1**	**3**	**4**	0	2	2	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**		
	*Tasks Assigned to **Participate***	8	3	7	10	11	4	3	2	0	3	3	0	**7**	8	5	1	0	0	**3**	**1**	**1**	**1**	**4**	**3**	**0**	**1**		
	*Tasks Assigned to **Advise***	5	3	2	2	2	4	4	6	1	1	3	0	**11**	1	0	4	0	0	**10**	**10**	**9**	**8**	**0**	**5**	**0**	**0**		

Key

L Lead

•• Participate

• Advise

*May include KneeDeepTimes, KQED, and Joint Venture/SFEP Bay Area Regional Communications Team

Acronyms

BCDC
Bay Conservation and Development Commission

RWQCB
Regional Water Quality Control Board

MTC/ABAG
Metropolitan Transportation Commission Association of Bay Area Governments

SFEP
San Francisco Estuary Partnership

SCC
State Coastal Conservancy

BARC
Bay Area Regional Collaborative

Caltrans
California Department of Transportation

DSC
Delta Stewardship Council

NOAA
National Oceanic and Atmospheric Association

USACE
US Army Corp of Engineers

Local Jurisdictions
City and County Government

BayCAN
Bay Area Climate Action Networkl

SFEI
San Francisco Estuary Institute

CHARG
Coastal Hazards Adaptation Resilience Group

Norcal RN
NorCal Resilience Network

WOEIP
West Oakland Environmental Indicators Project

CBOs
Community Based Organizations

EJ Advo
Environmental Justice Advocacy Organizations

Enviro Orgs
Environmental Organizations

Business
Businesses, Associations, and Civic Advocacy

Pri Phil
Private Philanthopy

Academia
Universities or research

Bay Adapt process and Leadership Advisory Group (LAG)

Bay Adapt was convened by the San Francisco Bay Conservation and Development Commission (BCDC) in partnership with a broad range of Bay Area leaders that comprise the Leadership Advisory Group (LAG). The LAG consists of leaders from public agencies, interest groups, community-based organizations, and academia and provides strategic direction, feedback, and leadership in implementing the Joint Platform actions.

The strategies in this document were developed by BCDC staff with nearly 100 stakeholders who participated in hundreds of hours of working group meetings. The strategies were also informed by one Public Forum, ten Community and Stakeholder Focus Groups, an Environmental Justice (EJ) Caucus which was convened regularly throughout the process, and many presentations to other region-wide existing groups consisting of local government staff and elected officials.

For a summary of feedback from the Public Forum, Community and Stakeholder Focus Groups, and a list of outreach presentations, visit the Bay Adapt website at www.bayadapt.org.

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Acronyms

Acronym	*Description*
ABAG	Association of Bay Area Governments
BARC	Bay Area Regional Collaborative
BARHII	Bay Area Health Inequities Initiative
BART	Bay Area Rapid Transit
BayCAN	Bay Area Climate Adaptation Network
BCDC	SF Bay Conservation and Development Commission
BRRIT	Bay Restoration Regulatory Integration Team
CHARG	San Francisco Bay Regional Coastal Hazards Adaptation Resiliency Group
EBRPD	East Bay Regional Parks District
MTC	Metropolitan Transportation Commission
NERR	National Estuarine Research Reserve
NOAA	National Oceanic and Atmospheric Administration
RWQCB	Regional Water Quality Control Board
SCC	State Coastal Conservancy
SFEI	San Francisco Estuary Institute
SFEP	San Francisco Estuary Partnership
SFBRA	San Francisco Bay Restoration Authority
SFPUC	San Francisco Public Utilities Commission
USACE	U.S. Army Corps of Engineers
WOIEP	West Oakland Environmental Indicators Project