

SAN FRANCISCO BAY RESTORATION AUTHORITY

Staff Recommendation
April 11, 2018

**RESTORING WETLAND-UPLAND TRANSITION HABITAT IN THE NORTH BAY
WITH STRAW**

Project Number: RA-003
Project Manager: Caitlin Sweeney

RECOMMENDED ACTION: Authorization to disburse up to \$2,661,264 to Point Reyes Bird Observatory to restore 1.31 linear miles of critical wetland-upland transition zone habitat in the North Bay.

LOCATION: San Pablo Bay National Wildlife Refuge in Sonoma, Solano, and Napa Counties; Pickleweed Park in San Rafael in Marin County; Shollenberger Park and McNear's Landing in Petaluma in Sonoma County; Measure AA Region: North Bay

MEASURE AA PROGRAM CATEGORY: Vital Fish, Bird and Wildlife Habitat Program

EXHIBITS

Exhibit 1: [Project Location and Site Map](#)

Exhibit 2: [Project Photographs](#)

Exhibit 3: [Project Letters](#)

RESOLUTION AND FINDINGS:

Staff recommends that the San Francisco Bay Restoration Authority adopt the following resolution pursuant to The San Francisco Bay Restoration Authority Act, Gov. Code §§ 66700-66706:

“The San Francisco Bay Restoration Authority hereby authorizes the disbursement of an amount not to exceed two million six hundred sixty one thousand two hundred sixty four dollars (\$2,661,264) to Point Reyes Bird Observatory, Inc. to restore approximately 1.3 linear miles of critical wetland-upland transition zone habitat in the North Bay, engaging STRAW (Students and Teachers Restoring a Watershed) participants at four sites: San Pablo Bay National Wildlife Refuge in Sonoma and Solano Counties; Pickleweed Park in San Rafael, Marin County; and Shollenberger Park and McNear's Landing in Petaluma, Sonoma County.

Prior to commencement of the project, the grantee shall submit for the review and written approval of the Executive Officer of the Authority the following:

- a. A detailed work program, schedule, and budget.
- b. Names and qualifications of any contractors to be employed in carrying out the project.
- c. A plan for acknowledgement of Authority funding.
- d. Evidence that the grantee has entered into agreements sufficient to enable the grantee to implement, operate, and maintain the project.”

Staff further recommends that the Authority adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the San Francisco Bay Restoration Authority hereby finds that:

1. The proposed authorization is consistent with The San Francisco Bay Restoration Authority Act, codified at Gov. Code §§ 66700, et seq.
2. The proposed authorization is consistent with The San Francisco Bay Clean Water, Pollution Prevention and Habitat Restoration Measure (Measure AA).
3. The grantee is not required to enter into a project labor agreement per Resolution 22 due to the non-construction nature of the work.”

PROJECT SUMMARY:

Staff recommends the disbursement of up to \$2,661,264 to Point Blue Conservation Science to restore approximately 1.3 linear miles of critical wetland-upland transition zone habitat in the North Bay, engaging over 5,000 STRAW (Students and Teachers Restoring a Watershed) participants at four sites (project or proposed project) over the course of five years.

The proposed project will consist of design, implementation, maintenance and monitoring of climate-smart marsh (and newly restored marshes which are typically mudflats) to upland transition zone habitat restoration in four locations in Marin, Sonoma, and Solano Counties, while educating and building a constituency of environmental supporters. The project will: (1) cast teachers, students and their families as ecological stakeholders—engaging them actively in the improvement of natural areas in their community, (2) increase resiliency of marsh transition zone habitat through critical restoration work, and (3) ensure long-term restoration success through monitoring and maintenance.

The project will focus on areas of degraded shoreline. Point Blue and their partners recently completed an analysis showing that, in less than 100 years, climate change could reduce 77% of current San Francisco Bay wetlands by up to 93%. This habitat is critical to the health of human communities and wildlife. Healthy wetlands buffer adjacent roads and buildings from storm surges and flooding, filter pollutants from run-off, and provide crucial habitat for wildlife. Restoring upland transition zones is a critical climate change adaptation strategy for wetlands, because wildlife and water will need areas to migrate to during storm surges and flooding.

Restoration teams, including students, teachers and their families, will plant shrubs, grasses, and ground cover using installation best practices to restore 1.31 linear miles of wetland-upland transition zone habitat. Using Point Blue's planning tools, the project will create a climate-resilient planting palette to meet project-specific restoration goals. The project will propagate and plant locally sourced native plants according to the restoration guidelines of the USFWS Recovery Plan for California Tidal Marshes and the California Department of Fish and Game's California Wildlife Action Plan to create habitat for state and federal species of concern. In completing these tasks, the project will increase climate resiliency at the sites in the face of increased flooding, drought, and heat while ensuring young students are inspired about and engaged in environmental stewardship. The project sites will be maintained for one to three years following restoration activities to ensure long-term success.

All four sites are public property and accessible, and three of the sites are walkable and/or accessible from underserved schools and communities. Point Blue's STRAW program has worked on similar projects throughout the Bay Area for 26 years and has widespread support from public and private partners. For this project, community partners include the San Pablo Bay National Wildlife Refuge (SPBNWR), Sonoma Land Trust, Marin County Department of Public Works, Marin County Stormwater Pollution Prevention Program, San Francisco Bay Joint Venture (SFBJV), Sonoma County Water Agency, Federated Indians of the Graton Rancheria, Friends of the Petaluma River, Petaluma Wetlands Alliance, Sonoma Resource Conservation District, and school partners. STRAW's community engagement process includes:

- Getting input on project design from all land managers and other relevant stakeholders,
- Educating the community about the benefits of habitat restoration – for this project, STRAW will emphasize the benefits to wildlife, including two federally endangered species, as well as educational value through STRAW's teacher network and K12 program,
- Working in disadvantaged communities. Approximately 40% of the schools engaged by STRAW will be underserved schools (defined as having 50% or more students eligible for the USDA free or reduced meal program).

The project was selected in the first competitive round of Measure AA funding because it will restore critical transition zone habitat while engaging teachers, students and families. In addition, the STRAW program has a proven model and a long track record of success, with widespread support from the community and partners.

Site Description:

The project will restore four sites in the North Bay: San Pablo Bay National Wildlife Refuge, Pickleweed Park, Shollenberger Park and McNear's Landing Park. Each site connects existing habitat or restoration projects to enhance plant and wildlife connectivity, requires minimal planning, and is approved and ready for construction. The proposed sites will either build on existing restoration work to expand habitat connectivity or will begin new to enhance wetland-upland transition zone habitat.

San Pablo Bay National Wildlife Refuge is along the north shore of San Pablo Bay in Sonoma, Solano, and Napa Counties. SPBNWR is owned and managed by US Fish and

Wildlife Service (USFWS). The restoration will further benefit two endangered species—the Ridgway’s rail (*Rallus longirostris obsoletus*) and the salt marsh harvest mouse (*Reithrodontomys raviventris*)—as well as California Species of Special Concern (including California black rail, San Pablo song sparrow, salt marsh common yellowthroat, marsh wren, and Suisun shrew). Each of these species have suffered significant population declines as a result of the loss of salt marsh habitat in the Bay. A primary strategy for stabilizing their populations is to restore tidal marsh and reestablish habitat area for feeding, breeding, and roosting while also reducing predation levels. This project will increase connectivity to refugia, providing these salt marsh animals access to healthy adjacent habitat for feeding and additional protection during extreme storms and high tide events, without which they also move to the edges of levees and are exposed to intensified predation.

Shollenberger Park is owned and managed by the City of Petaluma. The park is heavily used by birds migrating along the Pacific Flyway, as well as residential birds such as the endangered Ridgway’s Rail.

McNear’s Landing is also owned by the City of Petaluma. At both sites, vegetation along the levee banks is substantially degraded, consisting primarily of non-native and invasive species of marginal habitat value. Restoration at these marsh transition zone sites will contribute to improving urban watershed health through the creation of climate-smart habitat, improved sea-level rise resilience, and wave attenuation. It will improve water quality by reducing levee erosion and increasing sediment control.

Pickleweed Park is owned and managed by the City of San Rafael, and located in the Canal District. Degraded wetland habitat at Pickleweed Park can no longer support the endangered species (Ridgway’s rail and salt marsh harvest mouse) or the numerous California Species of Special Concern that once thrived in these marshes.

PROJECT FINANCING

San Francisco Bay Restoration Authority	\$2,661,264
Project Total	\$2,661,264

STRAW’s extensive use of volunteers is expected to result in an in-kind contribution of over \$1.5 million.

CONSISTENCY WITH AUTHORITY’S ENABLING LEGISLATION, THE SAN FRANCISCO BAY RESTORATION AUTHORITY ACT:

Under section 66704.5 (a), the Authority may award grants to public and private entities; Point Reyes Bird Observatory (PRBO) is a 501(c)3 private nonprofit corporation. Established in 1965, PRBO’s mission is to conserve birds, other wildlife and ecosystems through science, partnerships and outreach. In 2013, PRBO changed its organizational name to Point Blue Conservation Science, but continues with the same organizational goals.

Consistent with section 66704.5(b)(1), the proposed project will “Restore, protect, or enhance tidal wetlands, managed ponds, or natural habitats on the shoreline of the San Francisco Bay area” by restoring degraded wetland-upland transition zone habitat along the North Bay shoreline. The project includes: plant propagation; site-specific planning, restoration and construction; site maintenance, and monitoring and reporting; per 66704.5 (e) these activities are all eligible for the use of Measure AA funds.

CONSISTENCY WITH MEASURE AA PROGRAMS AND ACTIVITIES:

The project is consistent with the *Vital Fish, Bird and Wildlife Habitat Program* as it includes the following eligible program activities:

- a. *Enhancing the San Francisco Bay National Wildlife Refuge, shoreline parks and open space preserves, and other protected lands in and around the Bay, providing expanded and improved habitat for fish, birds and mammals.*

The project includes restoration within the San Pablo Bay National Wildlife Refuge, which is part of the San Francisco Bay National Wildlife Refuge Complex. In addition, the project includes restoration at two shoreline parks, Shollenberger Park in Petaluma and Pickleweed Park in San Rafael.

- b. *Protecting and restoring wetlands and other Bay and shoreline habitats to benefit wildlife, including shorebirds, waterfowl and fish.*

The project will result in 1.31 linear miles of wetland-upland transition zone habitat restored, creating new high quality habitat and high tide refugia for wildlife, especially two federally endangered species. The project will include planting and maintenance of 8,800 native plants to increase deep-rooted vegetation and canopy cover.

- c. *Providing for stewardship, maintenance and monitoring of habitat restoration projects in and around the Bay, to ensure their ongoing benefits to wildlife and people.*

The restoration teams for the project will include 5,280 students, teachers and other residents, which will educate and build a constituency of environmental supporters. Restoration sites will be maintained during the project period to ensure successful vegetative establishment and success will be monitored through vegetation sampling, plant survival count, and wildlife monitoring. As all of the projects will be designed and implemented to ensure successful establishment and self-propagation of vegetation within two years post installation so will not need substantial ongoing maintenance.

CONSISTENCY WITH MEASURE AA PRIORITIZATION CRITERIA:

1. Greatest positive impact.

The restoration will result in new high quality habitat and high-tide refugia for wildlife, especially for two federally endangered species, Ridgway’s rail and salt marsh mouse. Point Blue’s STRAW program has a scientifically proven track record of success in establishing

wetland-upland transition zone in degraded areas and has worked in the area for more than 10 years. This project will directly treat and enhance over 3 acres of this habitat and will have a resulting impact on hundreds of surrounding acres. All installed plants will be locally collected and propagated using innovative practices for disease prevention and climate change resiliency, ensuring their genetic integrity. Some 5,280 teachers, students, and their families will receive specific education enhancing their understanding of the importance of a healthy functioning San Francisco Bay ecosystem. Communities from the entire North Bay will participate in these projects, including communities who traditionally do not have access to these type of activities.

2. Greatest long-term impact.

Projects will be designed using Point Blue's Climate-Smart restoration planning framework and transition zone planting tool. Point Blue defines climate-smart restoration as the process of enhancing ecological function of degraded, damaged, or destroyed areas in a manner that prepares them for the consequences of climate change. Each STRAW restoration project increases the number and diversity of birds, and collectively the impact is even greater. The number of bird species detected at STRAW restoration sites has gone from as low as 0 pre-restoration to as high as 30 post restoration within 15 years. Some 5,280 teachers, students, and their families will play an active role in restoring San Francisco Bay health, leaving a lasting impact on them as environmental stewards.

3. Leveraging resources and partnerships.

For this project, STRAW participants will provide more than \$1.5M of volunteer labor. In addition, USFWS provides in-kind support for work at the San Pablo Bay National Wildlife Refuge including the nursery and operational costs, materials for the nursery and restoration projects, and USFWS staff and intern assistance with site prep, technical guidance, and project maintenance.

4. Economically disadvantaged communities.

Approximately 40% of the schools Point Blue will partner with are located in low-income communities (data from the Authority's 80% Area Median Income Map). These teachers will receive on-going professional development in watershed science that will benefit their students beyond the grant period. Students and families who participate in the STRAW restoration will gain a greater understanding of their watershed and be more inclined to serve as environmental stewards in their communities.

5. Benefits to economy. STRAW employs 20 restoration experts and educators. With this grant, they will add an environmental educator to work with 5,280 STRAW participants and support 20 STRAW interns (4 per year over 5 years) who will be trained in climate-smart conservation principles. Point Blue will create a webinar based on this project to train restoration practitioners on wetland-upland transition zone habitat enhancement. Based on past webinars, they anticipate that they will train 200-250 individuals.

6. **Engage youth and young adults.** Point Blue will partner with approximately 19 schools in the area and 5,200 students. STRAW participants will receive watershed education and training and experience in restoration. In 2014, HLJ Research evaluated the program and found that STRAW improved students' basic understanding of watersheds and provided students with a broader global context of watersheds and their importance to the environment. During the project, STRAW will also work with at least 20 interns, who will receive training in climate-smart conservation. Many of the interns go on to work at conservation nonprofits or government agencies and apply this training to their future work in natural resource protection.

7. **Monitoring, maintenance, and stewardship**
Based on 12+ years of experience in this specific habitat type, STRAW will construct projects that minimize long-term maintenance needs, encourage self-propagation, and maximize habitat value. Monitoring of previous sites demonstrates the success of these practices. For example, previous work at Pickleweed Park has resulted in an 82% survival rate average over four years. Monitoring informs STRAW's adaptive management strategies and design refinements, as it is part of Point Blue's commitment to using data collection and analysis to inform conservation practices. Over the course of the five-year project, STRAW will use established monitoring protocols for vegetation establishment success that gets at short-term, construction performance. To evaluate wildlife habitat benefit, birds will be monitored as indicators using the area search methodology. Point Blue, Save The Bay, and San Francisco Bay Bird Observatory are currently developing a new wetland-upland transition zone monitoring protocol that will be used for this project.

8. **Coastal Conservancy's San Francisco Bay Area Conservancy Program.**
The project is consistent with all the Conservancy's San Francisco Bay Area Conservancy Program's Criteria in the following ways:
 - a. *Are supported by adopted local or regional plans.* The project helps meet the goals and objectives of the: State Coastal Conservancy Strategic Plan, Bay Area Integrated Regional Watershed Management Plan, Petaluma Integrated Watershed Management Plan, California Climate Adaptation Strategy/Safeguarding California: Reducing Climate Risk, California Essential Habitat Connectivity Strategy for Conserving a Connected California, USFWS's Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California, Baylands Ecosystem Habitat Goals Science Update, and others.
 - b. *Are multijurisdictional or serve a regional constituency.* The four sites are located across a broad area of the North Bay. STRAW participants will come from schools in Marin, Sonoma, Napa, and Solano counties.
 - c. *Can be implemented in a timely way.* Restoration is in progress at Pickleweed Park and SPBNWR. Schollenberger Park and McNear's Landing are ready to start once funds are available.
 - d. *Provide opportunities for benefits that could be lost if the project is not quickly implemented.* With the increase in extreme weather, storm surges and flooding, these sites are currently impacted by the changing climate. Implementing restoration will give the wetland-upland transition zone time to establish and provide benefits to wildlife and

people. In addition, unrestored sections are primarily composed of noxious, non-native invasive species of minimal habitat and erosion control value.

- e. *Include matching funds from other sources of funding or assistance.* STRAW participants and volunteer interns will provide in-kind labor valued at \$1.5M.

9. **San Francisco Bay Conservation and Development Commission's Coastal Management Program.** The project is consistent with the program because it will enhance the ecological function and recreational value of existing marshlands and the adjacent mudflats, habitat types that receive special emphasis for preservation in the program.

10. **San Francisco Bay Joint Venture's Implementation Strategy.** The project is consistent with the SFBJV's Implementation Strategy in that it has been formally adopted by the SFBJV as a Tier 1 priority project for the SF Bay Region through consultation with SFBJV staff. The primary benefit of the project will be the creation of new high quality habitat and high tide refugia for wildlife.

COMPLIANCE WITH CEQA:

The project is exempt under CEQA for minor alterations in the condition of the land, water, and vegetation on existing designated wildlife management areas which result in improvement of habitat for fish and wildlife resources. (CEQA Guidelines, 14 Cal. Code Regs. § 15304). The project does not involve the removal of healthy, mature, scenic trees and will not impact an environmental resource of hazardous or critical concern. (See 14 Cal Code. Regs. § 15300.2(a)). Upon approval, staff will file a Notice of Exemption.