

Implement Total Maximum Daily Load projects in the Estuary	27.3a	Address the Guadalupe River mercury TMDL by implementing RMP monitoring of mercury loads during flood conditions, and by undertaking remediation projects within the Almaden Quicksilver County Park.	Complete monitoring.	100	SFBRWQCB, SFEP	James Muller james.muller@sfestuary.org
Advance nutrient management in the Estuary	28.6	Support pharmaceutical CECs reduction efforts, like the Alameda County Safe Drug Disposal program and similar ordinances. Expand to other counties around the Bay and Delta. Work with counties to develop unified regional messaging to promote these ordinances.	Complete initial studies.	100	CVRWQCB, SFBRWQCB, SFEI	Heidi Nutters heidi.nutters@sfestuary.org
Engage the scientific community in efforts to improve baseline monitoring of ocean acidification and hypoxia effects	29.2	Address the Guadalupe River mercury TMDL by implementing RMP monitoring of mercury loads during flood conditions, and by undertaking remediation projects within the Almaden Quicksilver County Park.	Deploy and maintain monitoring equipment.	100	SFEP, SFSU	Heidi Nutters heidi.nutters@sfestuary.org
Reduce trash input into the Estuary	30.1	Undertake studies in the Estuary related to developing and evaluating alternatives for nutrient management actions, including initial considerations of costs and environmental effects.	Implement four new EPR ordinances or other strategies	25	SFEP	Darcie Luce darcie.luce@sfestuary.org
Champion and implement the CCMP	32.2c	Expand monitoring efforts by deploying equipment such as high precision ocean acidification sensors at the Romberg Tiburon Center for Environmental Studies at San Francisco State University as well as by adding complementary sensors across the Estuary.	Delta Science Conferences in 2016, 2018, and 2020	66	SFEP	Caitlin Sweeney caitlin.sweeney@sfestuary.org

2021 TASKS						
Action Name	Task #	Task Description	Milestone	% Complete	Owner	SFEP Contact
Develop and implement a comprehensive, watershed-scale approach to aquatic resource protection	1.3	Plan and initiate the pilot project with a steering committee of local, regional, and federal agencies involved in aquatic resources management in the selected watershed.	Complete Bay watershed pilot project.	0	SFEP, SFEI	Josh Bradt josh.bradt@sfestuary.org
Establish a regional wetland and stream monitoring program	2.5	Establish a network of streamflow gauges and fish population surveys within select tributary streams to assess aquatic habitat conditions for existing or potentially reintroduced steelhead and salmon	Establish the stream gauge network.	15	SFEP, SFEI	Heidi Nutters heidi.nutters@sfestuary.org

Protect, restore and enhance tidal marsh and tidal flat habitat	3.1a	Restore tidal habitat in the Estuary.	Restore 15,000 acres of tidal habitat in SF Bay.	12	SFBJV	Karen McDowell karen. mcdowell@sfestuary.org
Protect, restore and enhance tidal marsh and tidal flat habitat	3.1b	Restore tidal habitat in the Estuary.	Restore 8,000 acres of tidal habitat in the Delta.	40	SFBJV	Karen McDowell karen. mcdowell@sfestuary.org
Protect, restore and enhance tidal marsh and tidal flat habitat	3.2	Protect land to support preservation and enhancement of tidal habitats.	Acquire and protect 500 acres	5	SFBJV	Karen McDowell karen. mcdowell@sfestuary.org
Identify, protect, and create transition zones around the Estuary	4.3	Protect transition zones and land for migration space, based on identified needs and opportunities, through acquisition of fee title, partnerships to develop conservation easements, or other management agreements.	Protect, or plan to protect, 10 of the identified sites.	100	SFBJV, SFEP	Heidi Nutters heidi.nutters@sfestuary.org
Identify, protect, and create transition zones around the Estuary	4.4	Include enhancement, restoration, or creation of transition zones in tidal restoration projects and multi-benefit climate adaptation projects where feasible.	Include transition zones in five tidal restoration projects.	60	SFBJV, SFEP	Heidi Nutters heidi.nutters@sfestuary.org
Protect, restore, and enhance intertidal and subtidal habitats	5.1	Increase populations of native eelgrass (<i>Zostera marina</i>) by expanding the extent of existing beds or establishing new beds on the bay floor.	Increase eelgrass coverage in the Bay by 25 acres.	20	SCC, NOAA Fisheries	Karen McDowell karen. mcdowell@sfestuary.org
Protect, restore, and enhance intertidal and subtidal habitats	5.2	Increase populations of native oysters (<i>Ostrea lurida</i>) by expanding the extent of existing beds or establishing new beds on the bay floor.	Increase native oyster bed coverage in the Bay by 25 acres.	20	SCC	Karen McDowell karen.mcdowell@sfestuary.org
Protect, restore, and enhance intertidal and subtidal habitats	5.3	Restore intertidal and subtidal habitats other than eelgrass and oyster beds, such as rocky intertidal, sandy beach, and macroalgal beds. Identify appropriate and feasible sites, secure funds, and implement projects to create or improve these types of habitats as well as projects that integrate multiple habitats.	Implement five projects in the Bay	25	SCC	Karen McDowell karen.mcdowell@sfestuary.org
Maximize habitat benefits of managed wetlands and ponds	6.1	Analyze the response of birds to management of wetlands and ponds to provide increased nesting, foraging, roosting, and high tide refuge habitat. Investigate the effectiveness of specific habitat enhancement measures. Conduct monthly bird surveys in the Bay to assess species response to these measures.	Produce a yearly report on bird response to specific management measures	100	CDFW, USFWS, SCC	Caitlin Sweeney caitlin. sweeney@sfestuary.org

Conserve and enhance riparian and in-stream habitats throughout the Estuary's watersheds	7.2	Provide technical and policy guidance to the watershed restoration community and decision-makers. Guide the development of needed stream and watershed data sets, the use of appropriate assessment methodologies, and conservation policy.	Make new policy and technical guidance documents available	5	SFBJV	Josh Bradt josh.bradt@sfestuary.org
Conserve and enhance riparian and in-stream habitats throughout the Estuary's watersheds	7.3	Develop projects and programs to conserve and enhance regional priority stream habitats that support the life history requirements of salmonids and other native fish populations. Emphasize protecting and enhancing the sources of flow and structure elements that maintain dry season aquatic habitats, particularly coldwater refugia, and rehabilitating critical channel and riparian reaches.	Establish flow enhancement goals, riparian improvements, and channel rehabilitation projects.	5	SFBJV	Josh Bradt josh.bradt@sfestuary.org
Conserve and enhance riparian and in-stream habitats throughout the Estuary's watersheds	7.4	Implement riparian corridor and in-stream habitat restoration and conservation projects throughout the region (primarily informed by Tasks 7-1, 7-2, 7-3), including at least one pilot effort to protect and enhance the sources of flows that maintain aquatic habitats, particularly coldwater refugia and migratory habitat critical to salmonids.	Conserve 10,000 acres of riparian corridor and restore five miles of creek channel and in-stream habitat.	0	SFBJV	Josh Bradt josh.bradt@sfestuary.org
Protect, restore, and enhance seasonal wetlands	8.2	Through the Initiative, leverage funding and investments to protect targeted vernal pools.	Protect at least 300 acres of vernal pools in SF Bay region and 500 acres in Delta region.	50	SFBJV	Caitlin Sweeney caitlin.sweeney@sfestuary.org
Minimize the impact of invasive species	9.1	Expand and improve invasive species prevention programs. Actions may include developing new or expanding existing policies and programs, conducting outreach, and working with existing bodies to identify priority activities.	Develop new or expand existing policies and programs to prevent non-native species invasions.	80	SFEP	Karen McDowell karen.mcdowell@sfestuary.org
Minimize the impact of invasive species	9.2	Increase early detection, monitoring, and rapid response programs.	Identify 3-4 funding sources for early detection, monitoring, and rapid response	10	SFEP	Karen McDowell karen.mcdowell@sfestuary.org

Minimize the impact of invasive species	9.3	Implement eradication and control programs with priority given to species detected early, species that have a chance of being eradicated, and 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.	Reduce acreage of key invasive species. Ongoing until 2021.	25	SFEP	Karen McDowell karen.mcdowell@sfestuary.org
Minimize the impact of invasive species	9.4	Provide adequate specificity in permit language requirements for restoration projects to include non-native plant monitoring requirements where appropriate; add language about non-native plant monitoring requirements were lacking.	Increase permits with improved invasive spartina requirements	10	SCC	Karen McDowell karen.mcdowell@sfestuary.org
Increase carbon sequestration through wetland restoration, creation, and management	11.1	Work with agencies and willing private landowners to identify appropriate sites and funding sources, and to plan and implement projects that create managed and tidal wetlands on former agricultural lands in the Suisun and Delta region.	Convert 3,000 acres to wetlands in the Suisun and Delta region.	76	CA Department of Water Resources, Delta Conservancy	James Muller james.muller@sfestuary.org
Increase carbon sequestration through wetland restoration, creation, and management	11.2	Continue to conduct applied research to better understand atmospheric carbon sequestration and storage fluxes in wetlands in the Bay and Delta. Work within reference systems and utilize scenario testing to inform management and restoration approaches. Quantify greenhouse gas emissions (CO2, CH4, NOx) from different types of wetlands and different management regimes.	Complete and publish several (1-3) applied research studies on carbon sequestration	100	CA Department of Water Resources, SF Bay NERR	James Muller james.muller@sfestuary.org
Increase carbon sequestration through wetland restoration, creation, and management	11.3	Support the carbon market by completing relevant offset protocols for wetlands and by developing reference sites and standard carbon monitoring and accounting practices that reduce reporting costs for participants.	Completion of relevant offset protocols.	100	CA Department of Water Resources, Delta Conservancy, SF Bay NERR	James Muller james.muller@sfestuary.org
Restore watershed connections to the Estuary to improve habitat, flood protection and water quality	12.4	Secure funding in conjunction with partners to complete designs and construction documents. Obtain necessary permits and approvals for selected sites.	Initiate implementation phase of two projects.	100	SFEP	Heidi Nutters heidi.nutters@sfestuary.org

Manage sediment on a regional scale and advance beneficial reuse	13.4b	Advance understanding of how the creation of sandy beaches and their replenishment provides multiple benefits in terms of ecosystem health, shoreline erosion control, and sea level rise adaptation. Create (or enhance an existing) monitoring tool to identify potential sites for sandy beach creation or replenishment projects, choose pilot project sites, and track progress. Provide information about the benefits of sandy beaches to regulators and the restoration community.	Identify pilot project location, coarse grain sediment source(s), funds for implementation , and begin implementation	0	SFBJV	Adrien Baudrimont adrien. baudrimont@sfestuary.org
Demonstrate how natural habitats and nature-based shoreline infrastructure can provide increased resiliency to changes in the Estuary environment.	14.4a	Construct pilot projects to test and refine natural and nature-based approaches to resilience by applying the guidelines developed in Task 14-3. These pilot projects will build on design and adaptation steps established by projects such as the Oro Loma Horizontal Levee project, the San Rafael Oyster/Eelgrass Living Shoreline Project, and the Aramburu Island Beach Restoration Project.	Identify, design, permit, and implement three additional pilot projects in the Bay.	40	SFEP	Adrien Baudrimont adrien. baudrimont@sfestuary.org
Demonstrate how natural habitats and nature-based shoreline infrastructure can provide increased resiliency to changes in the Estuary environment.	14.4b	Construct pilot projects to test and refine natural and nature-based approaches to resilience by applying the guidelines developed in Task 14-3. These pilot projects will build on design and adaptation steps established by projects such as the Oro Loma Horizontal Levee project, the San Rafael Oyster/Eelgrass Living Shoreline Project, and the Aramburu Island Beach Restoration Project.	Update best practices guidelines.	5	SFEP	Adrien Baudrimont adrien. baudrimont@sfestuary.org
Advance natural resource protection while increasing resiliency of shoreline communities in the Bay Area	15.3	Support local government efforts to develop shoreline vulnerability assessments that include assessment of natural resources as an asset category.	Complete vulnerability assessments for all nine Bay Area counties.	100	BARC	Heidi Nutters heidi.nutters@sfestuary.org
Integrate natural resource protection into state and local government hazard mitigation, response, and recovery planning	16.2	Provide technical assistance to Bay Area cities and counties including guidance, case studies, and suggested approaches for integrating natural resource protection into hazard mitigation planning. Facilitate completion of hazard mitigation plans (emphasizing the co-benefits of integration with climate adaptation plans) that include specific actions to protect natural resources. Plans should take into account the contribution of natural resources to reduce hazard impacts and increased resiliency.	Complete 30 Bay Area city or county hazard mitigation plans that include natural resources as an asset category.	5	ABAG	Natasha Dunn natasha.dunn@sfestuary.org

Integrate natural resource protection into state and local government hazard mitigation, response, and recovery planning	16.3	Provide information and technical assistance to Bay Area cities and counties on how to include natural resource considerations in disaster recovery planning. Facilitate completion of Disaster Recovery Plans that include "Recovery Support Functions" (RSFs) for natural resources as described in the Federal Emergency Management Association's National Disaster Recovery Framework	Complete ten local Disaster Recovery Plans that include FEMA's NDRF RSFs for natural resources.	10	ABAG	Natasha Dunn natasha.dunn@sfestuary.org
Improve regulatory review, permitting, and monitoring processes for multi-benefit climate adaptation projects	17.2b	Analyze current San Francisco Bay Conservation and Development Commission (BCDC) policies governing fill in the Bay in light of sea level rise and the need for adaptation strategies, and revise as necessary.	Revised BCDC policies.	100	BCDC	Natasha Dunn, natasha.dunn@sfestuary.org
Improve regulatory review, permitting, and monitoring processes for multi-benefit climate adaptation projects	17.3b	Analyze current San Francisco Bay Regional Water Quality Control Board regulations and policies governing the permitting of multi-benefit projects designed to address sea level rise. Develop findings, alternatives, and recommendations to support the Board's evaluation of baylands climate adaptation projects.	Revised policies as necessary.	35	SFBRWQCB	Natasha Dunn, natasha.dunn@sfestuary.org
Decrease raw sewage discharges into the Estuary	26.4b	Develop a mobile app for boaters to report broken pumpouts, and for marinas to report pumpout use and operational status; pilot a mobile pumpout program for marinas and recreational boaters in the Oakland Estuary. Install 10 new dockside pumpout systems.	Install 10 new pumpouts.	50	SFEP	James Muller james.muller@sfestuary.org
Implement Total Maximum Daily Load projects in the Estuary	27.3b	Address the Guadalupe River mercury TMDL by implementing RMP monitoring of mercury loads during flood conditions, and by undertaking remediation projects within the Almaden Quicksilver County Park.	Complete remediation projects.	100	SFBRWQCB, SFEP	James Muller james.muller@sfestuary.org
Reduce trash input into the Estuary	30.2	Review trash reduction tracking metrics, currently being developed by the Bay Area stormwater permittees, for use in the next State of the Estuary Report.	Develop a metric for inclusion in the next report.	50	SFEP	Darcie Luce darcie.luce@sfestuary.org
Foster support for resource protection and restoration by providing Estuary-oriented public access and recreational opportunities compatible with wildlife	31.1	Develop and distribute educational materials and maps to boaters and various partners that identify areas where shorebirds, waterfowl, and harbor seals forage, rest, and roost; these materials will help eliminate or minimize intrusion.	Develop maps, signs, and other educational materials; identify mechanisms for distributing materials	100	CA State Parks' Division of Boating and Waterways, ABAG, SFEP	James Muller james.muller@sfestuary.org

Foster support for resource protection and restoration by providing Estuary-oriented public access and recreational opportunities compatible with wildlife	31.2	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	Add 40 miles of new trail segments to the Bay Trail spine.	28	ABAG	James Muller james.muller@sfestuary.org
Foster support for resource protection and restoration by providing Estuary-oriented public access and recreational opportunities compatible with wildlife	31.3	Add to the San Francisco Bay Area Water Trail, creating or enhancing high quality public water access every three miles, and paddle-in camping opportunities every eight miles. Access should be designed to avoid adverse impacts to sensitive resources and wildlife.	Complete six new or enhanced San Francisco Bay Area Water Trail sites	100	ABAG	James Muller james.muller@sfestuary.org
Champion and implement the CCMP	32.1	Educate and engage targeted audiences in Estuary protection and restoration. Expand communication avenues for the San Francisco Estuary Partnership, including social media presence. Provide educational materials to boaters and boating facilities. Leverage existing programs to support public outreach efforts on the CCMP.	Provide communication materials one to three times annually.	75	SFEP	Caitlin Sweeney caitlin.sweeney@sfestuary.org
Champion and implement the CCMP	32.2a	Educate the regional community by hosting the biennial State of the Estuary conference, supporting the biennial Bay-Delta Science Conference, and supporting ESTUARY NEWS magazine.	Estuary NEWS (ongoing to 2021)	75	SFEP	Caitlin Sweeney caitlin.sweeney@sfestuary.org
Champion and implement the CCMP	32.2b	Educate the regional community by hosting the biennial State of the Estuary conference, supporting the biennial Bay-Delta Science Conference, and supporting ESTUARY NEWS magazine.	State of the Estuary Conferences in 2017, 2019, and 2021	66	SFEP	Caitlin Sweeney caitlin.sweeney@sfestuary.org
Champion and implement the CCMP	32.3b	On a five-year cycle, provide current information about the health status of the Estuary through an updated State of the Estuary Report.	Update State of the Estuary Report.	100	SFEP	Caitlin Sweeney caitlin.sweeney@sfestuary.org
Champion and implement the CCMP	32.4a	Create and implement an online CCMP reporting process to track progress being made on each of the CCMP actions and provide compiled reporting information twice per year. Update the CCMP on a five-year cycle based on assessed progress and updated scientific information in the State of the Estuary Report, and in response to emerging issues.	Report on CCMP progress twice per year (ongoing from 2017-2021)	75	SFEP	Caitlin Sweeney caitlin.sweeney@sfestuary.org

Champion and implement the CCMP	32.4b	Create and implement an online CCMP reporting process to track progress being made on each of the CCMP actions and provide compiled reporting information twice per year. Update the CCMP on a five-year cycle based on assessed progress and updated scientific information in the State of the Estuary Report, and in response to emerging issues.	Initiate CCMP update.	100	SFEP	Caitlin Sweeney caitlin.sweeney@sfestuary.org
Champion and implement the CCMP	32.5	Engage local community organizations in implementing the CCMP. Share information with, and coordinate, professionals and community members working to protect local watersheds through the Bay Area Watershed Network (BAWN). Secure funds to promote community-based watershed stewardship efforts through a small grants program.	Maintain BAWN newsgroup, host a BAWN annual meeting. Design and implement a small grants program	75	SFEP	Caitlin Sweeney caitlin.sweeney@sfestuary.org
Champion and implement the CCMP	32.6	Identify and expand funds available to partners at all levels to implement the CCMP. This includes tracking, commenting, and sharing information on existing and emerging grant programs, legislation, and other funding mechanisms.	Maintain and distribute matrix of available funding programs.	75	SFEP, SFBJV	Caitlin Sweeney caitlin.sweeney@sfestuary.org

All Actions – Average % Complete

Action	%	Action	%	Action	%	Action	%
Action 1: Develop and implement a comprehensive, watershed-scale approach to aquatic resource protection	7	Action 9: Minimize the impact of invasive species	31	Action 17: Improve regulatory review, permitting, and monitoring	89	Action 25: Address emerging contaminants	89
Action 2: Establish a regional wetland and stream monitoring program	58	Action 10: Increase the efficacy of terrestrial predator management	8	Action 18: Improve the timing, amount, and duration of freshwater flows critical to Estuary health	88	Action 26: Decrease raw sewage discharges into the Estuary	79
Action 3: Protect, restore and enhance tidal marsh and tidal flat habitat	19	Action 11: Increase carbon sequestration through wetland restoration, creation, and management	92	Action 19: Develop long-term drought plans	87	Action 27: Implement Total Maximum Daily Load projects	100
Action 4: Identify, protect, and create transition zones around the Estuary	90	Action 12: Restore watershed connections to the Estuary to improve habitat, flood protection and water quality	100	Action 20: Increase regional agricultural water use efficiency	62	Action 28: Advance nutrient management in the Estuary	100
Action 5: Protect, restore, and enhance intertidal and subtidal habitats	22	Action 13: Manage sediment on a regional scale and advance beneficial reuse	50	Action 21: Reduce water use for landscaping around the Estuary	65	Action 29: Engage the scientific community in efforts to improve baseline monitoring of ocean acidification	100
Action 6: Maximize habitat benefits of managed wetlands and ponds	48	Action 14: Demonstrate how natural habitats and nature-based shoreline infrastructure can provide increased resiliency	60	Action 22: Expand the use of recycled water	58	Action 30: Reduce trash input into the Estuary	38
Action 7: Conserve and enhance riparian and in-stream habitats throughout the Estuary's watersheds	28	Action 15: Advance natural resource protection while increasing resiliency of shoreline communities in the Bay Area	100	Action 23: Integrate water into the updated Plan Bay Area and other regional planning efforts	83	Action 31: Foster support for resource protection and restoration by providing Estuary-oriented public access and recreational opportunities	76
Action 8: Protect, restore, and enhance seasonal wetlands	23	Action 16: Integrate natural resource protection into state and local government hazard planning	38	Action 24: Manage stormwater with low impact development and green infrastructure	99	Action 32: Champion and implement the CCMP	81