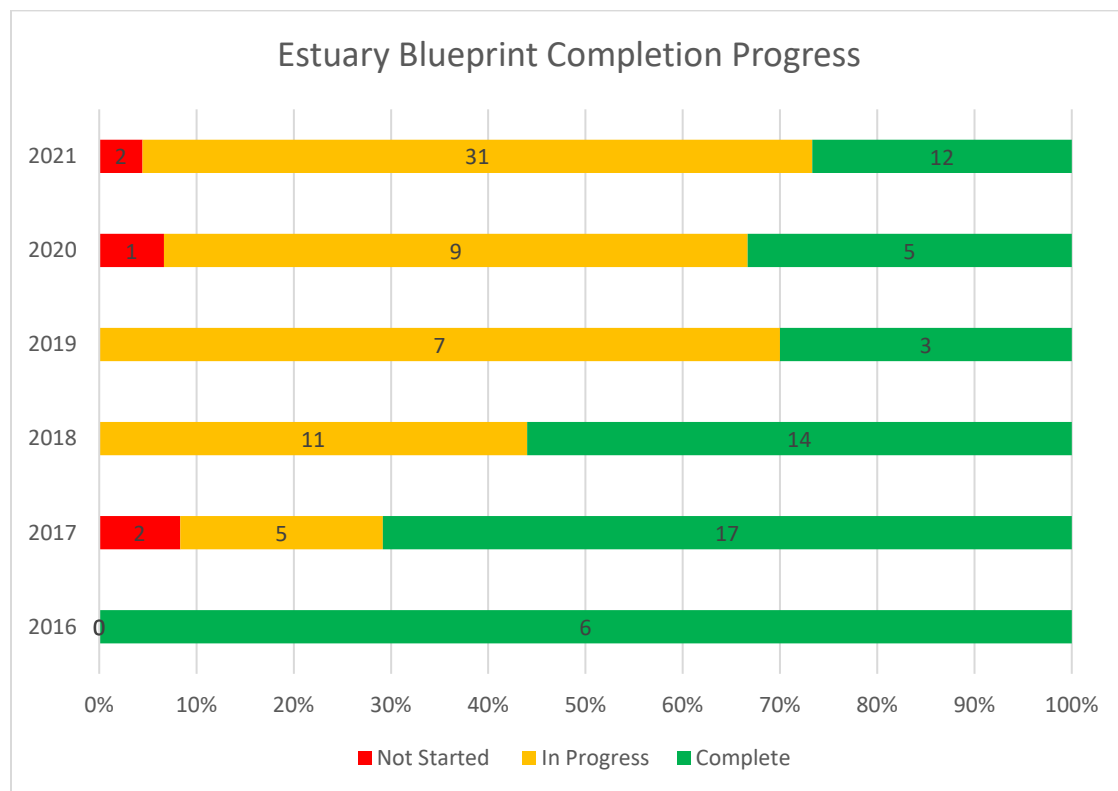


**Estuary Blueprint Task Status Updates 2016 - 2021**  
**May 2021**



## Estuary Blueprint Task Status Updates

| 2016 TASKS  |        |   |   |            |            |  |
|---|--------|---|---|------------|------------|--|
| Action Name   | Task # | Task Description  | Milestone   | % Complete | Owner      | SFEP Contact   |
| Conserve and enhance riparian and in-stream habitats throughout the Estuary's watersheds                      | 7.1    | Merge the San Francisco Bay Joint Venture's project tracking database with California's EcoAtlas. Identify potential additional functions to facilitate riparian and stream projects.   | Complete merge of project tracking database with EcoAtlas.                | 100        | SFBJV      | Josh Bradt<br>josh.bradt@sfestuary.org               |
| Restore watershed connections to the Estuary to improve habitat, flood protection and water quality           | 12.1   | Develop and disseminate data, information, and tools to assist with site selection and design of multi-benefit projects.  | Disseminate data and tools through a website.                             | 100        | SFEI       | Adrien Baudrimont<br>adrien.baudrimont@sfestuary.org |
| Advance natural resource protection while increasing resiliency of shoreline communities in the Bay Area      | 15.1   | Coordinate programs to provide technical assistance on best practices in climate change planning and adaptation for cities, counties and other stakeholders.  | Form a multi-stakeholder Bay Area Climate Technical Assistance Task Force | 100        | BARC       | Heidi Nutters<br>heidi.nutters@sfestuary.org         |
| Improve regulatory review, permitting, and monitoring processes for multi-benefit climate adaptation projects | 17.1   | Identify opportunities and recommendations for improved regulatory processes for multi-benefit flood control and habitat restoration projects through the existing Flood Control 2.0 project.   | Regulatory guidance and recommendations, reports, workshops               | 100        | SFEP       | Natasha Dunn<br>natasha.dunn@sfestuary.org           |
| Improve regulatory review, permitting, and monitoring processes for multi-benefit climate adaptation projects | 17.2a  | 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.   | At least three workshops  | 100        | BCDC       | Natasha Dunn<br>natasha.dunn@sfestuary.org           |
| Integrate water into the updated Plan Bay Area and other regional planning efforts                            | 23.1   | Organize a regional water summit to help incorporate related water issues in regional planning efforts and Plan Bay Area, in support of Task 23-2. Coordinate staff of the San Francisco Estuary Partnership and the Association of Bay Area Governments to complete this task. | Hold water summit.  | 100        | SFEP, ABAG | Darcie Luce<br>darcie.luce@sfestuary.org             |

| 2017 TASKS  |        |  |   |            |                       |  |
|---|--------|--|---|------------|-----------------------|--|
| Action Name   | Task # | Task Description   | Milestone   | % Complete | Owner                 | SFEP Contact   |
| Develop and implement a comprehensive, watershed-scale approach to aquatic resource protection      | 1.1    | Develop a written framework that explains the need for watershed-based aquatic resource protection; frames an approach to meet this need; and identifies and incorporates supporting technical tools and policies. The framework should also address relevant regulatory and governance issues   | Complete framework.   | 15         | SFEI                  | Josh Bradt<br>josh.bradt@sfestuary.org               |
| Identify, protect, and create transition zones around the Estuary                                   | 4.1    | Develop a regional steering committee and technical advisory committee to guide a bay-wide, science-based, inventory of existing and projected future transition zones. Base the inventory on current baylands restoration projects, land use, ownership, topography, elevation, and other criteria consistent with climate change adaptation science and regional, state, and federal agency initiatives. | Establish transition zone inventory steering and technical advisory committees.             | 100        | SFBJV, SFEP           | Heidi Nutters<br>heidi.nutters@sfestuary.org         |
| Protect, restore, and enhance seasonal wetlands   | 8.1    | Re-establish the Interagency Vernal Pool Stewardship Initiative among state and federal agencies. Build relationships through the Initiative with land trusts and conservancies, landowners, Resource Conservation Districts, and municipalities to coordinate planning efforts.   | Re-establish the Vernal Pool Stewardship Initiative.  | 0          | SFEP                  | Caitlin Sweeney<br>caitlin.sweeney@sfestuary.org     |
| Restore watershed connections to the Estuary to improve habitat, flood protection and water quality | 12.2   | Advance a multi-benefit project in the Yolo Bypass by establishing a common vision for improvements supported by local, state, and federal agencies.   | Initiate construction of multiple fish passage improvement projects within the Yolo Bypass. | 100        | DWR                   | Adrien Baudrimont<br>adrien.baudrimont@sfestuary.org |
| Manage sediment on a regional scale and advance beneficial reuse                                    | 13.1   | Strengthen Long Term Management Strategy (LTMS) policies on the beneficial reuse of dredged material by expanding programs such as "SediMatch." Resolve logistical issues in matching sediment supply from dredging projects and upland construction sites with habitat restoration and shoreline adaptation projects.   | Expand and improve SediMatch.   | 100        | BCDC, SF Bay JV, SFEI | Adrien Baudrimont<br>adrien.baudrimont@sfestuary.org |
| Manage sediment on a regional scale and advance beneficial reuse                                    | 13.4a  | 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)  | Release the monitoring and tracking tool.   | 0          | SF Bay JV             | Adrien Baudrimont<br>adrien.baudrimont@sfestuary.org |

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|  |       | 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.  |  |     |   |  |
| Demonstrate how natural habitats and nature-based shoreline infrastructure can provide increased resiliency to changes in the Estuary environment. | 14.1  | Develop a primer on how bayshore projects can be designed and optimized to achieve multiple rather than single benefits. Challenge designers and planners to look beyond a primary objective and find opportunities to incorporate not only flood protection but also habitat enhancement and recreational access, among other objectives, in proposed projects.  | Develop primer and implement outreach strategy for primer.       | 100 | SFEI, SFEP                                  | Adrien Baudrimont<br>adrien.baudrimont@sfestuary.org |
| Advance natural resource protection while increasing resiliency of shoreline communities in the Bay Area   | 15.2  | Integrate resiliency and natural resource protection into Plan Bay Area. Lay the groundwork for a more comprehensive regional resiliency effort.  | Complete resiliency section in the 2017 update of Plan Bay Area. | 100 | BARC, SCC                                   | Heidi Nutters<br>heidi.nutters@sfestuary.org         |
| Integrate natural resource protection into state and local government hazard mitigation, response, and recovery planning                           | 16.1  | Establish and implement innovative approaches for integrating natural resources into hazard mitigation, response and recovery planning in the Delta.  | Complete the Delta Levee Investment Strategy.                    | 100 | Delta Stewardship Council                   | Natasha Dunn<br>natasha.dunn@sfestuary.org           |
| Improve regulatory review, permitting, and monitoring processes for multi-benefit climate adaptation projects                                      | 17.3a | 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.   | Complete report with recommendations.                            | 100 | SF Bay Regional Board                       | Natasha Dunn<br>natasha.dunn@sfestuary.org           |
| Improve regulatory review, permitting, and monitoring processes for multi-benefit climate adaptation projects                                      | 17.4  | Bring major permitting and regulatory agencies together with project implementers and other key stakeholders in workshops to facilitate the creation of a more transparent and predictable system for the review and approval of multi-species and multi-benefit projects over the long-term. Design a model process and overall system that reduces time and conflicts while also outlining a roadmap for those entering into this process for the first time. | Institute a once or twice yearly workshop.                       | 100 | Coastal Hazards Adaptation Resiliency Group | Natasha Dunn<br>natasha.dunn@sfestuary.org           |

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| Improve the timing, amount, and duration of freshwater flows critical to Estuary health | 18.1  | Work with partners to disseminate a report highlighting the contribution of freshwater flows to the health of the lower Estuary, San Francisco Bay.  | Disseminate report.                         | 100 | SFEP        | Darcie Luce<br>darcie.luce@sfestuary.org   |
| Develop long-term drought plans   | 19.1  | Fund an assessment that analyzes which retail and wholesale water supply agencies around the Estuary have long-term water supply plans for five to 10 year drought.  | Complete assessment.                        | 90  | SFEP        | Darcie Luce<br>darcie.luce@sfestuary.org   |
| Expand the use of recycled water  | 22.1  | Promote existing outreach activities educating the public about recycled water. Encourage the sharing of informational materials, resources, and program models  | Develop platform for sharing resources      | 50  | BACWA, SFEP | Darcie Luce<br>darcie.luce@sfestuary.org   |
| Integrate water into the updated Plan Bay Area and other regional planning efforts      | 23.2  | Incorporate water and San Francisco Bay related issues into the Plan Bay Area 2017 update. Consider ways to reduce per capita water use and optimize water recycling in the update, as well as issues such as landscape water use, water quality, stormwater management (low impact development and green infrastructure), and drought preparedness. | Complete an update of Plan Bay Area.        | 100 | SFEP, ABAG  | Josh Bradt<br>josh.bradt@sfestuary.org     |
| Manage stormwater with low impact development and green infrastructure                  | 24.1  | Develop outreach materials on lessons learned and the current state of LID benefits knowledge.   | Develop materials.                          | 100 | SFEP, EPA   | Josh Bradt<br>josh.bradt@sfestuary.org     |
| Manage stormwater with low impact development and green infrastructure                  | 24.2  | Improve the San Francisco Estuary Institute's LID tracking tool "GreenPlan-IT." Enhance all components of the LID planning tool, "GreenPlan-IT."   | Complete refined GreenPlan-IT.              | 100 | SFEP, EPA   | Josh Bradt<br>josh.bradt@sfestuary.org     |
| Decrease raw sewage discharges into the Estuary   | 26.1  | Review sewer lateral repair ordinances currently in operation around the region, and target 30 percent of the uncovered jurisdictions for assistance in developing and passing sewer ordinance modeled on existing ordinances.   | Complete review and identify jurisdictions. | 100 | SFEP        | James Muller<br>james.muller@sfestuary.org |
| Decrease raw sewage discharges into the Estuary   | 26.4a | 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 in marinas to increase the size and availability of the pumpout network.               | Launch application and pilot program.       | 100 | SFEP        | James Muller<br>james.muller@sfestuary.org |
| Decrease raw sewage discharges into the Estuary   | 26.5  | Work with the Bay Area Pollution Prevention Group (BAPPG) to identify new audiences for outreach messages about reducing non-flushable items to sanitary sewers to reduce sanitary sewer overflows   | Identify new audiences.                     | 25  | SFEP        | Darcie Luce<br>darcie.luce@sfestuary.org   |

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| Implement Total Maximum Daily Load projects in the Estuary | 27.1 | Develop and implement a multi-media outreach campaign aimed at reducing household indoor and outdoor pesticide use.   | Complete final report on outreach campaign. | 100 | SFEP                          | Heidi Nutters<br>heidi.nutters@sfestuary.org |
| Advance nutrient management in the Estuary                 | 28.1 | Secure additional funding to ensure continuation of long-term monitoring of nutrient-related parameters in the Bay through the San Francisco Bay Regional Water Quality Control Board's Nutrient Management Strategy.   | Secure funding and continue monitoring.     | 100 | SF Bay Regional Board, SFEI   | Heidi Nutters<br>heidi.nutters@sfestuary.org |
| Advance nutrient management in the Estuary                 | 28.2 | Undertake and fund water quality research to attain an improved quantitative understanding of San Francisco Bay's "dose response" to nutrients.   | Secure funding and continue research.       | 100 | SF Bay Regional Board, SFEI   | Heidi Nutters<br>heidi.nutters@sfestuary.org |
| Advance nutrient management in the Estuary                 | 28.4 | Develop a Nutrient Research Plan for the freshwater Sacramento-San Joaquin Delta through the Central Valley Regional Water Quality Control Board. Use the plan to determine whether nutrient objectives are needed to protect beneficial uses in upper Estuary. | Complete Delta Nutrient Research Plan.      | 100 | Central Valley Regional Board | Heidi Nutters<br>heidi.nutters@sfestuary.org |

**2018 TASKS**

| Action Name  | Task # | Task Description   | Milestone  | % Complete | Owner                                  | SFEP Contact                                 |
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| Develop and implement a comprehensive, watershed-scale approach to aquatic resource protection | 1.2    | Develop criteria to evaluate watersheds that could be used to pilot the Task 1-1 framework. Select a pilot watershed that drains into San Francisco Bay based on these criteria.   | Complete criteria and select pilot Bay watershed | 5          | SFEI, SFEP                             | Josh Bradt<br>josh.bradt@sfestuary.org       |
| Establish a regional wetland and stream monitoring program                                     | 2.1    | Develop and implement a Bay Area and Delta regional wetland monitoring plan that establishes separate, yet closely coordinated, steering committees for the upper and lower Estuary. The plan will identify regulatory and management monitoring priorities, as well as existing wetland, stream, or riparian monitoring efforts, to determine where there may be opportunities for partnerships and where there are gaps. | Hold initial meeting of the steering committees. | 100        | SF Bay JV, SF Bay Regional Board, SFEI | Heidi Nutters<br>heidi.nutters@sfestuary.org |
| Establish a regional wetland and stream monitoring program                                     | 2.2    | Determine how much funding is needed to support program management and administration, technology purchase and upgrades, hardware and software operations and maintenance, practitioner training, and annual data  | Complete the business model.                     | 100        | SF Bay JV, SFEP                        | Heidi Nutters<br>heidi.nutters@sfestuary.org |

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|   |       | synthesis and report; develop a business model to meet these funding needs .  |  |     |                      |  |
| Establish a regional wetland and stream monitoring program  | 2.3   | Complete the California Aquatic Resource Inventory (CARI) for the Delta; complete riparian inventories for the Delta and the Bay Area; upload the inventories into the California EcoAtlas information system   | Complete the Delta CARI and the Delta and Bay Area riparian inventories. | 50  | SF Bay JV, SFEI      | Heidi Nutters<br>heidi.nutters@sfestuary.org         |
| Identify, protect, and create transition zones around the Estuary   | 4.2   | Complete a regional inventory of transition zones based on the methodology developed by the technical advisory committee.   | Complete Bay transition zone inventory.                                  | 100 | SF Bay JV, SFEP      | Heidi Nutters<br>heidi.nutters@sfestuary.org         |
| Protect, restore, and enhance seasonal wetlands   | 8.3   | Develop a white paper on best practices for grazing management to protect seasonal wetlands and enhance habitat quality.  | Complete white paper.  | 20  | SF Bay JV            | Caitlin Sweeney<br>caitlin.sweeney@sfestuary.org     |
| Increase the efficacy of terrestrial predator management  | 10.1a | Develop a map showing priority areas in the San Francisco Estuary where actions can be taken to reduce feral cat predation on sensitive species, particularly Ridgway's Rail. This cat predator threat assessment and opportunities map will include: 1) locations of known or suspected feral cat colonies and feeding stations; 2) identification of entity(s) maintaining each cat colony; 3) jurisdictions of landowners with the authority and willingness to enforce the law; 4) information on city and county cat-feeding station laws; 5) presence of critical Ridgway's Rail populations; and 6) extent of housing and urban development, | Produce feral cat threat assessment and opportunities map                | 10  | Point Blue, USFWS    | Karen McDowell<br>karen.mcdowell@sfestuary.org       |
| Manage sediment on a regional scale and advance beneficial reuse  | 13.2  | Identify funding to pay for the additional costs of dredged materials disposal beyond "least-cost" options, including costs for offloaders to pump sediment for beneficial reuse projects on Estuary shorelines.  | Identify and secure funding.   | 75  | SF Bay Joint Venture | Adrien Baudrimont<br>adrien.baudrimont@sfestuary.org |
| Manage sediment on a regional scale and advance beneficial reuse  | 13.3  | Identify funds and conduct research and monitoring to quantify all potential sediment sources to the Estuary. Determine sediment needs for maintaining current habitats under various sea level rise projections.   | Complete study and share results.  | 100 | SF Bay JV, SFEI      | Adrien Baudrimont<br>adrien.baudrimont@sfestuary.org |
| Demonstrate how natural habitats and nature-based shoreline infrastructure can provide increased resiliency | 14.2  | Develop a system for describing the variety of shorelines around the Estuary based on shoreline features, ecosystem processes, land use, and other relevant factors.  | Develop shoreline typologies.  | 100 | SFEI, SFEP           | Adrien Baudrimont<br>adrien.baudrimont@sfestuary.org |

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| Improve the timing, amount, and duration of freshwater flows critical to Estuary health | 18.2 | Assist the State Water Resources Control Board in updating the San Francisco Bay/Sacramento-San Joaquin River Delta Water Quality Control Plan (Bay Delta WQCP) by providing concise, scientifically sound data to the State Board during its deliberations and by keeping the public and local officials informed.   | Complete update of the Bay-Delta WQCP with updated flow objectives. | 90  | SFEP         | Darcie Luce<br>darcie.luce@sfestuary.org |
| Improve the timing, amount, and duration of freshwater flows critical to Estuary health | 18.3 | Work with relevant partners and agencies to more broadly incorporate integrated freshwater flow and habitat messages and information in public outreach materials or relevant programs.   | Add messages to the materials of at least 3 partners.               | 75  | SFEP         | Darcie Luce<br>darcie.luce@sfestuary.org |
| Reduce water use for landscaping around the Estuary                                     | 21.1 | Work with water supply agencies, municipalities, the California Department of Water Resources (DWR), the California State Water Resources Control Board, and others to develop a standardized approach to quantifying and reporting on water use for all new and existing landscaped areas. Use the latest available technology, as well as the methodology developed by DWR for the update 2015 MWELO, and other methods as appropriate. | Ensure standardized reporting in place.                             | 80  | SFEP         | Darcie Luce<br>darcie.luce@sfestuary.org |
| Reduce water use for landscaping around the Estuary                                     | 21.2 | Working with the partners identified in Task 21-1, develop permanent (i.e., non-drought) performance standards against which progress in reducing landscape water use region-wide will be measured.   | Ensure performance standards in place.                              | 80  | SFEP         | Darcie Luce<br>darcie.luce@sfestuary.org |
| Expand the use of recycled water  | 22.2 | Collaborate with BACWA's Recycled Water Committee and others to: expand incorporation of recycled water in local and regional water resources planning processes; identify opportunities for the broader use of recycled water; overcome funding and planning gaps; and address regulatory and permitting constraints.  | Hold three meetings.  | 75  | BACWA, SFEP  | Darcie Luce<br>darcie.luce@sfestuary.org |
| Manage stormwater with low impact development and green infrastructure                  | 24.3 | Partner with local jurisdictions to analyze LID and GI potential in select areas using Green Plan-IT and other applicable planning tools, and integrate findings into relevant agency planning mechanisms and policies for adoption and implementation.   | Complete identification and analysis.                               | 100 | SFEP, US EPA | Josh Bradt<br>josh.bradt@sfestuary.org   |
| Manage stormwater with low impact development and green infrastructure                  | 24.4 | Develop and promote a comprehensive regional road map that identifies key policies, documents, legislation, agencies, and specific actions needed for integrating GI with future climate change, transportation, and other infrastructure investments, including looking for opportunities to implement large regional projects.  | Complete work plan.   | 100 | SFEP, US EPA | Josh Bradt<br>josh.bradt@sfestuary.org   |



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| Manage stormwater with low impact development and green infrastructure  | 24.5 | Create and make available to municipalities and other interested parties design tools for LID retrofits, such as: cost-effective, low maintenance standard design details for LID retrofits of typical road configurations; unit cost estimates for both LID retrofit practices and non-LID standard street details; and “lessons learned” reports on previous grant- or local agency-funded LID retrofit projects. | Complete design tools and make available. | 100 | SFEP, US EPA                                      | Josh Bradt<br>josh.bradt@sfestuary.org       |
| Manage stormwater with low impact development and green infrastructure  | 24.6 | Create a GIS-based database to track completed LID and GI projects in the public and private realms; coordinate the database with Total Maximum Daily Load (TMDL) accounting systems developed by other local partners to identify and quantify the load reduction benefits of LID and GI.  | Launch database.                          | 95  | SFEP, US EPA                                      | Josh Bradt<br>josh.bradt@sfestuary.org       |
| Address emerging contaminants   | 25.2 | Support the continuation and evaluate the effectiveness of the regional education program aimed at reducing or eliminating the use of triclosan and triclocarban. Evaluate tools, such as non-purchase agreements, ordinances, or inclusion as a priority product by the California Department of Toxic Substances Control, to reduce personal care products containing triclosan or triclocarban.                  | Complete evaluations.                     | 100 | Bay Area Pollution Prevention Group, CA PSP, SFEP | Darcie Luce<br>darcie.luce@sfestuary.org     |
| Decrease raw sewage discharges into the Estuary   | 26.2 | Produce and promote a white paper that describes existing and potential funding mechanisms for residents to help pay for private sewer line repair and replacement, such as grant programs and financing strategies   | Complete white paper.                     | 100 | SFEP  | James Muller<br>james.muller@sfestuary.org   |
| Implement Total Maximum Daily Load projects in the Estuary, including projects to reduce mercury, methylmercury, pesticides and areas of low dissolved oxygen | 27.2 | Evaluate Best Management Practices (BMPs) in Suisun Marsh to improve marsh water quality and address dissolved oxygen and methylmercury impairment. Characterize managed wetland responses to BMPs through water quality modeling.  | Develop water quality model.              | 100 | SF Bay Regional Board, SFEP, Suisun RCD           | James Muller<br>james.muller@sfestuary.org   |
| Advance nutrient management in the Estuary  | 28.3 | Update the Nutrient Management Strategy for San Francisco Bay based on monitoring and modeling and load reduction study results from Tasks 28-1 and 28-2.   | Update Nutrient Management Strategy.      | 100 | SF Bay Regional Board, SFEI                       | Heidi Nutters<br>heidi.nutters@sfestuary.org |
| Engage the scientific community in efforts to improve baseline monitoring of ocean  | 29.1 | Convene scientists from around the San Francisco Estuary, including from leading marine laboratories and universities, to identify potential impacts of ocean acidification and hypoxia on beneficial uses of the state’s waters. Build a   | Convene workshop and complete a meeting   | 100 | SFEI, SFEP  | Heidi Nutters<br>heidi.nutters@sfestuary.org |

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| acidification and hypoxia effects in the Estuary. |       | conceptual model that can inform design and implementation of monitoring approach.   | summary with recommended actions.   |     |      |  |
| Champion and implement the CCMP                   | 32.3a | On a five-year cycle, provide current information about the health status of the Estuary through an updated State of the Estuary Report. Continue to gather data for current indicators, and develop new indicators that provide needed information regarding Estuary health and align with actions in the CCMP. | Develop a strategy for updating the 2015 State of the Estuary Report, including advancing new indicators. | 100 | SFEP | Caitlin Sweeney<br>caitlin.sweeney@sfestuary.org |

| 2019 TASKS   |        |   |   |            |                              |  |
|--|--------|---|---|------------|------------------------------|--|
| Action Name  | Task # | Task Description  | Milestone   | % Complete | Owner                        | SFEP Contact                                   |
| Establish a regional wetland and stream monitoring program | 2.4    | Establish a regional network of sentinel tidal marsh monitoring stations within the Delta and the Bay to support ecological functioning and planning, incorporating and building on the San Francisco Bay National Estuarine Research Reserve program.  | Establish sentinel marsh monitoring network.                    | 65         | SF Bay JV, SF Bay NERR, SFEP | Heidi Nutters<br>heidi.nutters@sfestuary.org   |
| Increase the efficacy of terrestrial predator management   | 10.1b  | Develop a map showing priority areas in the San Francisco Estuary where actions can be taken to reduce feral cat predation on sensitive species, particularly Ridgway's Rail. This cat predator threat assessment and opportunities map will include: 1) locations of known or suspected feral cat colonies and feeding stations; 2) identification of entity(s) maintaining each cat colony (individual, group-sanctioned, or city and county authorized activity); 3) jurisdictions of landowners with the authority and willingness to enforce the law (map to include all landowners of marshes and adjacent areas); 4) information on city and county cat-feeding station laws; 5) presence of critical Ridgway's Rail populations; and 6) extent of housing and urban development, including landfills and transfer stations. | Engage managers on feral cat management and report on findings. | 10         | Point Blue, USFWS            | Karen McDowell<br>mcdowell@sfestuary.org       |
| Increase the efficacy of terrestrial predator management   | 10.2a  | Guide predator management on publicly-owned conservation lands that support threatened and endangered species by: 1) assessing the impacts of   | Complete and disseminate predator                               | 10         | USFWS                        | Karen McDowell<br>karen.mcdowell@sfestuary.org |

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|  |      | management strategies (including the direct removal of predators and landscape alterations to reduce predator access to sensitive habitats) on populations of listed threatened and endangered species (in particular Ridgway's rail, Western snowy plover, and California least tern); 2) developing data and protocols for predator management activities (including predator surveys); 3) engaging managers of conservation lands in needs assessments. | management assessment report and recommendations.                         |     |                          |  |
| Restore watershed connections to the Estuary to improve habitat, flood protection and water quality  | 12.3 | Use the tools developed in Task 12-1, as well as findings from other research and projects (including the Yolo Bypass project) to identify and select sites for multi-benefit projects. In partnership with property owners and public entities, assess existing conditions in the context of historic and projected conditions (including sea level rise) to develop appropriate project scopes and conceptual restoration designs for selected sites.    | Develop project scopes and conceptual restoration designs for four sites. | 100 | SFEP                     | Adrien Baudrimont<br>adrien.baudrimont@sfestuary.org |
| Demonstrate how natural habitats and nature-based shoreline infrastructure can provide increased resiliency to changes in the Estuary environment. | 14.3 | Based on the primer developed in Task 14-1 and the system developed in Task 14-2, develop best practices guidelines for natural and nature-based shoreline features that increase the resiliency of the Estuary and provide multiple ecosystem benefits to the region.   | Develop best practices guidelines and recommendations.                    | 65  | SFEI, SFEP               | Adrien Baudrimont<br>adrien.baudrimont@sfestuary.org |
| Increase regional agricultural water use efficiency  | 20.1 | Fund and complete a report assessing one Bay and one Delta area in the Estuary region, evaluating current practices against the range of applicable water use efficiency methods and management practices. Outline the mechanisms by which conserved water could produce great instream flow and groundwater recharge.   | Complete report.  | 90  | SFEP                     | Darcie Luce<br>darcie.luce@sfestuary.org             |
| Reduce water use for landscaping around the Estuary  | 21.3 | Support expansion of local or regional water efficient landscape maintenance training programs that use the watershed approach. Support use of models such as the California Friendly Landscape Training Program and Bay-Friendly Landscape (Rescape California) Program.  | Launch training programs in three new regions around the state.           | 90  | SFEP, Rescape California | Darcie Luce<br>darcie.luce@sfestuary.org             |
| Integrate water into the updated Plan Bay Area and other regional planning efforts   | 23.3 | Evaluate opportunities to take similar action through state mandated Sustainable Communities Strategies in the Delta region, using the Plan Bay Area update process as a model.  | Complete evaluation.  | 50  | SFEP, ABAG               | Darcie Luce<br>darcie.luce@sfestuary.org             |

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| Decrease raw sewage discharges into the Estuary | 26.3 | Publish an industry-supported, technically vetted sewage management manual for marinas.  | Complete sewage management manual for marinas. | 100 | SFEP                    | James Muller<br>james.muller@sfestuary.org   |
| Advance nutrient management in the Estuary      | 28.5 | Synthesize existing data and models in the Delta to update and expand the Department of Water Resources' report entitled, Characterizing and quantifying nutrient sources, sinks and transformations in the Delta: synthesis, modeling, and recommendations for monitoring. Use this synthesis to inform the design of the Delta Regional Monitoring Program and develop assessment questions. | Update report.                                 | 100 | Central Valley<br>RWQCB | Heidi Nutters<br>heidi.nutters@sfestuary.org |

| 2020 TASKS  |        |   |   |            |           |  |
|---|--------|---|---|------------|-----------|--|
| Action Name   | Task # | Task Description  | Milestone   | % Complete | Owner     | SFEP Contact                                     |
| Maximize habitat benefits of managed wetlands and ponds | 6.2    | Study the ability of managed ponds to sustain waterbird numbers in the Bay. Analyze regional waterbird monitoring data with regard to managed pond use and bird density over time, as compared to other habitats.   | Produce report comparing bird use of various habitat types in the Bay and share results.                      | 60         | SCC, USGS | Caitlin Sweeney<br>caitlin.sweeney@sfestuary.org |
| Maximize habitat benefits of managed wetlands and ponds | 6.3    | Study the ability of managed wetlands to sustain diverse species of vertebrates, invertebrates, and endemic and endangered plants over time. Analyze species use, density and diversity as compared to non-managed wetlands.  | Produce report comparing species use and diversity in various managed wetlands in the Bay, and share results. | 20         | SCC       | Caitlin Sweeney<br>caitlin.sweeney@sfestuary.org |
| Maximize habitat benefits of managed wetlands and ponds | 6.4    | Develop a methodology for assessing the long-term costs and benefits of managed wetlands and ponds. Methodology should take into account habitat benefits for multiple species and changes in maintenance requirements resulting from sea level rise and climate change | Develop and implement a methodology.  | 10         | SCC       | Caitlin Sweeney<br>caitlin.sweeney@sfestuary.org |

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| Increase the efficacy of terrestrial predator management | 10.2b | Guide predator management on publicly-owned conservation lands that support threatened and endangered species by: 1) assessing the impacts of management strategies (including the direct removal of predators and landscape alterations to reduce predator access to sensitive habitats) on populations of listed threatened and endangered species (in particular Ridgway's rail, Western snowy plover, and California least tern); 2) developing data and protocols for predator management activities (including predator surveys); 3) engaging managers of conservation lands in needs assessments. | Implement predator management recommendations at Don Edwards National Wildlife Refuge. | 0   | USFWS          | Caitlin Sweeney<br>caitlin.sweeney@sfestuary.org |
| Develop long-term drought plans                          | 19.2  | Working through the multi-agency Bay Area Regional Reliability (BARR) partnership, or through individual water agencies, refine or adaptively manage long-term water supply plans for 5-10 year drought.   | Engage at least three water agencies in the region in long-term drought planning.      | 90  | SFEP           | Darcie Luce<br>darcie.luce@sfestuary.org         |
| Develop long-term drought plans                          | 19.3  | Highlight the best of the region's efforts by compiling Best Management Practices for Bay Area and Delta agencies. Gather input from agencies throughout the Estuary region.   | Compile and distribute BMPs.   | 80  | SFEP           | Darcie Luce<br>darcie.luce@sfestuary.org         |
| Increase regional agricultural water use efficiency      | 20.2  | Facilitate a forum to explore the challenges and opportunities associated with the development of shall offstream storage and modification of small instream impoundments. Forum should include regulatory agencies, resource conservation districts, stakeholder groups, farmers, and other partners. Forum should also identify funding needs, landowner and agency constraints, and barriers to implementation.   | Complete three new or modified storage projects.                                       | 33  | SFEP           | Darcie Luce<br>darcie.luce@sfestuary.org         |
| Reduce water use for landscaping around the Estuary      | 21.4  | Collaborate with municipalities, land use agencies, and others to create pilot programs that expand application of efficiency stands to all new and existing landscape projects.   | Establish pilot programs in three municipalities.                                      | 10  | SFEP           | Darcie Luce<br>darcie.luce@sfestuary.org         |
| Address emerging contaminants                            | 25.1  | Review and update San Francisco Bay CECs management strategy, action plans, and monitoring strategy every two years.   | Complete reviews and updates in 2016, 2018, and 2020                                   | 100 | SFBRWQCB, SFEI | Darcie Luce<br>darcie.luce@sfestuary.org         |

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| Address emerging contaminants   | 25.3  | 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.   | Pass three additional ordinances in Bay and Delta counties. | 100 | Bay Area Pollution Prevention Group, CA Product Stewardship Council, SFEP | Darcie Luce<br>darcie.luce@sfestuary.org         |
| Implement Total Maximum Daily Load projects in the Estuary, including projects to reduce mercury, methylmercury, pesticides and areas of low dissolved oxygen | 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<br>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<br>heidi.nutters@sfestuary.org     |
| Engage the scientific community in efforts to improve baseline monitoring of ocean acidification and hypoxia effects in the Estuary.                          | 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<br>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<br>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. Link monitoring efforts to the outer coast and Bay. Build on existing monitoring efforts. | Delta Science Conferences in 2016, 2018, and 2020           | 80  | SFEP  | Caitlin Sweeney<br>caitlin.sweeney@sfestuary.org |

| 2021 TASKS   |        |   |  |            |             |  |
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| 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. The project should build on related efforts to date, and use scientific understanding of historical (pre-settlement) and present-day conditions within the pilot watershed to identify ways to increase the protection of aquatic resources. Recommendations for more comprehensive, watershed-scale management of aquatic resources should be consistent with governing policies. | Complete Bay watershed pilot project.                        | 0          | SFEP, SFEI  | Josh Bradt<br>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.                          | 10         | SFEP, SFEI  | Heidi Nutters<br>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<br>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.           | 65         | SFBJV       | Karen McDowell<br>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<br>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<br>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<br>heidi.nutters@sfestuary.org   |

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| 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<br>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<br>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 that focus on rocky intertidal, sandy beach, macroalgal bed, living shorelines, or other integrated habitats. | 25  | SCC                 | Karen McDowell<br>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 such as management of water levels in and adjacent to ponds, varied pond topography, levee improvements, and the creation of islands. 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, and share progress within five years                                   | 100 | CDFW, USFWS, SCC    | Caitlin Sweeney<br>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. Critical information includes characterization of key habitat areas, fish monitoring and limiting factors analyses, instream flow needs, and process-based assessment of channel and riparian condition for reaches that support salmonids and other native fish assemblages. | Make new policy and technical guidance documents available online.   | 5   | SFBJV               | Josh Bradt<br>josh.bradt@sfestuary.org           |



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| 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. Guidance will be based on information compiled in Tasks 7-1 and 7-2. | Establish specific flow enhancement goals, riparian zone improvements, and channel rehabilitation projects   | 5  | SFBJV | Josh Bradt<br>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<br>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 pool landscapes in the San Francisco Bay region and an additional 500 acres in the Delta region.                              | 50 | SFBJV | Caitlin Sweeney<br>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. Coordinate and streamline programs and identify priority activities. | 85 | SFEP  | Karen McDowell<br>karen.mcdowell@sfestuary.org   |

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| Minimize the impact of invasive species   | 9.2  | Increase early detection, monitoring, and rapid response programs. Rapid response should be adaptive and include activities such as 1) assessing and mapping Estuary-wide distribution of key invasive species; 2) improving the Calflora website and expanding it to include wetland species and to increase citizen reporting of species; 3) working with professional divers associations and training them to detect new invasive species while cleaning boat bottoms; 4) increasing scientific monitoring to measure the number of new species coming into the region; and 5) increasing citizen science monitoring. | Identify 3-4 funding sources for early detection, monitoring, and rapid response, by 2021. | 20  | SFEP  | Karen McDowell<br>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<br>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. Confirm that Best Management Practices are shared for invasive species where they exist (for example: Invasive Spartina Project Best Management Practices 2016). Confirm that “percent cover” requirements in permits are appropriate to individual invasive species.  | Increase the number of permits with improved invasive spartina requirements                | 10  | SCC   | Karen McDowell<br>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<br>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 (CO <sub>2</sub> , CH <sub>4</sub> , NO <sub>x</sub> ) 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<br>james.muller@sfestuary.org     |

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| 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<br>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<br>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<br>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. Like these projects, the Task 14-4 pilots will address a specific hypothesis, evaluate the performance of multi-benefit restoration design elements, and budget for monitoring, evaluation, and subsequent design refinement. Results from the pilot projects will be incorporated into a revised version of the guidelines developed in Task 14-3. | Identify, design, permit, and implement three additional pilot projects in the Bay.                                  | 60  | SFEP   | Adrien Baudrimont<br>adrien.baudrimont@sfestuary.org |
| Demonstrate how natural habitats and nature-based shoreline infrastructure can   | 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  | Update best practices guidelines.  | 5   | SFEP   | Adrien Baudrimont<br>adrien.baudrimont@sfestuary.org |

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| provide increased resiliency to changes in the Estuary environment.  |       | such as the Oro Loma Horizontal Levee project, the San Rafael Oyster/Eelgrass Living Shoreline Project, and the Aramburu Island Beach Restoration Project. Like these projects, the Task 14-4 pilots will address a specific hypothesis, evaluate the performance of multi-benefit restoration design elements, and budget for monitoring, evaluation, and subsequent design refinement. Results from the pilot projects will be incorporated into a revised version of the guidelines developed in Task 14-3.       |  |     |      |  |
| 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<br>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<br>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 (FEMA's NDRF).   | Complete ten local (city or county) Disaster Recovery Plans that include FEMA's NDRF RSFs for natural resources. | 10  | ABAG | Natasha Dunn<br>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,<br>natasha.dunn@sfestuary.org  |

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| 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. Address concerns about balancing long-term wetlands protection, restoration, and enhancement against short terms losses in ecosystem function. | Revised policies as necessary.   | 35  | SFBRWQCB  | Natasha Dunn,<br>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 in marinas to increase the size and availability of the pumpout network.   | Install 10 new pumpouts.   | 50  | SFEP  | James Muller<br>james.muller@sfestuary.org  |
| Implement Total Maximum Daily Load projects in the Estuary, including projects to reduce mercury, methylmercury, pesticides and areas of low dissolved oxygen | 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<br>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.   | 60  | SFEP  | Darcie Luce<br>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.  | Work with stakeholders to develop region-specific maps, signs, and other educational materials; identify two appropriate mechanisms for distributing materials | 100 | CA State Parks' Division of Boating and Waterways, ABAG, SFEP | James Muller<br>james.muller@sfestuary.org  |

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| 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.  | 12.5 | ABAG | James Muller<br>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 Water Trail sites, including two new or enhanced kayak-in campgrounds. | 100  | ABAG | James Muller<br>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 to public audiences one to three times annually.                    | 85   | SFEP | Caitlin Sweeney<br>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)  | 85   | SFEP | Caitlin Sweeney<br>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  | 75   | SFEP | Caitlin Sweeney<br>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. Continue to gather data for current indicators, and develop new indicators that provide needed information regarding Estuary health and align with actions in the CCMP.                  | Update State of the Estuary Report.   | 100  | SFEP | Caitlin Sweeney<br>caitlin.sweeney@sfestuary.org |

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| 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)   | 85  | SFEP        | Caitlin Sweeney<br>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<br>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 the BAWN webpage and email newsgroup, and host or co-host a BAWN annual meeting. Design and implement a small grants program on a biennial schedule. | 80  | SFEP        | Caitlin Sweeney<br>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.   | 85  | SFEP, SFBJV | Caitlin Sweeney<br>caitlin.sweeney@sfestuary.org |

### All Actions – Average % Complete

| Action   | %  | Action   | %   | Action   | %  | Action  | %   |
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| Action 1: Develop and implement a comprehensive, watershed-scale approach to aquatic resource protection | 7  | Action 9: Minimize the impact of invasive species  | 34  | Action 17: Improve regulatory processes for multi-benefit climate adaptation projects              | 89 | Action 25: Address emerging contaminants  | 100 |
| Action 2: Establish a regional wetland and stream monitoring program                                     | 65 | 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                                | 27 | 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 in the Estuary   | 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  | 55  | Action 21: Reduce water use for landscaping around the Estuary                                     | 65 | Action 29: Improve baseline monitoring of ocean acidification and hypoxia effects   | 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 | 66  | Action 22: Expand the use of recycled water  | 63 | Action 30: Reduce trash input into the Estuary  | 43  |
| 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 compatible with wildlife | 71  |
| 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  | 88  |