

COASTAL CONSERVANCY

Staff Recommendation
June 25, 2015

CLIMATE READY GRANTS

Project No. 14-053-01
Project Manger: Brenna Mahoney Rudd and Nadine Peterson

RECOMMENDED ACTION: Authorization to disburse up to \$1,974,579 to 11 nonprofit organizations and public agencies for Climate Ready projects that sequester greenhouse gases or address the effects of climate change on coastal resources.

LOCATION: Various locations along the coast of California and along the San Francisco Bay shoreline (Exhibit 1).

PROGRAM CATEGORY: Climate Change, San Francisco Bay Area Conservancy, Integrated Coastal and Marine Resource Protection.

EXHIBITS

Exhibit 1: [Project Locations](#)

Exhibit 2: [Climate Ready Grant Round 3 Announcement](#)

Exhibit 3: [Project Letters](#)

Exhibit 4: Friends of the Dunes NEPA/CEQA Documents

4a: [USFWS NEPA Environmental Assessment/ Finding of No Significant Impact](#)

4b: [CEQA Notice of Intent to Use NEPA Document](#)

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31000 *et seq.* of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes disbursement of up to one million nine hundred seventy-four thousand, five hundred seventy-nine dollars (\$1,974,579) to 11 nonprofit organizations and public agencies for projects that sequester greenhouse gases or address the effects of climate change on resources along the coast and within the San Francisco Bay Area, specifically as follows, to the:

- [Friends of the Dunes](#): Two hundred forty-nine thousand, two hundred forty-six dollars (\$249,246) to conduct a coastal dune vulnerability and adaptation assessment along 32

miles of coastline in Humboldt County, to establish demonstration sites to test adaptation strategies, and to develop an empirical model of dune response to sea level rise.

- Marin County Open Space District: One hundred sixty-five thousand dollars (\$165,000) to develop a conceptual design for restoration of 25-35 acres of wetlands at the north end of Bolinas Lagoon to address impacts of future sea level rise and large storm events.
- Marin Resource Conservation District: Three hundred twenty-five thousand dollars (\$325,000) for planning to expand farm management practices that reduce greenhouse gas emissions and promote long-term carbon sequestration through existing regional conservation programs in Napa, Sonoma, Marin, and Mendocino counties.
- Marin County Community Development Agency: Two hundred fifty thousand dollars (\$250,000) to develop a county-wide, multi-jurisdictional sea level rise vulnerability assessment. This project will conduct exposure and sensitivity assessments for all of Marin County's Bay shoreline, mapping areas that are expected to experience temporary flooding as well as permanent inundation in the future. This project will engage elected officials, management staff, and the public in the process of developing action plans.
- Napa County Resource Conservation District: Ninety thousand dollars (\$90,000) to plant 5,000 oak trees seeds from five dominant species in the Napa River watershed over three years and to engage approximately 1,500 6th grade students in Napa County by conducting classroom education, facilitating planting events, and developing a map-based, internet-accessible tool for tracking oak tree survival and growth.
- Golden Gate National Parks Conservancy: One hundred thirty-five thousand dollars (\$135,000) to conduct a climate change and sea level rise vulnerability analysis at Crissy Field. This project will inventory adaptation strategies and engage the community in extensive planning activities to assess what adaptation measures are appropriate to protect and enhance the site's culture, natural, and recreational resources.
- San Francisco Bay Bird Observatory: One hundred fifty thousand dollars (\$150,000) to restore twelve acres of marsh-upland transitional areas within the South Bay Salt Pond Restoration Project with a diverse mixture of native plants.
- Coastal Conservation and Research, Inc.: Fifteen thousand dollars (\$15,000) to develop restoration design and CEQA review of a project to remove invasive species and plant native species on 15-20 acres of dunes at Salinas River State Park.
- The Nature Conservancy: Two hundred seventy-six thousand dollars (\$276,000) to plan, design, and facilitate permitting of management strategies that reduce flood risk, recharge groundwater, improve riparian habitat, and increase the resilience of agricultural operations along the Salinas River.
- The Bay Foundation: Sixty eight thousand, eight hundred thirty-three dollars (\$68,833) to conduct a hydrodynamics study in a restored kelp forest that will quantify the effects of

the forests on wave energy and current flow before and after restoration of 60 acres of kelp forest on rocky reef habitat.

- Orange County Coastkeeper: Two hundred fifty thousand dollars (\$250,000) to plan and implement an innovative Living Shoreline project that will restore and monitor oysters and eelgrass.

The authorization is subject to the following condition:

Prior to the disbursement of funds to each grantee, each grantee shall submit for the review and approval of the Conservancy's Executive Officer a final work program, schedule, budget, names of any contractors, a plan for acknowledging Conservancy funding, evidence that all permits and approvals required to implement the project have been obtained, and any other applicable agreements determined necessary for the project by the Conservancy's Executive Officer."

Staff further recommends that the Conservancy adopt the following findings:

"Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed authorization is consistent with Division 21 of the Public Resources Code, sections 31100 *et seq.*, regarding project planning and climate change (Chapter 3), resource and recreational goals in the San Francisco Bay Area (Chapter 4.5), and integrated coastal and marine resource protection (Chapter 5.5).
2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.
3. The nonprofit organization grantees proposed under this authorization exist under section 501(c)(3) of the U.S. Internal Revenue Service Code, and their corporate purposes are consistent with Division 21 of the Public Resources Code.
4. Consistent with the California Environmental Quality Act (CEQA), the Conservancy has reviewed the June 2015 Environmental Assessment entitled Environmental Assessment, Humboldt Bay National Wildlife Sea-Level Rise Adaptation Demonstration Project, and the accompanying Finding of No Significant Impact (FONSI), prepared under the National Environmental Policy Act (NEPA), attached to the accompanying staff recommendation as Exhibit 4a, adopted by the US Fish and Wildlife Service on June 10, 2015, and finds that, as mitigated, the project will not have a significant effect on the environment, as defined in 14 Cal. Code Regulations Section 15382.

PROJECT SUMMARY:

This authorization would provide up to \$1,974,579 to 11 different nonprofit organizations and public agencies for projects that address the effects of climate change on resources along the coast and within the San Francisco Bay Area. These projects were the highest ranking projects in the third Climate Ready grant round. The Conservancy solicited projects last fall and received 78 applications requesting more than \$16 million in funding.

The purpose of the Climate Ready Program is to encourage local governments and non-governmental organizations to prepare for a changing climate by advancing planning and implementation of on-the-ground actions that reduce greenhouse gas (GHG) emissions and lessen the impacts of climate change on California's coastal communities and natural resources.

This Climate Ready grant round was made possible by an appropriation from the Environmental License Plate Fund (ELPF) to the California Climate Resilience Account. The grant round focused on projects that achieved one or more of the following goals, consistent with the uses of the ELPF, including:

- Control and abatement of green house gases,
- Acquisition, preservation, and/or restoration of natural areas or ecological reserves,
- Protection of nongame species and threatened and endangered plants and animals,
- Protection, enhancement, and restoration of fish and wildlife habitat and relate water quality and,
- The purchase of real property consisting of sensitive natural areas for parks.

Because of the overwhelming request for funding and the high quality of the project proposals, additional Coastal Conservancy funds will be used to supplement funding for some of the recommended projects. Below is a summary of the projects proposed for funding under the Climate Ready program, including the project location; the name of the organization for the proposed project; the amount recommended for funding; and a brief project description.

NORTH COAST

Friends of the Dunes

\$249,246

Friends of the Dunes will conduct a coastal dune vulnerability and adaptation assessment along 32 miles of coastline in Humboldt County. This project will improve understanding of coastal dunes and beaches along the Eureka littoral cell, potential vulnerabilities to climate change and potential response to future sea level rise. The project will measure annual and seasonal change in beach-dune morphology and vegetation to determine sediment budget, transport pathways, and the role of vegetation in foredune morphodynamics. The project will document historic changes in shoreline position and beach-dune morphology along the littoral cell. It will include a sea-level rise vulnerability analysis along the entire study area and develop a model of climate-driven scenarios of dune barrier response to sea level rise. The project will establish demonstration sites on 2-4 acres of the Lanphere Dunes Unit of the U.S. Fish and Wildlife Service Humboldt Bay National Wildlife Refuge to compare sand transfer over the foredune (which builds dune height) on dunes with native vegetation and dunes covered with invasive European beachgrass. The project area would be divided into approximately 50-meter long segments and European beachgrass would be removed from six of the eight segments, with the remaining two segments held as a control. See Figure 3 of Exhibit 4a of the accompanying staff recommendation. The project includes a second demonstration site on the Eel River South Spit. Friends of the Dunes will communicate the results of the project through quarterly list-serve email updates, annual community listening sessions, radio spots, public walks, and presentations.

Marin County Open Space District

\$165,000

The Marin County Open Space District will work in partnership with the Gulf of Farallones National Marine Sanctuary, Golden Gate National Recreation Area, and Point Reyes National Seashore to plan a wetland restoration and sea level rise adaptation project for the north end of Bolinas Lagoon. The project area is threatened by sea level rise and portions of adjacent roads are frequently inundated by flooding. The project will develop a conceptual design to enhance the creeks, floodplain, and wetlands to rehabilitate key habitat and adapt to future sea level rise. The project will develop metrics to measure and evaluate the project's success and will complete a report on opportunities and constraints.

Marin Resource Conservation District

\$325,000

The Marin Resource Conservation District, working cooperatively with the Sonoma, Napa, and Mendocino Resource Conservation Districts, will expand its carbon farming work to existing regional conservation planning programs in Napa, Sonoma, Marin, and Mendocino Counties. This project will develop plans to assist a variety of producers of agriculture products such as dairy, beef, and grapes to identify and quantify practices, such as application of compost, and planting of hedgerows and windbreaks to increase carbon sequestration and reduce greenhouse gas emissions on their farms. Implementation of those practices will support soil health improvement, increase water holding capacity of soil, reduce irrigation needs and reduce stream withdrawals, thereby enhancing water quality and in-stream habitat. In 2014, the Conservancy awarded a grant of \$200,000 to the Marin Resource Conservation District to develop a program for the selection of candidate carbon rangeland farms in west Marin County, to prepare carbon farm action plans for three partner farms, and to implement not fewer than 10 demonstration (measurable) carbon beneficial practices on those farms. To date, the Marin Resource Conservation District has completed 12 demonstration sites across the three farms and anticipates completing and additional six. This project therefore complements the success of previously funded work.

SAN FRANCISCO BAY AREA

Marin County Community Development Agency

\$250,000

The Marin County Community Development Agency will develop a county-wide, multi-jurisdictional sea level rise vulnerability assessment. This project will coordinate information and findings on sea level rise in Marin County and conduct exposure and sensitivity assessments for all of Marin County's Bay developed and natural shoreline, which includes extensive wetlands habitat that supports wildlife, including endangered species. Sea level rise threatens serious impacts to wetlands, creeks, beaches, other natural resources and 11 square miles of adjacent lands. The project will map areas that are expected to experience temporary flooding as well as permanent inundation in the future, engage and educate elected officials, management staff, and the public, support mapping and technical tasks related to sea level rise, evaluate risk reduction and avoidance strategies, and develop an early action program for implementation of green infrastructure projects. The project will evaluate and compare adaptation strategies including managed retreat, living with water, green infrastructure and traditional flood protection.

Napa County Resource Conservation District **\$90,000**

The Napa County Resource Conservation District will plant 5,000 oak seeds from five oak tree species in the Napa River watershed over three years. This project will directly engage and support approximately 1,500 students in Napa County by conducting classroom education and planting days, facilitating community oak planting events, and developing a map-based, internet-accessible oak tree survival and growth tracking tool to allow the public to monitor the success of the plantings. The project will expand the distribution of oaks, provide important habitat resources, increase carbon sequestration, improve water holding capacity in the watershed, and provide educational and community engagement benefits. This project will therefore enhance wildlife habitat and related water quality and thereby enhance climate change resilience of the surrounding area. In addition, this project will decrease water usage and enhance water use efficiency which is imperative especially in the current drought conditions.

Golden Gate National Parks Conservancy **\$135,000**

The Golden Gate National Parks Conservancy will conduct sea level rise and climate change vulnerability and impact analyses to the wetlands, natural habitats, and public access improvements at Crissy Field. Information will be compiled into a community outreach model called RISE-UP which will engage the community in sea level rise adaptation and management strategies. Findings from this model will be analyzed, shared and combined with the vulnerability analyses to produce new Crissy Field resiliency guidelines and to develop a research and analysis report that includes diagrams, maps, and illustrative material that describes adaptation and protection scenarios. This effort will better protect and prepare Crissy Field for the challenges and opportunities of the future and, since Crissy Field is one of the most popular Bay Area recreation destinations for local residents and visitors, this project has great opportunity for community awareness and engagement.

San Francisco Bay Bird Observatory **\$150,000**

The San Francisco Bay Bird Observatory will complete the restoration of upland transitional habitats in Pond A16/17 of the South Bay Salt Pond Restoration Project by implementing seeding and planting across 12 acres, which includes 6 acres of high marshes and 6 acres of upland transitional habitat. This will involve mapping of the site, collecting seed and other propagules, preparing the ground by controlling weeds and improving germination and establishment conditions, and seeding and planting. Plants will be maintained and monitored through the first growing season. This work will revegetate and enhance key habitat that is essential to the estuary's wildlife.

CENTRAL COAST

Coastal Conservation and Research, Inc. **\$15,500**

The Coastal Conservation and Research, Inc., working with the Central Coast Wetlands Group (CCWG), will design a project to restore the adaptive capacity of vulnerable sections of the dunes at Salinas River State Park, protect adjacent resources from the impacts of sea level rise,

enhance public coastal access, and provide education and outreach to the local community. Coastal Conservation and Research, Inc. and CCWG will coordinate with project partners, including State Parks, to develop a restoration design and complete CEQA impact analysis for a project to remove invasive species and plant native species on 15-20 acres of dunes. Additional funding to implement the project will be considered once the environmental review is complete.

The Nature Conservancy

\$276,000

The Nature Conservancy will work with Monterey County Water Resources Agency, the Resource Conservation District of Monterey County, the Grower-Shipper Association, and individual landowners to increase water use efficiency, improve habitat and reduce flood risk along the Salinas River. The Nature Conservancy will plan, design and facilitate permitting of management strategies that maximize multiple benefits of flood risk reduction, groundwater recharge, community health and safety, and connectivity of riparian and coastal biodiversity to increase long-term climate resilience along the river. The project will expand a collaborative River Management Units model to extend for 80 miles of the river. The model is designed to increase overall ecological resilience through measurable improvements in riparian and off-channel habitat while simultaneously reducing floodplain risks and regulatory burdens for growers. This cooperative management approach has the potential to offer long-term cost savings, a wider suite of management options, water use efficiency, permit streamlining for landowners, operators and resource agencies, and improved conditions for riparian habitats and species like steelhead trout and migratory birds.

SOUTH COAST

The Bay Foundation

\$68,833

As an expected effect of climate change is increased storm activity, this project will help quantify the effects that natural biological habitat has on wave intensity on the near shore coast. The Bay Foundation will conduct a kelp forest hydrodynamics study off the coast of the Palos Verdes Peninsula, which will quantify the effects of kelp forests on wave energy and current flow before and after restoration of 60 acres of rocky reef habitat from urchin barrens to valuable fish habitat consisting primarily of kelp forests. This project would fund only the hydrodynamics study, while the restoration is funded separately. Measurements of wave energy and current flow at the restoration sites will be done using an Acoustic Doppler Current Profiler and Acoustic Doppler Velocimeter. These will be set up at various locations offshore and inshore of the kelp forest zone before and after restoration. This will show the direct effects of a kelp forest on water flow as it moves inshore and laterally alongshore. The goal is to examine how kelp forests attenuate wave energy and influence current flow, possibly protecting adjacent shorelines by decreasing sediment transport and/or dampening waves before they reach the shoreline.

Orange County Coastkeeper

\$250,000

The Orange County Coastkeeper will plan and implement a restoration and monitoring program of the native Olympia oyster and eelgrass in Newport Bay. Living shoreline techniques use a combination of living and structural materials to stabilize shorelines and preserve natural

processes and habitats, and are gaining support as a natural solution to sea level rise impacts. The goal of Orange County Coastkeeper is to demonstrate the effectiveness of innovative habitat restoration to provide shoreline protection, with greater ecological benefits than traditional shoreline stabilization techniques. After finalizing project design and a monitoring plan, the Orange County Coastkeeper will complete oyster and eel grass restoration with volunteer participation as well as perform post-restoration monitoring, data analysis and final reporting of results.

SITE DESCRIPTION: All of the projects serve a coastal region, or coastal watersheds, of the state and/or are within one of more of the nine counties under the jurisdiction of the San Francisco Bay Area Conservancy Program. See Exhibit 1 for the locations of the projects.

PROJECT HISTORY:

Since the passage of the Global Warming Solutions Act (AB32) in 2006, the State of California has continued to implement actions to drive down greenhouse gas (GHG) emissions, and is on course to achieve the AB 32 emissions reduction goals for 2020 ([Climate Change Scoping Plan Update, 2013](#)). Emissions worldwide continue to rise dramatically and impacts from a changing climate are already being documented. In recent decades, California has experienced the impacts of a changing climate with higher winter and spring temperatures and an earlier melting snowpack. Along the state's coastline the sea level has been rising. At the Golden Gate Bridge sea level has risen by at least seven inches over the past century. Ocean currents have shifted and resulted in altered food chains, and warmer temperatures have caused shifts in the distribution of plants and animals to higher elevations and to cooler northward slopes and ranges.

Over the next century the California coastal region will experience more severe impacts from the combined effects of higher air and water temperatures, altered precipitation patterns, sea-level rise, salinity changes, ocean acidification, more severe El Niño climate events, increased storm frequency and intensity, higher coastal erosion rates, saltwater intrusion, and greater fire intensity and frequency. These impacts will in turn increase vulnerabilities of our coastal infrastructure, public health and safety, and our natural resources which support our economy and a vast number of services. Recent study findings show that the climate-related choices we make today and in coming years can have a profound impact on future conditions ([California Energy Commission Reports on the Third Assessment](#)). As one example, coastal marshes that are restored today will be better able to accumulate sediment and keep pace with sea level rise.

In recognition of the urgent need to help local governments, ports and non-governmental organizations prepare for a changing climate, SB 1066 (Lieu) enacted in 2012, gave the Conservancy explicit authority to assist others in addressing the impacts and potential impacts of climate change on resources within the Conservancy's jurisdiction. This legislation enables the Conservancy to award grants for projects that reduce GHG emissions or address extreme weather events, sea level rise, storm surge, beach and bluff erosion, salt water intrusion, flooding, and other hazards that threaten ports, harbors, coastal communities, infrastructure and natural resources. The Conservancy established its Climate Ready program to address the climate change impacts stated in SB 1066 and give priority to climate change projects that maximize public benefits.

The Conservancy released its first Climate Ready grant solicitation in 2013 and it received 76 proposals, requesting over \$13.3 million in Conservancy funds. At the January 23, 2014 Conservancy meeting, 20 Climate Ready projects were funded with approximately \$3 million. The first grant round largely consisted of planning projects. The Conservancy released the second Climate Ready grant solicitation in 2014 focused specifically on implementation projects related to sea level rise, agriculture, or urban greening. In the second round, the Conservancy received 32 proposals requesting almost \$10 million. Eleven projects were awarded about \$2 million.

The Conservancy released the third Climate Ready grant solicitation on October 6, 2014 (Exhibit 2). This grant round was made possible by an appropriation of Environmental License Plate Funds (ELPF) to the Coastal Climate Resilience Account. Consistent with the use of ELPF funds, this grant round focused on projects that met one or more of the following objectives:

- Control and abatement of green house gases,
- Acquisition, preservation, and/or restoration of natural areas or ecological reserves,
- Protection of nongame species and threatened and endangered plants and animals,
- Protection, enhancement, and restoration of fish and wildlife habitat and relate water quality and,
- The purchase of real property consisting of sensitive natural areas for parks.

The Conservancy received 78 concept proposals requesting \$16.8 million. Of the 78 concept proposals, thirteen applicants were asked to submit full proposals. Of these, 11 are recommended for funding under this grant round. The recommendation to fund the 11 highly ranked projects for a total of \$1,974,579 is based on funding availability and prioritization of projects using the Conservancy’s Climate Ready criteria. Given the high quality of the proposals received, Conservancy staff is recommending using some other sources of Conservancy funding so that we can fund a larger number of projects. The recommended grants will be funded with the one-time ELPF appropriation and various other Conservancy funds as described below.

PROJECT FINANCING

Coastal Conservancy	\$1,974,579
Other	\$4,239,771
Project Total	\$6,214,350

The anticipated sources of Conservancy funds for this authorization are the Environmental License Plate Fund, the Habitat Conservation Fund using Proposition 1E, Proposition 50, Proposition 40, and Proposition 84.

The Conservancy received a 2014 appropriation of ELPF funds into the newly created Coastal Resilience Account. These funds are expected to be reappropriated in the 2015-16 fiscal year budget act anticipated to take effect on July 1, and staff will not enter into any agreements

relying on these funds until the budget act is approved. ELPF funds are available for specific purposes (Public Resources Code Section 21190) including: reduce air pollution; acquire, preserve, and/or restore natural areas; protect nongame species; protect, enhance, and/or restore fish and/or wildlife habitat; purchase real property consisting of sensitive natural areas for parks; and perform scientific research on the risks to California's natural resources and communities caused by the impacts of climate change. In addition, 21190(h) includes scientific research on the risks to California's natural resources and communities caused by the impacts of climate change. Funds in the Climate Resilience Account are to be used to plan and implement activities to address the risks and impacts of climate change, sea level rise, and associated extreme events to coastal and bay communities and natural resources. Public Resources Code section 31012(d)(1). All of the proposed projects recommended for funding are consistent with these purposes.

A second anticipated source of Conservancy funds is an appropriation from the California Wildlife Protection Act of 1990 (Proposition 117), known as the Habitat Conservation Fund (HCF). Under State Fish and Game Code Section 2786(e) & (f), HCF funds may be used for the acquisition, restoration, or enhancement of aquatic habitat for spawning and rearing of salmonids and for the acquisition, restoration, or enhancement of riparian habitat. The particular appropriation of HCF funds is derived from the Disaster Preparedness and Flood Prevention Bond Act of 2006 (Proposition 1E), and therefore the project must also meet those bond act purposes. Proposition 1E funds may be used for projects that protect, create, or enhance flood protection corridors and bypasses through specified actions. The Proposition 1E HCF funds are proposed to fund the Marin County Open Space District's planning for restoration of wetlands at Bolinas Lagoon, which is consistent with the purposes of these funds in that this project will relocate a road subject to periodic flooding and reconstruct it outside of the flood plain. The project will include flood plain mapping and related activities. See Public Resources Code Section 5096.825(b), (d), and (g).

Proposition 50, the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002, funds are allocated to the Conservancy for the protection of coastal watersheds, not limited to acquisition, protection, and restoration of land and water resources, and associated planning (Water Code Section 79570). The Marin Resource Conservation District project is recommended to be partially funded by Proposition 50. The project is consistent with the purposes of Proposition 50 in that the plans will improve water holding capacity and soil health on farms in Napa, Sonoma, Marin, and Mendocino counties and will benefit streams that flow in coastal watersheds to the Pacific Ocean. As described below, the project is consistent with local and regional water plans, as required by Water Code section 79507.

A fourth anticipated source of funding is Proposition 40, the California Clean Water, Clean Air, Safe Neighborhood Parks, and Coastal Protection Act of 2002. Proposition 40 funds are allocated to the Conservancy for projects that, among other things, restore and protect land and water resources. Public Resources Code Section 5096.650. Both the Napa County Resource Conservation District and the San Francisco Bay Bird Observatory projects are to be funded fully by Proposition 40 and are consistent with the purposes of Proposition 40. The Napa County Resource Conservation District project will expand the distribution of oaks, provide important habitat resources, increase carbon sequestration, and improve water holding capacity in the watershed. The San Francisco Bay Bird Observatory will restore upland transitional habitats in the South San Francisco Bay across 12 acres. Public Resources Code Section 5096.651 requires that priority be given to projects with matching funds. The Napa County Resource Conservation

District and the San Francisco Bay Bird Observatory projects have matching funds of \$30,000 and \$221,143, respectively.

Finally, Proposition 84, the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006, is anticipated to be used to fully fund The Nature Conservancy's Salinas River project. The particular funding proposed for this project is allocated to projects that protect Monterey Bay or its watersheds. See Public Resources Code Section 75060(e). The Salinas River is a major tributary to Monterey Bay and the proposed project will improve habitat in the creek and benefit species like steelhead trout and migratory birds.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

All of the recommended projects would be undertaken pursuant to Section 31113 of Chapter 3 of Division 21 of the Public Resources Code, regarding the impacts and potential impacts of climate change on resources within the Conservancy's jurisdiction. Pursuant to Section 31113 (b), the Conservancy is authorized to award grants to nonprofit organizations and public agencies to undertake projects that reduce greenhouse gas emissions, address extreme weather events, sea level rise, storm surge, beach and bluff erosion, salt water intrusion, flooding, and other coastal hazards that threaten coastal communities, infrastructure, and natural resources. Consistent with this section, the proposed authorization would award grants to nonprofit organizations and public agencies to undertake the projects described in the "Project Summary" section, which maximize public benefit by reducing greenhouse gas emissions, enhancing coastal wetlands and natural lands, reducing coastal hazards due to sea level rise, and conserving biodiversity.

Seven of the proposed projects listed below would be undertaken pursuant to Section 31111 of Chapter 3 of Division 21 of the Public Resources Code, which authorizes the Conservancy to fund and undertake plans and feasibility studies, and to award grants to public agencies and nonprofit organizations for these purposes:

- Friends of Dunes
- Marin County Open Space District
- Marin Resource Conservation District
- Coastal Conservation and Research, Inc.
- The Nature Conservancy

Chapter 4.5: San Francisco Bay Area Conservancy Program

The four projects listed below would also be undertaken pursuant to Chapter 4.5 of Division 21 of the Public Resources Code, Sections 31160-31165, regarding recreational and resource goals in the San Francisco Bay Area:

- Marin County Community Development Agency: Sections 31162(c), 31165
- Napa County Resource Conservation District: Sections 31162(b), 31165
- Golden Gate National Parks Conservancy: Sections 31162(c), 31162(d), and 31165

- San Francisco Bay Bird Observatory: Sections 31162(b), 31162(c), and 31165

Pursuant to Section 31162, the Conservancy is authorized to award grants to projects located in the nine-county San Francisco Bay Area which will help achieve the following goals:

- to protect, restore, and enhance natural habitats and connecting corridors, watersheds, scenic areas, and other open-space resources of regional importance, (31162(b));
- to assist in the implementation of policies and programs of the California Coastal Act, the San Francisco Bay Plan, and the adopted plans of local governments and special districts, (31162(c)); and
- to promote, assist, and enhance projects that provide open space and natural areas that are accessible to urban populations for recreational and educational purposes, (31162(d)).

In addition, the four projects listed above would satisfy the criteria for determining project priorities under Section 31163(c) in that:

1. The projects are consistent with approved plans including: The Bay Conservation and Development Commission *San Francisco Bay Plan* (amended October 2011), under Part IV, Climate Change; The San Francisco Bay Joint Venture *Restoring the Estuary: Implementation Strategy of the San Francisco Bay Joint Venture* (January 2001), for the San Francisco Bay Bird Observatory Project under Chapter 4, Objectives and Strategies for Accomplishing the Vision; The San Francisco Estuary Partnership (SFEP)'s *Comprehensive Conservation and Management Plan* (revised 2007) under Partnership Goals 1 and 2; The San Francisco Bay Area Wetlands Ecosystem Goals Project *Baylands Ecosystem Habitat Goals Report* (1999) for the San Francisco Bay Bird Observatory Project under Chapter 5, Habitat Goals; BCDC's *Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on its Shoreline* (2011) for San Francisco Bay Bird Observatory, Golden Gate National Parks Conservancy, and the County of Marin projects under Chapter 5, Adaptation Strategies for San Francisco Bay and the Shoreline.
2. The projects serve a regional constituency by enhancing preparing for sea level rise and other climate change impacts, wetland resiliency, carbon sequestration increase, and increase in habitat availability along the San Francisco Bay Shoreline.
3. The projects can be implemented in a timely way and are prepared to begin work upon project approval;
4. The improvement to climate change that the projects provide, notably the restoration and creation of wetland transition zone along the San Francisco Bay, planning for sea level rise, and of habitat improvement, provide opportunities for benefits that could be lost if the projects are not quickly implemented; and
5. Three of the four projects include significant matching funds from the applicants.

Pursuant to Section 31165, the Conservancy is authorized to award grants for activities that are compatible with the preservation, restoration, or enhancement of ocean, coastal, bay, or watershed resources, or that facilitate environmental education related to these resources.

The proposed authorization would award grants for the projects listed above as further described in the "Project Summary" section, all of which are consistent with Sections 31162(b), 31162(c), 31162(d), 31163 and/or 31165.

Chapter 5.5: Integrated Coastal and Marine Resource Protection

Two projects listed below would also be undertaken pursuant to Chapter 5.5 of Division 21 of the Public Resource Code, Section 31220, regarding grants for coastal watershed and coastal and marine habitat water quality, sediment management, and living marine resources protection and restoration projects. As required by Section 31220 staff has notified the State Water Resources Control Board of the nature of these projects and provided the opportunity for comment, input and review.

- The Bay Foundation: Sections 31220(b)(2), 31220(b)(3)
- Orange County Coastkeeper: Sections 31220(b)(2), 31220(b)(3)

Pursuant to Section 31220(b)(2), the Conservancy is authorized to undertake a project or award a grant for a project that protects or restores fish and wildlife habitat within coastal and marine waters and coastal watersheds, including, but not limited to, permit coordination projects for watershed restoration.

Pursuant to Section 31220(b)(3), the Conservancy is authorized to undertake a project or award a grant for a project that reduces threats to coastal and marine fish and wildlife.

As Section 31220(c) requires, the proposed projects are consistent with local and state watershed plans. This is discussed in detail below under “Consistency with Local Watershed Management Plan/State Water Quality Control Plan.” Pursuant to Section 31220(c) all the projects included under this section have a monitoring and evaluation component.

Consistent with this section, the proposed authorization would award grants to nonprofit organizations and public agencies to undertake the projects listed above and described in the “Project Summary” section.

CONSISTENCY WITH CONSERVANCY’S 2013 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

The 11 projects described in the “Project Summary” section assist the Conservancy with meeting a number of its 2013-2018 Strategic Plan Goals and Objectives. Relevant Goals and Objectives are listed below, along with the names of the projects that meet each goal.

Public Access Goals

Consistent with **Goal 2, Objective 2C**, which seeks to design facilities to increase and enhance coastal recreational opportunities.

- Coastal Conservation and Research, Inc.

Coastal Resources Conservation Goals

Consistent with **Goal 5, Objective 5A**, which seeks to develop plans for the restoration and enhancement of coastal habitats, including coastal wetlands and intertidal areas, stream corridors, dunes, coastal terraces, coastal sage scrub, forests, and coastal prairie:

- Friends of the Dunes

- Marin County Open Space District
- Marin Resource Conservation District
- Coastal Conservation and Research, Inc.

Consistent with **Goal 5, Objective 5B**, which seeks to restore or enhance coastal habitats, including coastal wetlands and intertidal areas, stream corridors, dunes, coastal sage scrub, coastal terraces, forests and coastal prairie:

- Friends of the Dunes
- Napa County Resource Conservation District
- San Francisco Bay Bird Observatory
- Orange County Coastkeeper

Consistent with **Goal 5, Objective 5C**, which seeks to develop plans to preserve and enhance coastal watersheds and floodplains.

- The Nature Conservancy

Consistent with **Goal 6, Objective 6A**, which seeks to develop plans for projects that foster the long-term viability of coastal working lands, including projects to assist farmers, ranchers, and timber producers to reduce impacts of their operations on wildlife habitat and water quality.

- The Nature Conservancy
- Marin Resource Conservation District

Consistent with **Goal 7, Objective 7A**, which seeks to in cooperation with public agencies, universities and non-governmental organizations, identify significant climate-related threats, management challenges and priority technical assistance needed to maintain resilient coastal communities and natural resources:

- Marin County Community Development Agency

Consistent with **Goal 7, Objective 7B**, which seeks to conduct site-specific, regional and landscape-level vulnerability assessments from sea level rise and extreme storm events, and develop adaptation plans and strategies to address threats to coastal communities and public infrastructure in ways that protect natural resources and provide maximum public benefits:

- Friends of the Dunes
- Marin County Open Space District
- Marin County Community Development Agency
- Golden Gates National Parks Conservancy

Consistent with **Goal 7, Objective 7C**, which seeks to develop vulnerability assessments and adaptation plans to address predicted climate change impacts to uplands, waterways, and natural resources:

- Marin Resource Conservation District

Consistent with **Goal 7, Objective 7D**, which seeks to implement adaptation pilot projects that reduce hazards from sea level rise and extreme storm events, and which protect natural resources and maximize public benefits:

- Friends of the Dunes
- Coastal Conservation and Research, Inc.
- The Bay Foundation
- Orange County Coastkeeper

Consistent with **Goal 7, Objective 7E**, which seeks to implement adaptation pilot projects that address climate change impacts to uplands natural resources, biodiversity, and critical habitat.

- The Nature Conservancy

Consistent with **Goal 7, Objective 7F**, which seeks to implement projects that reduce greenhouse gases by increasing carbon sequestration, or by supporting land uses that reduce energy consumption including vehicle miles traveled:

- Napa County Resource Conservation District

Consistent with **Goal 9, Objective 9A**, which seeks to support programs and events that improve public understanding of coastal resources:

- Friends of the Dunes
- Marin Resource Conservaton District
- Marin County Community Development Agency
- Napa County Resource Conservation District
- Golden Gate National Parks Conservancy
- Coastal Conservation and Research, Inc.
- Orange County Coastkeeper

Consistent with **Goal 9, Objective 9B**, which seeks to support the design and installation of interpretive or educational displays and exhibits related to coastal, watershed, and ocean-resource education, maritime history, and climate change:

- Golden Gate National Parks Conservancy
- Coastal Conservation and Research, Inc.

San Francisco Bay Area Conservancy Program Goals

Consistent with **Goal 11, Objective 11C**, which seeks to develop plans for enhancement of tidal wetlands, managed wetlands, seasonal wetlands, upland habitat, and subtidal habitat:

- Golden Gate National Parks Conservancy

Consistent with **Goal 11, Objective 11D**, which seeks to enhance tidal wetlands, managed wetlands, seasonal wetlands, upland habitat, and subtidal habitat:

- San Francisco Bay Bird Observatory
- Napa County Resource Conservation District

Consistent with **Goal 12, Objective 12M**, which seeks to implement projects that create, expand, or improve environmental educational or interpretive programs, especially those that are available to urban populations.

- Golden Gate National Parks Conservancy

**CONSISTENCY WITH CONSERVANCY'S
PROJECT SELECTION CRITERIA & GUIDELINES:**

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines, last updated on October 2, 2014, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
3. **Promotion and implementation of state plans and policies** (specific plans and policies that are being considered or implemented)
 - a. **Friends of Dunes**
 - i. This project is consistent with the 2014 *Safeguarding California* update to the 2009 *California Climate Adaptation Strategy*, in the Biodiversity and Habitat section, which seeks to "improve understanding of climate risks by... understanding extreme events and disturbance regimes." It is also consistent with the Ocean and Coastal Ecosystems and Resources Section which seeks to "further vulnerability assessments and cost analyses"; "improve management practices for coastal and ocean ecosystem and resources"; "support pilot projects to demonstrate effectiveness of innovative shoreline management techniques"; "continue to support scientific modeling (as essential to project development)" and "improve maps and tools and provide training to incorporate best-available climate science into planning and operation and management decisions for assets at risk from sea-level rise." This project directly seeks to understand and use demonstration sites to develop strategies to prepare for climate-driven impacts on dune habitats.
 - ii. This project is consistent with the 2009 *Humboldt Bay National Wildlife Refuge Complex Comprehensive Conservation Plan and Final Environmental Assessment* (U.S. Fish and Wildlife Service) goal to "conserve and restore globally rare dune and dune forest habitats, and support recovery of threatened, endangered species" and "conserve and restore all refuge habitats through the prevention and control of invasive plants and animals." This project is aligned with these goals because it aims to develop and implement best strategies to protect sensitive dune habitat.
 - b. **Marin County Open Space District**
 - i. This project is consistent with the 2014 *Safeguarding California* update to the 2009 *California Climate Adaptation Strategy*, in the Biodiversity and Habitat section, which seeks to "develop management practices to help safeguard species and ecosystems from climate risks by improving habitat connectivity and protecting climate refugia and implementing adaptive management studies to refine conservation approaches." This project will develop of a conceptual design and implementation schedule for a wetland restoration of

25-35 acres of Bolinas lagoon, which is threatened by sea level rise and climate change.

c. Marin Resource Conservation District

- i. This project is consistent with the 2009 *California Climate Adaptation Strategy* recommendation AG2 – “assist and educate farmers in adapting to climate change. Work with entities such as resource conservation districts, cooperative extensions, and other agricultural organizations to introduce adaptation techniques and shorten the time it takes for new scientific findings and adaptive approaches to reach farmers.” This project will directly work with Resource Conservation Districts and farmers to implement reductions in greenhouse gas emissions and increase carbon sequestration on agricultural lands.
- ii. This project is consistent with the 2014 *Safeguarding California* update to the 2009 *California Climate Adaptation Strategy*, in the Agriculture Section under the following strategies: “innovating sustainable farm operation systems that integrate energy, water, and natural resource conservation” and “implementing management practices to store carbon in soils.” This project will lead to the implementation of protocols that will improve soil health, increase soil water holding capacity, and reduce irrigation needs.

d. Marin County Community Development Agency

- i. This project is consistent with the *California @ 50 Million: The Environmental Goals and Policy Report* (2013 Draft) which seeks to “build resiliency into new planning processes and into ongoing planning efforts.”
- ii. This project is consistent with the 2014 *Safeguarding California* update to the 2009 *California Climate Adaptation Strategy*, in the Biodiversity and Habitat section, which seeks to “improve understanding of climate risks by... understanding extreme events and disturbance regimes.” It is also consistent with the Ocean and Coastal Ecosystems and Resources Section which seeks to “further vulnerability assessments and cost analyses.”
- iii. This project is consistent with the Marin County’s *Climate Action Plan* (draft 2014) which states that “a more comprehensive, county-wide vulnerability assessment would help highlight where resources should be focused under adaptation planning efforts. Furthermore, effective adaptation requires coordination across many different stakeholders within a county, and a ‘big picture’ understanding of the sectors and geographic locations that are most vulnerable would help demonstrate where coordination and collaboration are most needed.”
- iv. This project is consistent with the *Bay Area Integrated Regional Water Management Plan* (2013) Objective 1.3 – “Plan for and adapt to more frequent extreme climate events”; Objective 1.5 – “Plan for and adapt to sea level rise”; Objective 1.8 – “Promote community education, involvement and stewardship”; and, Objective 1.9 – “Support data management for climate change vulnerabilities.”

e. Napa County Resource Conservation District

- i. This project is consistent with the 2014 *Safeguarding California* update to the 2009 *California Climate Adaptation Strategy*, in the Biodiversity and Habitat section, which states that an action needed to safeguard biodiversity and habitats should “improve habitat connectivity and protect climate refugia.” This project does so by planting native oak trees. Additionally, this project supports the objective to “promote public education and outreach on climate change impacts” by engaging a significant number of school children in planting and monitoring projects.
- ii. This project is consistent with Napa County’s *Oak Woodland Management Plan* (2010) by acting on the objective to “protect existing oak woodlands...for conservation and enhancement of oak woodland” as well as Goal CON-4 which is to “conserve, protect, and improve plant, wildlife, and fishery habitats for all native species in Napa County”; Goal CON-5: “protect connectivity and continuous habitat areas for wildlife movement”; Goal CON-6: “Preserve, sustain, and restore forests, woodlands for their... environmental...and open space values.” This project does so by planting native oak trees.

f. Golden Gate National Parks Conservancy

- i. This project is consistent with the *Preparing the U.S. for the Impacts of Climate Change* 2013 Executive Order 13652 Section 4 by “providing information, data and tools for climate change preparedness and resilience.”
- ii. This project is consistent with the *Climate Change Response Strategy* (National Parks Service, 2010): Goal 5 which seeks to “incorporate climate change considerations and responses in all levels of National Parks Service Planning”
- iii. This project is consistent with the *Climate Change Action Plan* (Golden Gate National Recreation Area, 2008) Strategy 2: “plan for and adapt to future impacts of climate change” and Strategy 3: “increase climate change education and outreach.”
- iv. This project is consistent with the 2014 *Safeguarding California* update to the 2009 *California Climate Adaptation Strategy*, in the Biodiversity and Habitat section, which seeks to “create, maintain and support tools that help resource managers determine when and where to focus conservation activities...in the face of climate risks.” This project accomplishes two goals under this objective by which are to “[understand] extreme events and disturbance regimes” and to “promote public education and outreach on climate change impacts.”
- v. This project is consistent with the *Bay Area Integrated Regional Water Management Plan* (2013) Objective 1.3 – “Plan for and adapt to more frequent extreme climate events”; Objective 1.5 – “Plan for and adapt to sea level rise”; Objective 1.8 – “Promote community education, involvement and

stewardship”; and, Objective 1.9 – “Support data management for climate change vulnerabilities.”

g. San Francisco Bay Bird Observatory:

- i. This project is consistent with the 2014 *Safeguarding California* update to the 2009 *California Climate Adaptation Strategy*, in the Biodiversity and Habitat section, which states that an action needed to safeguard biodiversity and habitats should “improve habitat connectivity and protect climate refugia.” This project involves the restoration of wetland transition zone habitat, increasing the resiliency of this habitat type, in addition to the completion of acreage at a current site for a total of 6 acres of vegetated upland transitional areas.
- ii. This project is consistent with the *California @ 50 Million: The Environmental Goals and Policy Report* (2013 Draft) because it “increase[s] ecosystem services and biodiversity” and “increase[s] resilience of natural systems to recover from disruption.”
- iii. This project is consistent with Action 4 of the 2014 *California Water Action Plan* (California Natural Resources Agency) to “protect and restore important ecosystems.”

h. Coastal Conservation and Research, Inc.

- i. This project is consistent with the 2014 *Safeguarding California* update to the 2009 *California Climate Adaptation Strategy*, in the Biodiversity and Habitat section, which seeks to “develop management practices to help safeguard species and ecosystems from climate risks by improving habitat connectivity and protecting climate refugia and implementing adaptive management studies to refine conservation approaches.” This project will develop plans for restoration of dune habitat.
- ii. This project is consistent with the 2009 *California Climate Adaptation Strategy* (2009) which seeks to “pursue endeavors that will support implementation of the strategies [of restoration and ecosystem enhancement], capacity building, collaborative partnerships, and education and outreach.” This project will develop plans for restoration of a dune habitat with volunteer involvement.

i. The Nature Conservancy

- i. This project is consistent with the 2014 *Safeguarding California* update to the 2009 *California Climate Adaptation Strategy*, Agriculture Section which seeks to implement management practices to store carbon in soils, and promote sustainable farm operation systems that integrate energy, water, and natural resource conservation, watershed protection and flood protection.
- ii. This project is inconsistent with Goal #2 of the 2014 *California Water Action Plan* (California Natural Resources Agency) to increase integrated water management, which is identified specifically as balancing the objectives of improving public safety, fostering environmental stewardship, and supporting

economic stability. This project supports agriculture resiliency while reducing flood risk and improving habitat conditions.

j. The Bay Foundation

- i. This project is consistent with the *2009 California Climate Adaptation Strategy* which states that “California must protect, restore, and enhance ocean and coastal ecosystems, on which our economy and well-being depend,” and seeks to “improve management practices for coastal and ocean ecosystems and resources and increase capacity to withstand and recover from climate impacts.”
- ii. This project is consistent with Goal 9, Objective 9.1 of the *Santa Monica Bay Restoration Plan* (Santa Monica Bay Restoration Commission) which is “to restore and monitor 60 acres of kelp forest.”
- iii. This project is consistent with the *California @ 50 Million: The Environmental Goals and Policy Report* (2013 Draft) because it “increase[s] ecosystem services and biodiversity” and “increase[s] resilience of natural systems to recover from disruption.”

k. Orange County Coastkeeper

- i. This project is consistent with the 2014 *Safeguarding California* update to the *2009 California Climate Adaptation Strategy*, in the Biodiversity and Habitat section, which calls to “increase capacity [of coastal and ocean ecosystems] to withstand and recover from climate impacts” including “supporting pilot projects for innovative shoreline management techniques” which is a focus of this project since this project will design and implement a Living Shorelines technique.
- ii. This project is consistent with the *California @ 50 Million: the Environmental Goals and Policy Report* (2013 Draft) because it “increase[s] ecosystem services and biodiversity” and “increase[s] resilience of natural systems to recover from disruption.” This project accomplishes this goal since and will document the effects of Living Shorelines on ecosystem services and biodiversity.
- iii. This project is consistent with the City of Newport Bay’s Harbor Area Management Plan which includes the long-term goal to establish an “ecosystem approach Eelgrass Management Plan (EMP) rather than managing eelgrass projects on an incremental basis” The project fits well with the goals and strategies of this objective by piloting a demonstration project of use of eelgrass beds in a living shoreline.
- iv. This project is consistent with the *City of Newport Beach Coastal Land Use Plan* (City of Newport Beach, Adopted July 14, 2009), Chapter 4.1.2: Marine Resources which seeks to “maintain, enhance, and, where feasible, restore marine resources.” This project fits well with this goal because it will enhance and restore key marine resources.

4. **Support of the public:** As indicated by the support letters provided in Exhibit 3, the proposed projects are supported by elected officials, numerous community and nonprofit organizations, and local agencies.
5. **Location:** All of the recommended projects are located either within the coastal zone, a coastal watershed, or in the nine-county San Francisco Bay region.
6. **Need:** Without Conservancy funding, the proposed projects would either not proceed or would have to be scaled back.
7. **Greater-than-local-interest:** The projects to be funded by this authorization will improve resiliency, public access, and recreation throughout the coastal regions of the state and the San Francisco Bay Area. Over the next century the California coastal region will experience more severe impacts from the combined effects of higher air and water temperatures, altered precipitation patterns, sea-level rise, salinity changes, ocean acidification, more severe El Niño climate events, increased storm frequency and intensity, higher coastal erosion rates, saltwater intrusion, and greater fire intensity and frequency. These impacts will in turn increase vulnerabilities of our coastal infrastructure, public health and safety, and our natural resources which support our economy and a vast number of other services.
8. **Sea level rise vulnerability:** Seven of the recommended projects address the impacts of sea-level rise directly as a project goal:
 - Friends of the Dunes
 - Marin County Open Space District
 - Marin County Community Development Agency
 - Golden Gate National Parks Conservancy
 - San Francisco Bay Bird Observatory
 - Coastal Conservation and Research, Inc.
 - Orange County Coastkeeper

These impacts include more frequent and intense storms paired with rising sea-level will increase flooding, storm surge inundation, coastal erosion and shoreline retreat, and wetland loss, that will dramatically reshape California's coast and the San Francisco Bay. Funding the proposed projects takes a proactive step to protect our coastal communities and economy as well as our natural resources, public health, and recreational amenities from the impacts of sea-level rise. Information about the vulnerability to sea level rise for the other 4 projects is included below:

- a. Marin Resource Conservation District: This project is planning and design, not implementation, and therefore will not be affected by sea level rise.
- b. Napa County Resource Conservation District: The project site and planting locations are not close to a shoreline and would not be impacted by sea level rise.
- c. The Nature Conservancy: This project is planning and design, not implementation, and therefore will not be affected by sea level rise.

- d. The Bay Foundation: Sea level rise will not negatively affect this project because it is in the subtidal zone. However, this project hopes to demonstrate that restoring kelp forests can help buffer from the effects of sea level rise and increased storm activity.

Additional Criteria

9. **Urgency**: Over the next decade, decisions made about where new development is located and where open space is preserved will affect our ability to protect buildings and humans from increased fire and flood hazards. Similarly, land use planning and acquisition now will determine whether or not there will be open space that supports migration corridors for plant and animal range shifts. Coastal marshes that are restored today will be more resilient as sea level rises, thereby maintaining the flood protection and ecological benefits they provide. Studies also indicate that building in early adaptation measures can result in overall lower cost. It is therefore urgent that we act now to protect our coastal communities and economy as well as our natural resources, public health, agricultural resources, and recreational amenities.
10. **Leverage**: See the “Project Financing” section above.
11. **Conflict resolution**:
 - a. The Nature Conservancy: The purpose of this project is to expand a collaborative model of adaptation planning to organized growers, local agencies, and resource providers to develop integrated watershed management solutions. The proposed project would bring growers in the coastal zone into the stable of climate change adaptation practitioners and foster communication among the agriculture community and other major stakeholders in adaptation planning.
 - b. Marin Resource Conservation District: The goal of this project is to design carbon farm planning which provides landowners and agencies with the guidance and opportunities to address resource concerns on a farm including air quality and green house gases. This project will create plans to integrate carbon farm planning into two existing regional conservation planning programs in Napa, Sonoma, Marin, and Mendocino counties that help land managers meet their natural resource management goals while supporting productive lands, thriving streams, and on-farm wildlife habitat.
12. **Readiness**: All 11 projects described in the “Project Summary” section above are ready to implement and complete within one to five years
13. **Realization of prior Conservancy goals**: See “Project History” above.
14. **Return to Conservancy**: See the “Project Financing” section above.
15. **Cooperation**: The Climate Ready projects are intended to foster cooperation across multiple regional and political boundaries to address the impacts of climate change. To achieve this goal multiple nonprofit organizations and federal, state, and local agencies are involved in project planning and implementation.
16. **Vulnerability from climate change impacts other than sea level rise**: All of the proposed projects are focused on climate change planning, adaptation or mitigation, and their goal is to increase resilience of the project area to projected climate change impacts. All of the

proposed projects have thus taken vulnerabilities from other climate change impacts, other than sea level rise, into consideration throughout the design of the project.

17. Minimization of greenhouse gas emissions:

- a. Friends of the Dunes: This project will use manual labor for the most labor-intensive activities at the adaptation sites. This will prevent emissions that would be associated with mechanical methods.
- b. Marin County Open Space District: This authorization will support a planning effort, and thus will not result in the production of significant greenhouse gas emissions.
- c. Marin Resource Conservation District: The purpose of this project is to create plans that will significantly enhance the carbon capture and storage capacity of working lands above baseline conditions. Plans include a minimum ten-year commitment from the agriculture producer to maintain practices.
- d. Marin County Community Development Agency: This project will have a major role in raising awareness of the direct consequences of greenhouse gas emissions and climate disruption on citizen's day to day lives. Additionally, this project aims to reduce the need of travel by utilizing technology such as web-conferencing.
- e. Napa County Resource Conservation District: The 5000 oak trees planted as a part of this project will be a sink for greenhouse gases. Greenhouse gas emissions produced through vehicle miles travelled as part of field trips and community planting events will be minimized through encouragement of carpooling and selection of planting sites that are near urban centers.
- f. Golden Gate National Parks Conservancy: This authorization will support a planning effort, and thus will not result in the production of significant greenhouse gas emissions.
- g. San Francisco Bay Bird Observatory: This authorization will support a small restoration project, and thus will not result in the production of significant greenhouse gas emissions.
- h. Coastal Conservation and Research, Inc.: This authorization will support a planning effort, and thus will not result in the production of significant greenhouse gas emissions.
- i. The Nature Conservancy: This project is planning and design, not implementation, and therefore will not increase or decrease greenhouse gas emissions.
- j. The Bay Foundation: Healthy kelp forests perform a number of environmental services, including sequestration of atmospheric carbon dioxide. Converting urchin barrens back to kelp forests will increase the standing kelp biomass and result in an increase in carbon sequestration.
- k. Orange County Coastkeeper: This is a restoration project of oysters and eelgrass both of which are predicted to decrease greenhouse gasses. Oysters can act as a carbon sink by removing carbon from the water column into the production of their calcium carbonate shells. Eelgrass can store a substantial amount of carbon for thousands of years.

CONSISTENCY WITH SAN FRANCISCO BAY PLAN:

The following proposed projects are being undertaken pursuant to Chapter 4.5 of Division 21 of the Public Resources Code, are within the jurisdiction of BCDC, and are consistent with the policies of BCDC's San Francisco Bay Plan (Bay Plan) as discussed below:

- Golden Gate National Parks Conservancy.
- Marin County Community Development Agency
- San Francisco Bay Bird Observatory

The proposed project by San Francisco Bay Bird Observatory is consistent with Part III, The Bay as a Resource: Findings and Policies, under Tidal Marshes and Tidal Flats, because this project restores and increases the Bay's tidal marshes and tidal flats. It is consistent with Part IV, Development of the Bay and Shoreline: Findings and Policies, under Managed Wetlands, because this restoration project includes clear and specific long-term and short-term biological and physical goals, success criteria, and a monitoring program. The proposed project is also consistent with Part IV, Shoreline Protection since it involves wetland restoration in wetlands that will serve to protect natural habitat from both current and future flooding issues associated with sea level rise.

The proposed project by Golden Gate National Parks Conservancy is consistent with Part III, The Bay as a Resource: Findings and Policies, under Climate Change as this project aims to develop appropriate, effective, and innovative sea level rise adaptation approaches.

The proposed project by Marin County Community Development Agency is consistent with Part III, The Bay as a Resource: Findings and Policies, under Climate Change as this project aims to develop a county-wide adaptation vulnerability assessment and will address regional adverse impacts of climate change.

**CONSISTENCY WITH LOCAL WATERSHED MANAGEMENT PLAN/
STATE WATER QUALITY CONTROL PLAN:**

Projects undertaken pursuant to PRC Section 31220 must be consistent with the following, if available and relevant: Integrated Watershed Resource Management Programs; local watershed management plans; and water quality control plans adopted by the state and regional water boards. Projects funded by Proposition 50 must also be consistent with local and regional water plans.

Orange County Coastkeeper: This project is consistent with the County of Orange, City of Newport Beach Integrated Regional and Coastal Watershed Management Plan (Adopted August 9, 2009) which seeks to protect and enhance natural resources by enhancing the functioning of regional aquatic ecosystems. This project directly enhances eelgrass and oyster reefs, key natural resources along the coast.

The Bay Foundation: This project is consistent with the Los Angeles Integrated Regional Water Management Plan (updated 2014) in its objective to adapt to and mitigate against climate change vulnerability by implementing a strategy that sequesters greenhouse gas emissions. The area to be restored is within a Significant Ecological Area (SEA) as defined by the Plan's South Bay

Subregional Plan (Appendix K). The subregional objectives also include the goal to protect, restore, and enhance natural processes and habitats.

Marine Resource Conservation District: This project will be conducted in four counties: Marin, Mendocino, Napa, and Sonoma, and is consistent with various water and watershed management plans. This project is consistent with the San Francisco Bay Area Integrated Regional Water Management Plan (September 2013) Chapter 3, Goals and Objectives: Improve water supply reliability and quality including identification of feasible agricultural and urban water use efficiency strategies; protection and improvement of water quality within the area of the Plan consistent with relevant basin plan, identification of any significant threats to groundwater resources from over drafting; and, protection, restoration, and improvement of stewardship of aquatic, riparian, and watershed resources within the region. This project is consistent with the Tomales Bay Watershed Stewardship Plan: A Framework for Action (July 2003) under Goal C, Objective 1: encourage comprehensive planning to address watershed issues and facilitate interagency coordination and cooperation. This project is consistent with the Stemple Creek/Estero de San Antonio Watershed Enhancement Plan (July 1994) which seeks to assist agricultural producers with practices that promote the conservation and enhancement of natural resources.

COMPLIANCE WITH CEQA:

Friends of the Dunes

The project's objectives are to 1) measure annual and seasonal change in beach-dune morphology and vegetation, 2) document historic changes in shoreline position and beach-dune morphology, 3) assess sea level rise vulnerability along the study area, and 4) develop an empirically-based model of climate-driven scenarios of dune barrier response to sea level rise. For these objectives, data will be gathered through in-the-field measurements (transects to establish study area baseline), photos, and review of historical data, as well as an establishment of a database of key dune feature and a written report documenting vulnerabilities and potential adaptation strategies. These activities are categorically exempt from review under the California Environmental Quality Act (CEQA) pursuant to 14 California Code of Regulations Section 15306, Information Collection, which exempts basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource.

The project also aims to establish a native dune grass propagation area at the Humboldt Coastal Nature Center, resulting in the planting of an approximately 6,000 square foot area, with native beach grass used as planting material. This portion of the project is categorically exempt under 14 California Code of Regulations Section 15304, which exempts minor alterations to land.

Lastly, the project will establish two demonstration sites to test the response to various dune treatment alternatives for dune habitat restoration and stabilization. One demonstration site will include planting of native beachgrass and dune mat species, affecting an area of less than 25,000 square feet, with fencing installed to encompass a planting site of approximately 120 by 100 feet. These activities are categorically exempt under 14 California Code of Regulations Section 15333, which exempts small habitat restoration projects not exceeding five acres in size, to assure the maintenance, restoration, enhancement, or protection of habitat for fish, plants, or wildlife. Consistent with that section, the project will not have a significant adverse impact on

endangered, rare or threatened species or their habitat; there are no hazardous materials at or around the project site; and the project will not result in significant cumulative impacts when viewed in connection with other projects.

At the second demonstration site which is located on US Fish and Wildlife Service (FWS) property, FWS and project partners will remove up to four acres of invasive European beachgrass and establish six to eight experimental areas of native dune mat plants to evaluate the effect of beachgrass removal and rate of replanting on dune height, under different scenarios such as direct planting, seed casting, and natural plant recruitment. The project area would be divided into approximately 50-meter long segments and European beachgrass would be removed from six of the eight segments, with the remaining two segments held as a control. See Figure 3 of Exhibit 4a of the accompanying staff recommendation. Expected small amounts of new growth of invasive beachgrass in the test area will be removed by hand during the demonstration project.

FWS completed an Environmental Assessment (EA) for the demonstration project on its property, and adopted a Finding of No Significant Impact (FONSI) (collectively Exhibit 4a to the accompanying staff recommendation) pursuant to the National Environmental Protection Act (NEPA). Consistent with 14 California Code of Regulations Sections 15220 et seq., the Conservancy, as lead agency under CEQA, may use a FONSI for CEQA purposes after providing notice of its intent to do so, and after determining that the federal document complies with CEQA.

CEQA Guidelines § 15221(a) directs that when a project requires compliance with both CEQA and NEPA, state and local agencies should use a federal FONSI rather than preparing a CEQA Negative Declaration where, as here, the FONSI is prepared before the Negative Declaration would be completed, and the FONSI complies with the CEQA Guidelines. Under CEQA Guidelines § 15225, the FONSI need not be recirculated by the state agency if the federal agency's circulation meets the requirements of § 15072. That section, in turn, invokes § 15105, which requires a public review period of not less than 30 days.

Staff has reviewed the FONSI prepared and adopted by FWS, and has concluded that it complies with CEQA. FWS' NEPA review includes a description of the property and proposed project activities. FWS circulated the FONSI for public and state agency review from April 22 through May 22, 2015. FWS received a total of five comment letters on the EA. These letters are included in Appendix B of the EA (Exhibit 4a to the accompanying staff recommendation). Four of the comment letters were brief letters of support. One letter included 27 comments; FWS' responses to those comments are included in the EA. One response resulted in clarifying textual changes to the EA; none of the responses resulted in significant changes to the document.

Unlike NEPA, CEQA requires consideration of mitigation measures where applicable, and adoption of a mitigation-monitoring or -reporting program (MMRP) for any such measures. The federal Environmental Assessment indicates that the proposed project would have no "significant" impacts. As discussed below, the only potentially significant effect under CEQA would be if unanticipated cultural resources were discovered during the project, notwithstanding a cultural survey already conducted. In the case of that unexpected event, the FONSI directs involvement of an archeologist. Therefore, no MMRP has been prepared for this project.

The environmental factors that would be potentially affected by this project are: Biological Resources, Greenhouse Gas Emissions, Cultural Resources, Air Quality, and Geology/Soils.

Biological Resources

In the short-term, this project would result in a reduction or loss of vegetative cover in a small area after invasive beachgrass is removed and before revegetation is mature. Immediate revegetation is expected to reduce the amount of time when open areas on the foredune are vulnerable to wind erosion. This project will have a less than significant impact on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means. All work is therefore restricted to the immediate foredune and the closest seasonal wetland is 150 feet away. The vegetation between the foredune and this wetland is stabilized by invasive species. The foredune will be replanted, which will limit sand movement towards the wetland. The potential effect is less than significant.

Greenhouse Gas Emissions

The proposed removal of invasive plant species would be done by hand and therefore no emissions from machinery will occur.

Cultural Resources

FWS completed a cultural resources survey of the 4-acre project area in April 2015. No issues of potential concern regarding cultural resources were identified and FWS issued a notice of compliance to the California State Historic Preservation Office. If any cultural materials, sites, or properties are discovered while removing European beachgrass, a qualified archaeologist will evaluate the finds and appropriate protection measures consistent with the requirements of 14 California Code of Regulations section 1504.5(f) will be taken, if necessary. In the event that any human remains are encountered or in the event that unassociated funerary objects or grave goods are discovered, work in the immediate vicinity of the discovery, other than non-disturbing documentation, shall cease and the Service shall comply with applicable State laws (14 California Code of Regulations § 15064.5(e), Health & Safety Code § 75050.5, and Public Resources Code § 5097.98), Native American Graves Protection and Repatriation Act as outlined at 43 CFR 10 and, Archaeological Resources Protection Act at 43 CFR 7.

Air Quality

A short-term impact of this project could be posed by smoke generated if removed plant material were burned. Past projects have shown that smoke from pile-burning is quickly dispersed. Burning vegetation would release particle pollution of less than 10 micrometers in diameter (PM10) for which Humboldt and Del Norte counties are classified as nonattainment; these areas therefore fall below the required federal Clean Air Act standards for this pollutant. Burning invasive vegetation piles would be done only with a burn plan that is approved by the North Valley Air Pollution Management District. Therefore, there would be a less than significant impact to air quality from this project.

Geology/Soils

This project is expected to cause an initial lowering of the foredune after invasive beachgrass is removed. If storm surges with high wave energy occur during the restoration process, some or all of the outer double foredune built by the beachgrass could potentially be eroded. This type of erosion, caused by undercutting of the foredune at its base, occurs without respect to vegetation type. The foredune is expected to return to or exceed its pre-project elevation within

approximately five years after project completion. This project therefore will have a less than significant impact on soil erosion or the loss of topsoil.

There is no topsoil on the dunes. The foredune is expected to be lowered after *Ammophila* is removed, and the sharp peaks caused by *Ammophila* will become more rounded and merge into a single rounded crest like a native foredune. The elevation is expected to recover when vegetation is established and vegetation will be planted immediately after *Ammophila* removal, minimizing elevation loss.

The Environmental Assessment also considered cumulative impacts of the project (a requirement of CEQA but not of NEPA), and determined that these impacts would be either insignificant or beneficial. Finally, based on the FONSI, staff do not believe that the project will have any growth-inducing effects.

On May 28, 2015, the California Coastal Commission issued a federal consistency determination for the demonstration project to take place on FWS property, stating that it concurs with FWS' findings.

Under CEQA Guidelines § 15225, the Conservancy, as lead agency under CEQA, may use the FONSI for CEQA purposes after providing notice, consistent with § 15087, of its intent to use the NEPA document in place of a CEQA Negative Declaration, and of its determination that the federal document complies with CEQA. In accordance with § 15087(a), on June 12, 2015, staff filed with the State Clearinghouse a "Notice of Intent to Use Finding of No Significant Impact in Lieu of Negative Declaration" (Exhibit 4b), and on June 13, 2015 published the notice in the Eureka Times Standard daily newspaper of its intent to use a FONSI in lieu of a negative declaration.

Conservancy staff will file a CEQA Notice of Determination following project authorization.

Marin County Open Space District

The proposed project consists of data gathering, topographic mapping, preparation of initial environmental and geographic designs, and permit applications. As such, the proposed project is exempt from review under CEQA pursuant to 14 California Code of Regulations Section 15262, Feasibility and Planning Studies, regarding a project that involves only feasibility or planning studies for possible future actions which the agency, board, or commission has not approved, adopted, or funded, and Section 15306, Information Collection, which consists of basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. This project involves only development of adaptation plans for possible future actions which the Conservancy has not approved, adopted, or funded. Upon approval, staff will file a Notice of Exemption that this proposed project is exempt from CEQA.

Marin Resource Conservation District

The purpose of this project is to create plans that to expand regional carbon farm planning to Napa, Sonoma, Marin, and Mendocino counties. The proposed project is exempt from review under CEQA pursuant to 14 California Code of Regulations Section 15262, Feasibility and Planning Studies, regarding a project that involves only feasibility or planning studies for possible future actions which the agency, board, or commission has not approved, adopted, or

funded. Upon approval, staff will file a Notice of Exemption that this proposed project is exempt from CEQA.

Marin County Community Development Agency

The proposed sea level rise vulnerability assessment project consists of data gathering, topographic mapping, preparation of initial environmental and geographic designs, and permit applications. As such, the proposed project is exempt from review under CEQA pursuant to 14 California Code of Regulations Section 15262, Feasibility and Planning Studies, in that it involves only feasibility or planning studies for possible future actions which the Conservancy has not approved, adopted, or funded. This project is also categorically exempt from review under CEQA pursuant to 14 California Code of Regulations Section 15306, Information Collection that covers projects that consist of basic data collection, research, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. Upon approval, staff will file a Notice of Exemption that this proposed project is exempt from CEQA.

Napa County Resource Conservation District

The proposed project is categorically exempt from review under CEQA pursuant to 14 California Code of Regulations Section 15304, Minor Alterations to Land, because the project involves planting of acorns of five dominant tree oak species extant in Napa County and involves weed abatement at planting sites, all of which will result in additional habitat resources, rainfall capture, and increased carbon sequestration. Upon approval, staff will file a Notice of Exemption that this proposed project is exempt from CEQA.

Golden Gate National Parks Conservancy

The proposed project consists of research regarding how sea level rise and associated effects from climate change will affect Crissy Field, an assessment of adaptive management strategies, scenario visualizations, and community engagement. As such, the proposed project is exempt from review under CEQA pursuant to 14 California Code of Regulations Section 15306, Information Collection, regarding basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. This project involves basic data collection, research, and resource evaluation activities that will not result in any disturbance to an environmental resource, and which will be undertaken as part of a study leading to an action which the Conservancy has not yet approved, adopted, or funded. Upon approval, staff will file a Notice of Exemption that this proposed project is exempt from CEQA.

San Francisco Bay Bird Observatory

This project is categorically exempt from review under CEQA pursuant to 14 California Code of Regulations Section 15304, Minor Alterations to Land, regarding minor public or private alterations in the condition of land, water and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry and agricultural purposes. This project will vegetate 6 acres of upland transitional areas of wetland with a diverse mixture of native plants that can provide habitat functions needed by the tidal marsh ecosystem. This project will also enhance the vegetation of 6 acres of high marsh areas with species that do not always recruit well passively but are key structure components to these habitats. This project therefore results in improvement of habitat for wildlife. This project is also categorically exempt from review under CEQA pursuant to 14 California Code of Regulations Section 15306, Information Collection,

regarding basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. This project will collect data through surveys and monitoring of vegetated areas. Upon approval, staff will file a Notice of Exemption that this proposed project is exempt from CEQA.

Coastal Conservation and Research, Inc.

The proposed project consists of dune restoration design and the preparation of permit applications, including environmental review. As such, the proposed project is statutorily exempt from review under CEQA pursuant to 14 California Code of Regulations Section 15262, Feasibility and Planning Studies, in that it involves only feasibility or planning studies for possible future actions which the Conservancy has not approved, adopted, or funded. Upon approval, staff will file a Notice of Exemption that this proposed project is exempt from CEQA.

The Nature Conservancy of California

The Nature Conservancy will plan, design and facilitate permitting of management strategies that engage the agricultural community, local agencies and resource providers along the Salinas River in Monterey County. The proposed project therefore consists of data gathering, preparation of initial environmental and geographic designs, and preparation of permit applications. As such, the proposed project is exempt from review under CEQA pursuant to 14 California Code of Regulations Section 15262, in that it involves only feasibility or planning studies for possible future actions which the Conservancy has not approved, adopted, or funded and Section 15306, Information Collection, regarding basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. Upon approval, staff will file a Notice of Exemption that this proposed project is exempt from CEQA. Upon approval, staff will file a Notice of Exemption that this proposed project is exempt from CEQA.

The Bay Foundation

This project is categorically exempt from review under CEQA pursuant to 14 California Code of Regulations Section 15306 regarding basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. The kelp forest hydrodynamics study will consist of information gleaned by placement of sensors (Acoustic Doppler Current Profilers and Acoustic Doppler Velocimeters) which are small in size and pose no risk to the environment. Information collected from this study will help ensure the protection of coastal habitat. Upon approval, staff will file a Notice of Exemption that this proposed project is exempt from CEQA.

Orange County Coastkeeper

The proposed project is categorically exempt from review under CEQA pursuant to 14 California Code of Regulations Section 15333, Small Habitat Restoration Projects, regarding projects under five acres in size that assure the maintenance, restoration, enhancement, or protection of habitat for fish, plants, or wildlife. While there are a few species of concern and endangered species in the Upper Newport Bay Ecological Reserve, including the endangered Ridgeway's Rail (*Rallus obsoletus levipes*) and the California Least Tern (*Sterna antillarum browni*), they are not expected to be active in the specific project area. Still, the grantee will take special measures to avoid any impact on these two species. The proposed project will conduct pre-construction surveys for each species one month and several days prior to initiation of restoration. All

volunteers will be informed on how to identify and behave around these species prior to ever stepping foot on the mudflat or entering the water. To complete any work on the mudflat (oyster restoration and monitoring), workers will access the intertidal oyster restoration site by an existing, unvegetated foot path without the use of motorized equipment of any kind. If these species are encountered, workers will maintain a minimum distance of 30 feet away from that animal's location. The proposed project will monitor water quality (including turbidity, DO, and pH) before and after restoration activities, to ensure no negative impact to aquatic life. For eelgrass restoration and monitoring, the project site will be accessed by water only from small motorized boats with quiet engines (to avoid disturbance of the foraging California least terns). The proposed project, which is less than five acres, plans to plant eelgrass between June and August (to minimize disturbance to any nesting birds). The proposed project does not anticipate a negative impact on these species of concern and endangered species. Upon approval, staff will file a Notice of Exemption that this proposed project is exempt from CEQA.