



# 2022-2027 SAN FRANCISCO ESTUARY BLUEPRINT DRAFT ACTIONS

This document contains Draft Actions that update the existing 2016 Estuary Blueprint Actions. Additional context for the actions can be found in the full 2016 Estuary Blueprint.

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ACTION

1

CLIMATE RESILIENCE

Plan for increased climate resiliency that incorporates natural resource protection

TASK 1-1

Implement the Bay Adapt Joint Platform to advance climate adaptation in the lower Estuary that supports protection of the Estuary’s resources and its communities.

**MILESTONE**  
Release a "vision statement” for the Bay shoreline that sets a long-term picture of successful adaptation; regional and sub-regional objectives; regional and sub-regional strategies and actions; and guidelines and methodologies for evaluating local plans and projects for funding and other incentives.

TASK 1-4

Explore establishment of new, or modification of existing, regulatory authority to protect shoreline habitats and open space while pursuing measures to protect communities and infrastructure from climate impacts.

**MILESTONE**  
Establish collaborative working group and develop an Impact and Needs Analysis.

TASK 1-7

Fund and support completion of robust, coordinated city and county-level adaptation plans that prioritize natural features and ecosystem processes as resiliency strategies.

**MILESTONE**  
Complete 5 local adaptation plans that include strategies for protecting natural areas.

TASK 1-2

Complete and implement Delta Adapts to advance climate adaptation in the upper Estuary that supports protection of the Estuary’s resources and its communities.

**MILESTONE**  
Complete the Delta Adapts Adaptation Strategy.

TASK 1-5

Establish an independent Climate Science Consortium that supports needed science and provides high-quality science translation to advance adaptation and resource protection.

**MILESTONE**  
Establish a Climate Science Consortium.

TASK 1-8

Study the potential influence of rising sea level on groundwater elevations (and contaminated sites) within counties using an interpolated groundwater model based on empirical measurements.

**MILESTONE**  
Complete groundwater data model for 9 counties.

**DESCRIPTION**  
Facilitate regional planning efforts to understand and address climate change impacts and advance climate adaptation that emphasizes the protection of natural resources.

TASK 1-3

Include, elevate, and center decision-making around marginalized voices for planning, policy, and projects that improve the health of the Estuary by supporting the establishment of a Regional Climate Resilience Equity Consortium run by community-based organizations and Tribal representatives to provide participation and input on an as-needed basis for climate resilience planning, policy and implementation projects.

**MILESTONE**  
Develop a workplan including tasks, a cost estimate, and funding analysis for a Regional Climate Resilience Equity Consortium.

TASK 1-6

Expand the use of the Adaptation Atlas to support analysis and selection of adaptation strategies within Operational Landscape Units to support natural resource protection and advancement of nature-based strategies.

**MILESTONE**  
Engage with stakeholders within 1-2 OLUs per year to interpret Atlas and support selection of adaptation strategies.

**Overview**  
Under review

**Connections to Other Actions**  
Under review

ACTION

2

EQUITY

## Elevate frontline and Indigenous communities in planning for and benefiting from a healthy, resilient Estuary

### TASK 2-1

Develop a living network of Bay Area community-based organizations to foster collaboration and increase equity in planning and permitting decisions.

**MILESTONE**  
Launch a pilot Community Based Organization Directory Map with a requisite training module.

### TASK 2-2

Build the capacity of community members and community-based organizations to be active leaders in improving the health of the Estuary, including funding, grant-making, and grant-writing assistance.

**MILESTONE**  
Fund X projects that build the capacity of marginalized communities to participate in the planning and implementation of the Estuary Blueprint’s tasks.

### TASK 2-4

In partnership with Tribes, develop Best Management Practices for incorporating cultural knowledge and resource needs into the design and implementation of habitat restoration and nature-based shoreline adaptation projects. Use specific case examples.

**MILESTONE**  
Develop and distribute a BMPs manual for dissemination to project managers and funders, including holding up to three workshops to train audiences in use of BMPs.

### TASK 2-5

Conduct a racial equity analysis of the 2022 Estuary Blueprint to inform the next update or revision.

**MILESTONE**  
Report analyzing racial equity in the 2022 Estuary Blueprint.

### DESCRIPTION

Support the role that Indigenous and frontline communities play in advancing Estuary health and resilience by advancing equity through regional strategies, including building capacity for government agencies and for organizations with deep roots in frontline and underserved communities.

### TASK 2-3

In partnership with frontline and underserved communities, and potentially in tandem with the CBO Directory module, develop strategies or Best Management Practices for incorporating community priorities into the design and implementation of habitat restoration and nature-based shoreline adaptation projects. Use specific case examples.

**MILESTONE**  
Develop and distribute a BMPs manual for dissemination to project managers and funders, including holding up to three workshops to train audiences in use of BMPs.

### Overview

Under review

### Connections to Other Actions

Under review

ACTION

3

ADAPTATION PLANNING

## Overcome challenges to accelerate implementation of climate adaptation projects that prioritize natural and nature-based strategies

### TASK 3-1

Implement community-based climate adaptation solutions that prioritize natural resources by supporting frontline communities and Community-based organizations as full partners and leaders in adaptation planning and implementation.

#### MILESTONE

Fund the participation and leadership of CBOs and frontline communities in adaptation planning and implementation.

### TASK 3-2

Establish a technical assistance “help desk” network that coordinates programs and entities to provide data and technical assistance for climate change adaptation for cities, counties, and other stakeholders that facilitates natural resource protection.

#### MILESTONE

Identify entities and information needed to promote natural resource protection through an established regional “help desk.”

### TASK 3-4

Strengthen and improve the ability of the San Francisco Bay Restoration Regulatory Integration Team (BRRIT) to accelerate projects and incentivize nature-based approaches.

#### MILESTONE

Develop solutions for 1-3 high priority issues identified by the BRRIT’s Policy Management Committee.

### TASK 3-5

Integrate resilience and natural resource protection into Plan Bay Area by restructuring ABAG/MTC’s Priority Conservation Area Program to advance natural and nature-based strategies for climate resilience.

#### MILESTONE

Restructure ABAG/MTC’s Priority Conservation Area Program.

### TASK 3-7

Align FEMA hazard planning with climate adaptation planning to secure funding for protection of habitats and use of natural and nature-based strategies.

#### MILESTONE

Submit 15 grant applications to FEMA Building Resilient Infrastructure and Communities (BRIC) and/or other FEMA grant programs for nature-based adaptation projects.

#### DESCRIPTION

Remove barriers that stand in the way of implementing projects that prepare and adapt the Estuary’s ecosystems and communities for climate change. Barriers to the implementation of projects that address climate change include lack of technical expertise and data, lack of funding, and regulatory policies and processes.

### TASK 3-3

Revise regulatory policies, guidelines, or regulations to accelerate natural and nature-based adaptation projects consistent with the overall protection of the health of the Estuary, such as BCD’s policies on sediment management and Suisun Marsh Protection Plan, RWQCBs’ sediment reuse and climate change policies, and DSC’s Delta Plan climate change policies.

#### MILESTONE

Revise three policies, guidelines, or regulations to facilitate natural or nature-based adaptation projects.

### TASK 3-6

Increase funding for adaptation planning and implementation that values long-term protection of habitats.

#### MILESTONE

Complete a sea level rise funding and investment strategy for the San Francisco Bay Area.

#### Overview

Under review

#### Connections to Other Actions

Under review



## Implement climate adaptation projects that prioritize natural and nature-based strategies

### TASK 4-1

Advance design of shoreline and bank adaptation projects or pilot projects using natural or nature-based approaches, including horizontal levees, living shorelines, transition zones, and other innovative design approaches.

**MILESTONE**

Complete design of ten projects.

### TASK 4-2

Advance implementation of shoreline and bank adaptation projects using natural or nature-based approaches.

**MILESTONE**

Complete implementation of ten projects.

**DESCRIPTION**

Facilitate the implementation of climate adaptation projects that prioritize natural and nature-based strategies to proactively address emerging climate change issues, such as sea level rise and saltwater intrusion.

### TASK 4-3

Enhance existing subtidal and intertidal artificial structures or design features into new structures that better provide space for and protect native species and habitats. Explore design modifications to develop green-grey approaches to modify existing and create new improvements to traditional grey infrastructure (riprap, seawalls, levees, etc.)

**MILESTONE**

Implement 15 pilot projects that include green-grey habitat enhancement features.

### TASK 4-4

Spatially track shoreline adaptation projects to help communicate the region’s progress, facilitate planning, evaluate project design, and identify opportunities for local community input and use of nature-based adaptation strategies.

**MILESTONE**

Launch the Shoreline Adaptation Project Tracker Map within EcoAtlas for San Francisco Bay.

### TASK 4-5

Share best practices, data, information, and lessons learned to advance implementation of nature-based infrastructure by expanding the Transforming Urban Waters Initiative to include additional types of natural and nature-based adaptation approaches.

**MILESTONE**

Host 1-2 collaborative meetings per year to address barriers to implementation for individual nature-based adaptation projects.

**Overview**

Under review

**Connections to Other Actions**

Under review

ACTION

5

WATERSHED CONNECTIONS

## Restore watershed connections to the Estuary to improve habitat, flood protection, and water quality

### TASK 5-1

Advance a watershed-based approach to landscape management to align management activities addressing nonpoint source pollution control, reservoir management, stormwater management, groundwater management, water supply planning, sediment management, flood management, compensatory mitigation, voluntary restoration, and climate change adaptation.

#### MILESTONE

Identify a demonstration watershed and convene a council of its principal managers to explore how existing tools, datasets and appropriate numerical models can be used to develop coordinate management activities in the demonstration watershed that provide multiple benefits.

### TASK 5-3

Advance the use and implementation of sediment management principals and approaches at the Bay margins identified in the 2021 Sediment for Survival Report to improve sediment supply and conveyance in the OLU with the greatest potential for tributary sediment supply to meet demands given appropriate intervention.

#### MILESTONE

Identify and convene a meeting of the stakeholders for one OLU with the greatest potential for tributary sediment supply to meet demands given appropriate intervention to demonstrate OLU partnership structures and to advance sediment transportation planning in that OLU.

### TASK 5-2

Increase the use of planning tools and guidance documents developed for multi-benefit projects that restore watershed connections by improving the understanding of and access to such tools and documents.

#### MILESTONE

Hold 3-6 workshops on multi-benefit habitat restoration and flood management that provides a comprehensive review of the most recent tools and guidance documents available to environmental planners and practitioners.

### TASK 5-4

Engage reservoir and dam operators to identify opportunities to increase sediment supply to lower parts of watersheds through sediment routing, flushing flows, excavation, and removal of unused or inoperable dams.

#### MILESTONE

Complete a report that inventories dams within the Estuary region that have planned capital improvements, major maintenance, or retrofit projects planned and identify management measures for these facilities each system to that will increase sediment supply to lower parts of the watershed and increased fish passage.

#### DESCRIPTION

Plan and implement projects and programs that connect watersheds to the Estuary to enhance habitats, natural processes, and ecosystem services. Potential benefits may include: tidal, intertidal, and open water habitat restoration; flood management; water quality improvement; fish passage and food supply; wave energy reduction; groundwater recharge; sediment delivery; wildfire management; and recreational opportunities.

### TASK 5-5

Develop a regional coarse sediment strategy to identify sources, reuse methods and locations, and logistical, financial and regulatory challenges and develop management techniques for moving sediment trapped in flood control channels into bay margin ecosystems.

#### MILESTONE

Complete a San Francisco Bay regional coarse sediment strategy that identifies potential need for and sources of coarse sediment and publish a scientific report that identifies the opportunities and barriers for transporting sediment in flood control channels to their marshes through natural processes where possible and through active interventions where not possible.

#### Overview

Under review

#### Connections to Other Actions

Under review

ACTION

6

SEDIMENT

## Manage sediment and soil on a regional scale and advance beneficial use

### TASK 6-1

Increase the amount of beneficial reuse of dredged sediment by maximizing implementation of the Long-Term Management Strategy (LTMS) beneficial reuse goal, through scientific evaluation of dredging and beneficial reuse impacts to inform permitting and regulatory policy.

#### MILESTONE

Evaluate the net impacts/benefits of beneficially reusing sediment from hydraulic dredging and, if deemed appropriate under the SF Bay Regional Water Quality Control Board's CEQA analysis, incorporate beneficial reuse of hydraulically dredged material into the USACE multi-year permit.

### TASK 6-3

Address contaminant screening criteria and risk assessment methodology for dredged sediment and upland soils.

#### MILESTONE

Revise the San Francisco Bay Regional Water Quality Control Board’s Draft Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines and Master Quality Assurance Project Plan for upland material reuse at the Don Edwards SF Bay National Wildlife Refuge.

### TASK 6-6

Fund research efforts to address the 16 critical knowledge gaps identified in the 2021 Sediment for Survival Report.

#### MILESTONE

Publish 4-6 research papers addressing sediment demand for vertical accretion, lateral movement of sediment, sediment supply, and organic matter accumulation.

### TASK 6-2

Pilot shallow water placement of sediment in restoration projects and conduct pre and post placement modeling and monitoring such that the regulatory agencies can evaluate the benefits and impacts.

#### MILESTONE

Complete the 2016 Water Resources Development Act Resilient San Francisco Bay Strategic Placement Project shallow water placement project and associated monitoring.

### TASK 6-4

Improve coordination of dredged sediment supply with demand to reduce sediment disposal and increase beneficial use through convening a long-term working group that includes restoration community practitioners, dredgers, and regulators to coordinate a regional approach and develop a programmatic roadmap for beneficial use opportunities and increasing the use of Sedimatch by dredgers and restoration practitioners.

#### MILESTONE

Convene 1-2 meetings of interagency working group and 1-3 workshops with small dredgers.

### TASK 6-7

Synthesize research and data on sediment supply and demand under various future climate scenarios in the upper Estuary to inform future sediment management and monitoring considerations.

#### MILESTONE

Publish a report on sediment supply and demand analysis for the upper Estuary.

#### DESCRIPTION

Manage fine and coarse mineral sediments and upland soils on a watershed and regional scale to enhance Estuary habitats and shoreline flood protection efforts and develop tools and convening structures for regional sediment coordination for beneficial reuse. Conduct research on enhancement of natural processes through design with nature approaches to promote sediment transport and the impacts of sediment dredging techniques to inform regulatory policy. Identify and coordinate new funding opportunities to increase beneficial reuse of dredged sediment and for regional monitoring programs to support and increase ongoing planning and implementation of sediment management for beneficial reuse.

### TASK 6-5

Secure federal and non-federal (state and local) long-term funding sources for the incremental cost of beneficial use of dredged sediment beyond the US Army Corps of Engineers least cost alternatives (Federal Standard), including costs to deliver and place sediment at beneficial use projects on the Estuary’s shoreline.

#### MILESTONE

Establish a long-term funding program cost-shared with federal and non-federal funds, for the incremental cost of beneficial use of dredged sediment for projects across the Estuary.

#### Overview

Under review

#### Connections to Other Actions

Under review





## Decrease carbon emissions and increase carbon sequestration on natural and agricultural lands

### TASK 7-1

Work with agencies and willing private landowners to obtain funding to plan and implement activities in the deeply subsided regions of the Delta that re-saturate the highly organic peat soils to reduce or halt carbon emissions caused by subsidence.

#### MILESTONE

Implement projects that halt subsidence and related carbon emissions on 20,000 acres of deeply subsided lands in the Delta.

### TASK 7-4

Advance research on submerged aquatic vegetation (SAV) and its potential for carbon management in the Estuary.

#### MILESTONE

Complete at least one scientific paper on the impacts of submerged aquatic vegetation on carbon management and the potential of native SAVs to provide sustained carbon storage.

### TASK 7-2

Continue to conduct applied research to better understand the processes of carbon sequestration and greenhouse gas emissions generated from wetlands and open water systems in the Bay-Delta. Work within reference systems and utilize scenario testing to inform management and restoration approaches that can be applied at larger scales. Quantify the greenhouse gas fluxes from different types of wetlands and different management regimes.

#### MILESTONE

Complete 1 – 3 scientific papers on the carbon implications of land management and wetland restoration activities in the Delta, including analyzing greenhouse gas fluxes being emitted from different types of wetlands, wetland restoration techniques, the impacts of aquatic invasive species on carbon sequestration in wetlands, and other associated management activities that affect carbon emissions and storage.

### TASK 7-5

Collect more data on San Francisco Bay carbon cycles, fluxes, and fates across a variety of ecosystems and land use types, including restored wetlands, to address gaps in our understanding of carbon sequestration in Bay systems.

#### MILESTONE

Secure funding for and establish 1 - 3 study sites with atmospheric and hydrologic carbon exchange measurements combined with soil sediment data collection that encompass the diversity of Bay area wetlands with regard to age, disturbance and salinity.

### DESCRIPTION

Sequester carbon through wetland restoration, enhancement, and creation projects to slow or reverse subsidence of agricultural lands, reduce greenhouse gases in the atmosphere, and advance scientific understanding of carbon sequestration. Projects should focus on converting the more subsided locations on conversion to managed wetlands and in less subsided locations on conversion to tidal wetlands.

### TASK 7-3

Increase economic impact of carbon markets in the estuary to advance wetland restoration and management goals.

#### MILESTONE

Prepare a report detailing the potential impacts and benefits of various co-management activities on lands included in the carbon market, various strategies to scale participation in the market through regionally coordinated applications for multiple sites, and the institutional and regulatory barriers that limit entry of wetland restoration and agriculture projects into the carbon market.

### TASK 7-6

Promote use of carbon credit funding for wetland restoration in the Estuary.

#### MILESTONE

Implement a pilot tidal wetland restoration project that uses American Carbon Registry Standards to qualify for the voluntary carbon market.

### Overview

Under review

### Connections to Other Actions

Under review



## Implement a Wetlands Regional Monitoring Program

### TASK 8-1

Develop the WRMP Monitoring Network through the establishment of benchmark, reference, and restoration project sites.

**MILESTONE**

Establish five monitoring sites with biogeographic representation within San Francisco Bay.

### TASK 8-2

Understand how efforts to restore tidal marshes affect the distribution, abundance, and health of plants and animals and coordinate with related monitoring efforts, including the State of the Birds reporting.

**MILESTONE**

Establish 1-2 Standard Operating Procedures for biological and ecological indicators.

**DESCRIPTION**

Implement a Wetlands Regional Monitoring Program (WRMP) for the Bay Area and the Delta to help local, regional, state, and federal agencies evaluate the effectiveness of efforts to sustain healthy aquatic habitats and resources

### TASK 8-3

Identify sustainable funding for the WRMP to support science, data management, and administration, and develop a strategy that is tied to the sources of funding.

**MILESTONE**

Identify and secure three to five new funding sources for the WRMP.

### TASK 8-4

Ensure that WRMP outreach and engagement includes diverse audiences. Increase engagement with community representatives, social science and community-based science, and traditional ecological knowledge on the Steering Committee, Technical Advisory Committee, and in development of ecosystem services indicators to track wetland restoration benefits to communities. Examples of ecosystem services may include cultural use, recreation, education and training opportunities, and flooding protection.

**MILESTONE**

Develop Standard Operating Procedures to measure benefits of wetland restoration projects to people.

### TASK 8-5

Strengthen partnerships and monitoring coordination between the Lower and Upper San Francisco Estuary.

**MILESTONE**

Establish a workgroup to increase coordination between the Delta Interagency Ecological Program and the WRMP Technical Advisory Committee.

**Overview**

Under review

**Connections to Other Actions**

Under review

ACTION

9

SUBTIDAL HABITAT

## Protect, restore, and enhance intertidal, tidal flat, and subtidal habitats

### TASK 9-1

Determine habitat suitability for native eelgrass in context with potential future climate changes in San Francisco Bay. Learn, respond, and adapt strategies to account for natural variability and climate change stressors.

#### MILESTONE

Complete Habitat Suitability Model for Eelgrass in San Francisco Bay.

### TASK 9-2

Increase populations of Submerged Aquatic Vegetation (SAV), with a focus on native eelgrass (*Zostera marina*), by expanding the extent of existing beds and establishing new beds on the bay.

#### MILESTONE

Increase SAV coverage in the Bay by 75 acres.

### TASK 9-4

Work with the San Francisco Bay Restoration Regulatory Integration Team (BRRIT) to raise awareness amongst regulatory agencies on the status of eelgrass, oyster, and other types of subtidal habitat restoration and benefits documented to date; and advance discussions on any permitting issues with respect to native oyster (*Ostrea lurida*), gravel beach, and other restoration projects.

#### MILESTONE

Create a programmatic framework with U.S. Army Corps of Engineers and with Bay Conservation and Development Commission for permitting native oyster restoration projects.

### TASK 9-5

Restore non-tidal marsh intertidal and subtidal habitats other than eelgrass and oyster beds, such as rocky intertidal areas, coarse sediment beaches, macroalgal beds, and living shorelines. Identify appropriate and feasible sites, secure funds, and implement projects to create or improve these types of habitats as well as other projects that integrate multiple habitats.

#### MILESTONE

Implement 20 projects that focus on rocky intertidal, coarse sediment beach, macroalgal bed, living shorelines, and other integrated habitats.

### TASK 9-7

Protect and enhance tidal flat habitats to be healthy and free of debris; functionally and physically linked to tidal wetland and/or open Estuary sites; and able to sustain diverse species of bay invertebrates and local and migratory shorebirds.

#### MILESTONE

Include tidal flat enhancement and protection in 10 restoration site designs.

#### DESCRIPTION

Protect, restore, and enhance non-tidal marsh intertidal, unvegetated tidal flat, and subtidal habitats to improve ecological complexity and completeness, and to deliver ecosystem services and water quality benefits to the Estuary.

### TASK 9-3

Increase populations, including as use for living shorelines, of native oysters (*Ostrea lurida*) by expanding the extent of existing beds or establishing new beds.

#### MILESTONE

Implement 20 projects that increase shellfish beds.

### TASK 9-6

Remove artificial structures that are known to contribute to shoreline debris, water quality degradation and which provide minimal habitat benefit (i.e., derelict creosote pilings, failing seawalls, failing riprap).

#### MILESTONE

Implement 10 projects that include the removal of artificial structures.

#### Overview

Under review

#### Connections to Other Actions

Under review



Protect, restore, and enhance tidal marsh habitat

TASK 10-1

Restore high quality tidal marsh habitat in the Estuary as part of multi-objective projects with diverse partners. Take into consideration sea level rise and potential climate adaptation design components during the design and permitting process.

MILESTONE

Restore 26,000 acres of tidal marsh in SF Bay and 5,500 acres of tidal marsh in the Delta.

TASK 10-2

Protect San Francisco Bay historical baylands (tidal marsh and non-tidal wetlands and waters) to support preservation and enhancement of tidal habitats and adjacent habitats to allow for migration with sea level rise.

MILESTONE

Protect 20,000 acres of baylands through various mechanisms including transfer of fee title, donation, or easement.

DESCRIPTION

Protect, restore, and enhance complete tidal marsh ecosystems taking into account sea level rise and other climate change stressors in the restoration design.

TASK 10-3

Enhance tidal marsh, including constructing and enhancing transition zones and high tide refugia features such as marsh islands, to increase ecological function and resilience to climate change.

MILESTONE

Enhance 3,000 acres of tidal marsh in San Francisco Bay.

Overview

Under review

Connections to Other Actions

Under review

ACTION

11

TRANSITION ZONES

## Protect, restore, and enhance estuarine-upland transition zones and adjacent upland ecosystems

### TASK 11-1

Enhance, restore, or create estuarine-upland transition zones in existing or restored tidal marshes.

#### MILESTONE

Incorporate 75 transition zone enhancement, restoration, or creation projects into existing or restored marshes and adjacent uplands.

### TASK 11-2

Protect transition zones, adjacent upland areas, and diked historic baylands for wetland migration space, based on identified needs and opportunities, through acquisition of fee title, partnerships to develop conservation easements, or other management agreements.

#### MILESTONE

Protect, or plan to protect, 45 sites as areas for future wetland migration space.

### TASK 11-4

Address the challenges of restoring native plant communities in the transition zone by supporting information-sharing and knowledge transfer activities, developing guidelines for successful transition zone restoration, and increasing capacity for sourcing native plants, preparing and maintaining sites, and addressing plant pathogens.

#### MILESTONE

Hold 3-5 workgroup meetings to share best practices on design approaches, propagation and installation methods, and monitoring; and work through restoration challenges.

#### DESCRIPTION

Protect estuarine-upland transition zones, and their ecosystem services, to help the Estuary adapt to rising sea levels. Include protection of adjacent upland ecosystems and diked historic baylands where feasible and appropriate. Integrate transition zones and adjacent upland ecosystems into restoration and enhancement projects in the Estuary to provide both migration space and high water refugia.

### TASK 11-3

Determine an approach for maintaining an updated estuarine-upland transition zone mapping inventory over time. Integrate the approach into long-term monitoring by the Wetlands Regional Monitoring Program (WRMP) through approval by the WRMP Steering Committee and publication on the WRMP website. Identify opportunities to coordinate with the Delta Adapts and Delta Plan Ecosystem Amendment analyses.

#### MILESTONE

Develop and publish Standard Operating Procedures for completing periodic mapping of Bay transition zones.

#### Overview

Under review

#### Connections to Other Actions

Under review



## Maximize habitat benefits of managed ponds and other non-tidal wetlands and waters

### TASK 12-1

Analyze the management of ponds and other non-tidal waters and wetland habitats to provide increased successful nesting, foraging, roosting, and high tide refugia. Investigate the effectiveness of specific habitat enhancement measures such as management of water levels, predation control, varied pond topography, and island construction. Collaborate to plan, fund, conduct, and report on repeatable surveys for 3-5 years following implementation of substantial enhancements or changes in configuration, management, or operation of ponds or other non-tidal wetland or waters habitat.

#### MILESTONE

Five reports summarizing the results of the studies.

### TASK 12-4

Develop a methodology for assessing the risk-adjusted long-term costs and benefits of managed ponds, managed wetlands, and non-tidal wetlands and waters. Methodology should take into account habitat benefits for multiple species and changes in operations and maintenance requirements to adapt to sea level rise and climate change and prevent water quality impacts. In the upper Estuary, the methodology should also account for the cost/benefit of how the water is “sourced” and how the actions impact partners.

#### MILESTONE

Develop and test a methodology and evaluate it for future use across the region.

### TASK 12-2

Protect transition zones, adjacent upland areas, and diked historic baylands for wetland migration space, based on identified needs and opportunities, through acquisition of fee title, partnerships to develop conservation easements, or other management agreements.

#### MILESTONE

Three projects to implement and test techniques, and monitoring reports on outcomes.

### TASK 12-5

Develop and implement predation control measures on managed ponds. These measures include camouflaging habitats and installing exclusion fencing.

#### MILESTONE

Develop, test, and implement measures at five sites.

#### DESCRIPTION

Maximize habitat benefits of managed ponds and other non-tidal wetlands and waters for a wide range of species. Support studies and actions to enhance and expand bird use of managed ponds and other aquatic habitats, and minimize negative impacts to aquatic species and water quality to inform long-term improvements and management options to sustain these species.

### TASK 12-3

Study the ability of managed ponds and other non-tidal habitats to sustain diverse species of vertebrates, invertebrates, and endemic and endangered plants over time. Analyze species use, density, and diversity as compared to tidal wetlands.

#### MILESTONE

Produce report comparing species use and diversity in various managed pond and other non-tidal habitats and share results.

#### Overview

Under review

#### Connections to Other Actions

Under review



Protect, restore, and enhance seasonal wetlands

TASK 13-1

Protect non-tidal seasonal wetlands including vernal pool complexes using conservation easements or other protection tools.

MILESTONE

Protect at least 1500 acres of seasonal wetlands in the Bay region.

TASK 13-2

Restore non-tidal seasonal wetlands including vernal pool complexes.

MILESTONE

Restore at least 800 acres of seasonal wetlands in the Bay region and 3,200 acres in the Delta region.

DESCRIPTION

Protect, restore and enhance non-tidal seasonal wetlands including vernal pool complexes outside of historic tidal areas using conservation easements and related protection tools, restoration, and improved grazing management practices.

TASK 13-3

Advance best practices (including wildlife friendly stock ponds) for grazing management to protect seasonal wetlands and enhance habitat quality.

MILESTONE

Hold four workshops around the region for landowners.

Overview

Under review

Connections to Other Actions

Under review

ACTION

14

CREEKS

## Conserve and enhance riparian and in-stream habitats throughout the Estuary’s watersheds

### TASK 14-1

Establish advisory group to assess the capacities of regional restoration tracking platforms, such as EcoAtlas and EcoRestore to include riparian and aquatic in-stream habitat restoration project metrics not typically measured in acreage. Consider additional metrics and data fields beyond acreage/ miles of corridor restored, such as benthic macroinvertebrate indicators, canopy cover, native riparian plant species, fish barrier removal, gravel augmentation, restored access for fish rearing on floodplains and other off-channel habitats, carbon sequestration, required pre/post project monitoring data, and costs by funding source.

**MILESTONE**

Convene advisory group and identify new metrics to add to regional data sets.

### TASK 14-4

Implement riparian corridor and in-stream habitat restoration/ enhancement and conservation/acquisition/preservation projects throughout the Bay-Delta region emphasizing multiple objective and benefit efforts.

**MILESTONE**

Conserve 5,000 acres of upland habitat and creek corridor; restore/enhance 2,000 acres of riparian corridor and in-stream habitat.

### TASK 14-2

Compile and provide technical and policy guidance to the watershed restoration community and decision-makers to accelerate the pace and scale of riparian and in-stream habitat restoration and protection. This guidance potentially includes stream and watershed data, characterization of key habitat areas for salmonids and other native fish assemblages, development setback policies, erosion control and regenerative firewise landscaping measures, land acquisition/conservation easements, unplanned chloramine and firefighting chemical discharges, and best practices for community engagement in restoration stewardship, maintenance, and monitoring support.

**MILESTONE**

Establish on-going advisory group to identify and recommend appropriate guidance documents and develop an engagement strategy using BAWN as primary convener of and audience for multi-platform technical transfer effort (emails, workshops, and website).

### TASK 14-5

Pilot the use of cooperative working arrangements among homeless advocacy organizations, local government, and watershed organizations to create a stream steward program comprised of people experiencing homelessness at a creekside encampment (to be selected). The program would provide stipends, stewardship training and resources, potable water and sanitary services, and connection to available social services. This approach would provide resources for both protecting the waterway and support services to find long-term housing for unsheltered participants.

**MILESTONE**

Initiate pilot program.

**DESCRIPTION**

Conserve stream reaches and restore riparian habitats by defining impairments and threats, filling data aps, developing science-based tools, securing necessary funding, and designing, advancing, and collaborating on projects.

### TASK 14-3

Seek additional funding for Bay and Delta riparian conservation and restoration activities including for floodplain acquisition, establishment of a network of streamflow gauges; conduct of fish population surveys with a focus on anadromous salmonid streams, and long-term public engagement such as watershed planning and project stewardship.

**MILESTONE**

Make an annual list of potential acquisition and conservation actions, restoration projects under development, data collection efforts for management decisions, and other support needed to elected officials to seek additional funding and modification of funding restrictions from regional, state, and federal programs.

**Overview**

Under review

**Connections to Other Actions**

Under review





Minimize the impact of invasive species

TASK 15-1

Maintain, expand, and improve invasive species prevention programs. Actions may include developing new or expanding existing policies and programs, conducting outreach (i.e., boating community, Weed Management Areas, etc.), and working with existing bodies to identify priority activities.

**MILESTONE**  
Develop new or expand 3 existing polices or programs, identify and list priority activities in various programs, and implement 3 outreach campaigns through pertinent networks.

TASK 15-2

Increase early detection, monitoring, and rapid response programs by identifying additional funding sources and creating a Rapid Response Fund. Monitoring includes: 1) assessing and mapping Estuary-wide distribution of key invasive species; and 2) increasing citizen scientist monitoring through Calflora, iNaturalist, and other similar websites.

**MILESTONE**  
Establish rapid response fund and identify 3-4 funding sources for monitoring and/or mapping.

TASK 15-4

Develop new early detection tools using eDNA (i.e., eDNA meta barcoding) for specific environments and suites of species (i.e., marine species)

**MILESTONE**  
Develop pilot eDNA meta barcoding or other eDNA technique for early detection.

TASK 15-5

Implement eradication and control programs with priority given to species that can be eradicated and/or species that have extensive impacts on habitats important to the health of the estuarine ecosystem. Research and test pilot control measures for key invasive species.

**MILESTONE**  
Reduce acreage of key invasive species; and/or increase acres being managed to reduce key invasive species.

TASK 15-7

Work with U.S. Army Corps of Engineers to update the National Ocean and Atmospheric Association Fisheries programmatic biological opinion on vectors for invasive species (i.e., overwater structures, dredging, etc.), to ensure they incorporate pertinent Best Management Practices (BMPs) to reduce the introduction and spread of invasive species (i.e., BMPs for Marine Mobile Infrastructure).

**MILESTONE**  
Update at least one of NOAAs programmatic biological opinions to incorporate pertinent BMPs.

**DESCRIPTION**  
Reduce the impact of invasive species through prevention, early detection, rapid response, eradication and control. Conduct work with national, state, and regional coordinating bodies and the key agencies implementing specific programs.

TASK 15-3

Develop Early Detection and Rapid Response Frameworks (EDRR). This can be done at the local or national scale and involves setting up a framework to detect and respond to invasive species and sets up a series of sustained and coordinated actions with associated responsible agencies and partners.

**MILESTONE**  
Create at least one EDRR Framework.

TASK 15-6

Work with regulatory agencies and project proponents to make sure they include requirements to prevent the introduction and spread of invasive species, including using native-only plant lists, using sources with a clean supply of native plant species that are free of pathogens, and confirming that Best Management Practices (BMPs) are shared for invasive species where they exist (for example: Invasive Spartina Project BMPs 2016, CSLC BMPs for marina leases).

**MILESTONE**  
Reduce acreage of key invasive species; and/or increase acres being managed to reduce key invasive species.

**Overview**  
Under review

**Connections to Other Actions**  
Under review

ACTION

16

FRESHWATER FLOWS

## Improve the timing, amount, and duration of freshwater flows critical to Estuary health

### TASK 16-1

Assist the State Water Resources Control Board in updating and implementing the San Francisco Bay/Sacramento-San Joaquin River Delta Water Quality Control Plan (Bay-Delta WQCP) by providing timely and scientifically sound information to the State Board during its deliberations and by keeping the public, Tribes, and local officials informed.

#### MILESTONE

Complete distribution of information to assist with completion of the Bay-Delta Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary.

### TASK 16-2

Initiate research to assess critical ecological connections between the inland (Bay-Delta-Central Valley watershed) and coastal portions of the Estuary, including but not limited to:

- The relationship between the freshwater plume from San Francisco Bay to nearshore waters and the abundance, distribution and other population viability attributes of coastal fish and wildlife.
- The relationship between flows and salmon abundance; the health of the Southern Resident population of orca (*Orcinus orca*); and the abundance of various runs of Chinook salmon (*Oncorhynchus mykiss*) originating in the upper Estuary’s watersheds (Sacramento River and Central Valley ESUs).

#### MILESTONE

Issue 1-2 technical papers describing the initial findings, as well as a white paper synthesizing overall findings for a lay audience.

### TASK 16-4

Undertake a study to assess the social, cultural, and economic values, including non-monetary values, of freshwater flows to residents of the Estuary and beyond, including Tribes.

#### MILESTONE

Report synthesizing values of freshwater flows.

### TASK 16-5

Develop instream flow management recommendations for the Sacramento and San Joaquin Rivers and the Delta to protect Chinook Salmon (with reference to other native coldwater species), based on a synthesis of the existing scientific literature, including new studies and data from the last three years.

#### MILESTONE

One or more technical reports consisting of recommendations, distributed to decision-makers, managers, Tribes, and the public.

#### DESCRIPTION

Inform elected officials, Tribes, and the public, including frontline communities, about the critical importance of freshwater flows from the watershed through the Estuary. Work with partners and through other Estuary Blueprint actions to adjust the timing, amount, and duration of freshwater flows as part of a more natural flow regime through the Delta and San Francisco Bay to better support all public trust uses.

### TASK 16-3

Integrate Tribal priorities regarding improvements to freshwater flows, such as pursuing legal personhood for traditional waterway and incorporating Traditional Ecological Knowledge into water management and decision-making for tributaries of the San Francisco Estuary. Support Tribes in capacity development to co-manage or lead freshwater flows resources management.

#### MILESTONE

Hold at least one convening of Tribes and Tribal organizations to review state data and plans, including opportunities for Tribe-to-Tribe conversations, in preparation for meeting with state agencies at the Tribal Water Summit or similar event.

### TASK 16-6

Explore potential collaboration on freshwater flows priority needs and populations of endangered species with other West coast National Estuary Programs (Puget Sound Partnership, Tillamook Estuaries Partnership, Lower Columbia Estuary Partnership, San Francisco Estuary Partnership), Tribal Marine Stewards Network, and sovereign Tribal nations to collaborate on shared freshwater flows priority actions.

#### MILESTONE

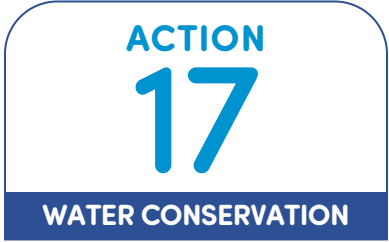
Hold one meeting between West coast National Estuary Programs and Tribal representatives.

#### Overview

Under review

#### Connections to Other Actions

Under review



Reduce water use around the Estuary

TASK 17-1

Expand the installation of ‘smart’ water meters and monitors, including Advanced Metering Infrastructure (AMI) and Smart Home Water Monitors, throughout the Estuary.

**MILESTONE**  
Installation of X (under review) devices throughout the Estuary.

TASK 17-2

Expand Bay Area Regional Energy Network (BayREN)’s Water Upgrades \$ave Program to expedite customer participation and utility investment in indoor and outdoor water efficiency projects for single-family, multifamily, commercial, and institutional customers to reduce water waste from inefficient fixtures and leaks.

**MILESTONE**  
Enrollment of 18 municipal water utilities in the Water Upgrades \$ave Program.

TASK 17-4

Develop a model ordinance for water efficient retrofit on resale or retrofit on listing, based on such examples as existing City of Davis, Santa Cruz County, and/or City and County of San Francisco ordinances, taking into account contingencies that do not delay close of escrow.

**MILESTONE**  
Model retrofit ordinance for use by Estuary cities and counties.

TASK 17-5

Convene Bay Area water and wastewater agencies to discuss regional water conservation targets, opportunities, and limitations, resulting in a synthesis report.

**MILESTONE**  
Hold one workshop with stakeholders and produce report.

**DESCRIPTION**  
Explore opportunities to reduce water exports from the Estuary through water demand management such as reduced water use for landscaping and residential water conservation.

TASK 17-3

Improve Model Water Efficient Landscape Ordinance (MWELo) compliance by providing MWELo and regenerative landscape trainings, and an MWELo Toolkit to municipal staff throughout the Estuary and other regions that obtain water from the Estuary or its watersheds.

**MILESTONE**  
Offer 20 regenerative landscape and MWELo trainings.

TASK 17-6

Address knowledge gaps on the use of water by the Commercial, Industrial, and Institutional (CII) sector by completing a study similar to recent reports on the residential end indoor use of water for the region.

**MILESTONE**  
Develop study and complete and disseminate report synthesizing a study on use of water by the CII sector.

**Overview**  
Under review

**Connections to Other Actions**  
Under review



## Expand the use of recycled water

### TASK 18-1

Encourage the sharing of recycled water informational materials, resources and program models among municipalities, wastewater agencies and drinking water agencies.

#### MILESTONE

Develop platform for sharing resources.

### TASK 18-2

Collaborate with the Bay Area Clean Water Agencies' (BACWA) Recycled Water Committee stakeholders and others to identify opportunities to expand incorporation of recycled water in local and regional water resources planning processes.

#### MILESTONE

Finalize BACWA Recycled Water Study.

#### DESCRIPTION

Work with water agencies, municipalities, and stakeholders to reduce barriers to the broader use of recycled water. Support the use of the right water at the right time and in the right place.

### TASK 18-3

Collaborate with the Bay Area Clean Water Agencies' (BACWA) Recycled Water Committee and others to convene stakeholders to identify opportunities for the broader use of recycled water, understand funding and planning gaps and address regulatory and permitting constraints.

#### MILESTONE

Hold forum to discuss overcoming challenges to regional recycled water projects.

### TASK 18-4

Evaluate regional reverse osmosis concentrate management options based on their ability to protect San Francisco Bay health and water quality while providing multiple stakeholder-driven benefits.

#### MILESTONE

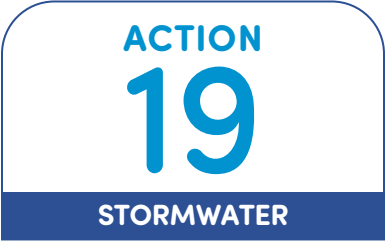
Facilitate semi-annual discussions on the pathways to permitting ROC management within an inter-agency context.

#### Overview

Under review

#### Connections to Other Actions

Under review



## Manage stormwater with low impact development and green infrastructure

### TASK 19-1

Continue activities to expand funding opportunities for Green Stormwater Infrastructure (GSI) planning and implementation in the San Francisco Bay Area, including those identified in the Roadmap of Funding Solutions for Sustainable Streets. Expand effort to engage utility agencies that also maintain infrastructure in the public realm to increase collaboration and cooperation.

#### MILESTONE

Convene stormwater management/transportation planning meetings twice a year with Metropolitan Transportation Commission, San Francisco Bay Regional Water Quality Control Board, and others.

### TASK 19-4

Develop a stormwater asset management module within the Metropolitan Transportation Commission’s StreetSaver Program to help Bay Area municipal jurisdictions improve inventory, inspection, and maintenance of storm drain and green infrastructure assets.

#### MILESTONE

Develop version 1.0 of software program for testing.

### TASK 19-2

Increase the capacity of the San Francisco Bay Low Impact Development (LID) Tracker Tool to track all implemented LID and Green Streets Infrastructure (GSI) projects reported to the San Francisco Bay Regional Water Quality Control Board and provide a cumulative effectiveness report of all LID/GSI projects on the water quality of SF Bay.

#### MILESTONE

Establish a permanent agency home for LID Tracker Tool with budget for coordination with municipalities and countywide clean water programs, project data compilation and entry, and ongoing software maintenance.

#### DESCRIPTION

Implement Low Impact Development and Green Infrastructure to reduce polluted stormwater to the Estuary. Develop planning and tracking tools, technical materials, policy recommendations, and financing strategy guidance to aid agencies with implementation.

### TASK 19-3

Pilot an alternative or In-Lieu LID Compliance program for San Francisco Bay Regional Water Quality Control Board regulated projects where on-site stormwater treatment is not feasible to assure municipalities that a programmatic approach to alternative compliance can provide funding for both implementation and long-term operations and maintenance of Green Infrastructure in the public realm.

#### MILESTONE

Establish San Francisco Bay Regional Water Quality Control Board-approved alternative compliance pilot program with two public projects identified for receiving resources from regulated project proponents.

#### Overview

Under review

#### Connections to Other Actions

Under review



Advance nutrient management in the Estuary

TASK 20-1

Ensure the continuation of a long-term monitoring and modeling program of nutrient-related indicators in San Francisco Bay through the San Francisco Bay Regional Water Quality Control Board’s Nutrient Management Strategy and program partnerships and in the Sacramento San-Joaquin Delta through the United States Geological Survey and Interagency Ecological Program.

**MILESTONE**  
Renew funding for long-term monitoring and modeling. Establish funding level for a sustainable long-term program and investigate additional funding sources.

TASK 20-4

Disseminate information to decision-makers and the public regarding the status and trends of nutrient-related indicators and research findings, as well as the opportunities, constraints, and costs associated with various nutrient load management strategies.

**MILESTONE**  
Release outreach materials related to the status and trends of crucial nutrient indicators via a web-based portal updated on an annual basis and release public-facing syntheses of research findings on an annual basis.

TASK 20-2

Implement and iterate the Science Plan and Nutrient Assessment Framework of the San Francisco Bay Nutrient Management Strategy to establish the status and trends of nutrient indicators and quantitatively inform San Francisco Bay’s response to nutrient loading.

**MILESTONE**  
Complete the current round of modeling and synthesis studies and develop a final version of the Assessment Framework by 2024 to inform future permits and other management actions.

TASK 20-5

Develop a framework for monitoring, modeling, and information dissemination on the extent, severity, and health impacts of Harmful Algal Blooms (HABs) in the Delta.

**MILESTONE**  
Develop HABs framework.

**DESCRIPTION**  
Implement Low Impact Development and Green Infrastructure to reduce polluted stormwater to the Estuary. Develop planning and tracking tools, technical materials, policy recommendations, and financing strategy guidance to aid agencies with implementation.

TASK 20-3

Undertake studies in the Estuary related to developing and evaluating alternatives for nutrient management actions, including initial considerations of costs and environmental effects.

**MILESTONE**  
Complete an evaluation of opportunities to manage nutrient loading via nature-based solutions and recycled water.

**Overview**  
Under review

**Connections to Other Actions**  
Under review



Address emerging contaminants in the Estuary’s waters

TASK 21-1

Review and update the San Francisco Bay RMP CECs and microplastics monitoring strategies every two years. Develop management-relevant information to support selection and implementation of management measures addressing CECs and microplastics by the Department of Toxic Substances Control and the Water Board.

**MILESTONE**  
Complete three reviews and updates. Provide management-relevant information to DTSC, BAPPG, and the Water Board to support management actions.

TASK 21-2

Reduce pesticides coming into the Estuary, particularly from pet flea and tick control products by supporting and working with the Department of Pesticide Regulation and veterinarians.

**MILESTONE**  
Implement at least one pesticide-reduction management measure.

**DESCRIPTION**  
Advance action plans for specific contaminants of emerging concern (CECs), and the associated Regional Monitoring Program (RMP) CECs monitoring strategy. Support and expand existing education and public outreach and other pollution prevention efforts to reduce CECs.

TASK 21-3

Support statewide efforts to address microplastic pollution.

**MILESTONE**  
Provide management-relevant information to the Ocean Protection Council, the Department of Toxic Substances Control, and other agency partners to support management actions.

TASK 21-4

Support the Department of Toxic Substances Control’s (DTSC) Safer Consumer Products Program’s efforts to reduce CECs like PFAS (Per- and polyfluoroalkyl substances: stain and water repelling chemicals widely used in industrial and consumer products) and ethoxylated surfactants found in cleaning products and detergents to protect people (e.g., fish consumers) and the Bay ecosystem by providing management-relevant information, and through local implementation of measures to promote safer alternatives (e.g., purchasing preferences).

**MILESTONE**  
Provide management-relevant information to DTSC to support two management actions.

**Overview**  
Under review

**Connections to Other Actions**  
Under review



Reduce health risks due to contaminants in fish

TASK 22-1

Collaborate with Tribes and subsistence fishing communities to acknowledge the importance of Tribal cultural and traditional uses of water as well as subsistence fishing, and designate Tribal Tradition and Culture, Tribal Subsistence Fishing, and Subsistence Fishing Beneficial Uses of water bodies in the San Francisco Bay Region.

**MILESTONE**  
Amend the SF Bay Regional Water Quality Control Board’s Basin Plan to designate additional Beneficial Uses.

TASK 22-4

Review toxic hot spots identified by the Bay Protection and Toxic Cleanup Program and other possible hot spots, track the status of sediment quality and other indicators of bioaccumulation associated with fish consumption warnings, and collaborate with community-based organizations to collect information on community-identified unremediated sites to inform future management priorities.

**MILESTONE**  
Update and prioritize known toxic hot spots, including community-identified hot spots, to inform management needs.

TASK 22-2

Partner with community-based organizations to collect information on subsistence fishing in the Estuary, focusing on disadvantaged and underserved communities, to develop an understanding of health risks and how stakeholder values, and cultural, recreational, natural resource, and agricultural uses vary geographically and across demographics.

**MILESTONE**  
Secure funding for community-based organizations to collect data on subsistence fishing practices and consumption in at least two communities in the San Francisco Estuary.

**DESCRIPTION**  
Addresses contaminants in fish and health risks related to fish consumption, cultural and traditional uses.

TASK 22-3

Develop Advisory Tissue Levels for one or more chemicals found in San Francisco Estuary fish, such as PFAS chemicals.

**MILESTONE**  
Complete development of Advisory Tissue Levels for one or more chemicals and, as appropriate, develop or update fish advisories for specific water bodies (e.g., the Delta or San Francisco Bay) within the San Francisco Bay Estuary system.

**Overview**  
Under review

**Connections to Other Actions**  
Under review





## Reduce trash input into the Estuary

### TASK 23-1

Continue to partner with municipalities, counties, pollution prevention organizations, and other stakeholders to research and implement effective extended producer responsibility (EPR) strategies or bans for items such as plastic products, microplastics, and tobacco products in the Estuary.

#### MILESTONE

Implement new bans or EPR strategies such as reduction ordinances based on recommendations (i.e., source control).

### TASK 23-2

Develop an indicator based on regionally meaningful metrics of trash in the Estuary and its watershed for use in the State of the Estuary report.

#### MILESTONE

Include assessments of trash reduction in San Francisco Bay and its watersheds in the next report.

### DESCRIPTION

Assist regional municipalities and agencies in attaining trash reduction objectives by assisting in source reduction activities, such as extended producer responsibility strategies that can reduce trash before it reaches the Estuary, and by highlighting trash reduction rates in the State of the Estuary Report when trash-tracking metrics are agreed upon by Bay Area stakeholders.

### Overview

Under review

### Connections to Other Actions

Under review



Provide equitable public access and recreational opportunities compatible with wildlife

TASK 24-1

Add to the San Francisco Bay Trail, closing critical gaps in the main alignment (the “spine”) that links the shoreline of all nine Bay Area counties, while avoiding adverse effects on sensitive resources and wildlife.

MILESTONE

Add 18 miles of new trail segments to the Bay Trail Spine.

TASK 24-2

Add to the San Francisco Bay Area Water Trail, creating or enhancing high quality public water access and paddle-in camping opportunities. Access should be designed to avoid adverse impacts to sensitive resources and wildlife.

MILESTONE

Complete six (with two specifically in the Suisun Marsh area) new or enhanced San Francisco Bay Area Water Trail sites, including two new or enhanced kayak-in campgrounds.

TASK 24-3

Advance the consideration of equity and resilience within parks and open space planning efforts through development of two new Bay Area Greenprint modules using Geographic Information System (GIS)-based analytics and tools.

MILESTONE

Release Resilience and Equity Modules for Bay Area GreenPrint.

TASK 24-4

Track progress towards increasing quantity and quality of shoreline open space for multiple public uses including recreational and cultural/religious use.

MILESTONE

Develop revised open space indicator for the State of the Estuary Report.

DESCRIPTION

Provide Estuary-oriented public access and recreational opportunities that avoid adverse impacts to sensitive habitats and wildlife while accommodating equitable access and use, environmental education, biking, commuting, hiking, paddling, wildlife viewing, and other activities. These opportunities will increase citizen and decision-maker appreciation of the value of natural resources, and foster support for Estuary resource protection and restoration.

TASK 24-5

Track progress towards increasing climate resilience in upland areas for people and wildlife using riparian corridor widths to allow for both wildlife and compatible public use.

MILESTONE

Develop emerging indicator for the State of the Estuary Report to track riparian corridor widths.

Overview

Under review

Connections to Other Actions

Under review



## Champion the Estuary

### TASK 25-1

Update and advance implementation of the Estuary Partnership’s Strategic Communications Plan, leveraging existing platforms and partnerships to increase awareness of and engagement in the goals of the Estuary Blueprint.

**MILESTONE**

Update and fund the Strategic Communications Plan.

### TASK 25-2

Provide the latest information on the science and management of the Estuary and advance integrated conferences that span the Estuary.

**MILESTONE**

Hold annual conferences that focus on the San Francisco Estuary.

**DESCRIPTION**

Educate partners, stakeholders, national, local, and regional leaders, and other targeted audiences about the priorities in the Estuary Blueprint. Provide local decision-makers, the public, and youth with the kind of reliable information necessary to make policy and personal decisions in favor of Estuary health.

### TASK 25-3

Provide current information on the health of the Estuary and results of management approaches by periodically updating the State of the Estuary Report.

**MILESTONE**

Update the State of the Estuary Report.

### TASK 25-4

Support and expand Estuary-oriented outreach and education programs provided by local and community-based organizations, either through direct funding, support with developing materials, or other tools to be identified in collaboration with existing programs.

**MILESTONE**

Expand existing or new outreach and education programs to reach 500 new participants.

**Overview**

Under review

**Connections to Other Actions**

Under review



To provide your input on the Draft Actions, please visit

<https://www.sfestuary.org/estuary-blueprint-public-comment>

or email: [blueprint@sfestuary.org](mailto:blueprint@sfestuary.org)