

SAN FRANCISCO BAY RESTORATION AUTHORITY

Staff Recommendation
April 11, 2018

SONOMA CREEK BAYLANDS STRATEGY

Project No. RA-002
Project Manager: Jessica Davenport

RECOMMENDED ACTION: Authorization to disburse up to \$150,000 to Sonoma Land Trust to develop a strategy for landscape-scale restoration, flood protection and public access in the Lower Sonoma Creek portion of the San Pablo Baylands in Sonoma County.

LOCATION: Lower Sonoma Creek, Sonoma County, Measure AA Region: North Bay

MEASURE AA PROGRAM CATEGORIES: Vital Fish, Bird and Wildlife Habitat Program; Integrated Flood Protection Program; Shoreline Public Access Program

EXHIBITS

- Exhibit 1: [Project Location, Site Map, and Bay Trail Map](#)
Exhibit 2: [Project Photographs](#)
Exhibit 3: [Project Letters](#)
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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 one hundred fifty thousand dollars (\$150,000) to Sonoma Land Trust to develop a strategy for landscape-scale restoration, flood protection and public access in the Lower Sonoma Creek portion of the San Pablo Baylands in 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.”

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, Gov. Code Sections 66700-66706.
 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 planning nature of the authorized project.”
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PROJECT SUMMARY:

Staff recommends that the Authority authorize a grant of up to one hundred fifty thousand dollars (\$150,000) to Sonoma Land Trust (SLT) to develop a strategy (Strategy) for landscape-scale restoration, flood protection and public access in the Lower Sonoma Creek portion of the San Pablo Baylands (Exhibit 1, Site Map).

The Strategy will provide guidance in achieving the core goal of the *Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California* (U.S. Fish and Wildlife Service): comprehensive restoration and management of tidal marsh ecosystems to lead to the delisting of the listed species in the plan, such as the salt marsh harvest mouse and Ridgway’s rail. It will also ensure that wetland restoration projects are designed from the start to provide flood management and public access benefits.

The Strategy is needed because multiple opportunities exist to accomplish large-scale restoration on properties owned by the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife, as well as through new acquisitions. Funding for acquisition and restoration is limited and priorities must be developed with an emphasis on understanding how restoration of one parcel might affect another, particularly with respect to the existing constraints of flooding and salt water intrusion, reduced availability of sediment, public infrastructure such as State Route (SR) 37 and the Sonoma-Marin Area Rail Transit (SMART) railroad, and sea level rise. Once the Strategy is developed, it will allow SLT to accelerate current land protection and habitat restoration projects in the area.

The redesign of SR 37 that is currently underway is one of the most important determinants of the potential to restore this landscape in the future. The extent to which the future roadway is raised on a causeway or remains on a berm through the existing marshes and diked baylands will exert a strong influence over Lower Sonoma Creek’s tidal prism, sediment availability, stormwater outflow and habitat development. SLT is actively involved in the highway redesign and its ability to provide ecologically-based recommendations will be greatly enhanced by developing a greater understanding of the area through this project.

The Strategy will serve as a downscaling of actions called for in the *Baylands Ecosystem Habitat Goals Science Update 2015* (Habitat Goals Update). SLT will engage the services of experienced scientists and planners to assist them in determining priorities, sequencing, and recommendations for restoration project feasibility and priorities, as well as recommendations relevant to SR 37. SLT will also engage important partners including the Sonoma Resource Conservation District (RCD), California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Sonoma County Regional Parks, Sonoma County Water Agency, San Francisco Bay Trail, and landowners. SLT is already deeply engaged with the Metropolitan Transportation Commission and state and local transportation authorities concerning the future of SR 37.

The Sonoma Creek Baylands Strategy will achieve the following objectives:

- Identify the optimal sequence for land acquisition and associated restoration to maximize habitat development and flood attenuation and minimize risk of exacerbated saltwater intrusion;
- Identify conceptual alternatives for restoration of acquired lands (which may be in the form of a map);
- Identify areas that can be prioritized for land acquisition which would provide for marsh migration, ecological processes such as sediment delivery, and habitat connectivity over time;
- Provide key recommendations for the redesign of SR 37 to ensure hydrological and habitat connectivity between Sonoma Creek Baylands and San Pablo Bay and resilience against sea level rise;
- Provide key recommendations to increase connectivity under and across the SMART rail line;
- Communicate the findings to agencies, partners, and landowners.

Technical analyses will be conducted as needed. For example, they may include:

- Modelling of fluvial and tidal flows in Sonoma Creek to determine what changes could be made to reduce flooding at Schellville and restore tidal wetlands;
- Analysis of the predicted increases in tidal flows due to tidal marsh restoration and ways to avoid erosion of any downstream structures, such as levees and bridges;
- Modeling to understand the effects of wind waves on large open water tidal ponds, i.e., potential for levee erosion and resuspension of sediment that slows the rate of development of a vegetated marsh;
- Analysis to determine how the marshes of the Sonoma Creek Baylands respond to sea level rise and changes in sediment supply for the various scenarios;
- Analysis of watershed and transition zone connectivity for marsh migration and movement of wildlife, water and sediment; and
- Analysis of the long-term opportunities and constraints associated with existing land uses in the area and how they are likely to change in the future.

Community input will be essential to the development of the Strategy. The Sonoma Creek Baylands community is in an unincorporated area of Sonoma County that is disproportionately exposed to the environmental hazards associated with sea level rise and impacts of upstream development. SLT conducts one-on-one outreach and works extensively through networking and word of mouth. Through decades of work in the Sonoma Creek Baylands area, SLT staff has developed strong relationships with nearly every landowner in the area.

Public access is another important element of the Strategy. The project will identify existing and proposed alignments of the Bay Trail and Water Trail within the project area (Exhibit 1, Map 3). Where new projects, such as acquisition of land and future restoration, are proposed, SLT will coordinate planning and construction with Bay Trail and Water Trail staff.

SLT has a strong track record in landscape-scale protection, wetland restoration, and public access improvement. It has planned and constructed large, complex restoration and public access projects, and leveraged tens of millions of dollars and the community support necessary to achieve its goals. Since it was established in 1976 as a non-profit land conservation organization, SLT has protected over 50,000 acres of natural, recreational, scenic, and agricultural lands for the future of Sonoma County. Of these conserved lands, SLT has protected over 6,500 acres in the San Pablo Baylands. An example of its achievements within the baylands is the acquisition of the 2,327-acre Sears Point property, restoration of nearly 1,000 acres of its diked agricultural baylands to tidal wetlands, enhancement of the remainder of the property's seasonal wetlands, riparian habitats, and grasslands, and transfer of much of the acreage to the San Pablo Bay National Wildlife Refuge. SLT also acquired the 1,092-acre Haire Ranch and transferred the property to the San Pablo Bay National Wildlife Refuge for restoration from diked agricultural baylands to tidal and seasonal wetlands. SLT supports public access where feasible and recently constructed 2.5 miles of the Bay Trail.

Local agencies, non-profit organizations and elected officials have expressed support for this project. Letters of support (Exhibit 3) have been received from Sonoma County Transportation Authority; Sonoma Resource Conservation District; Sonoma County Water Agency; Audubon California; Sonoma County Regional Parks; San Francisco Estuary Institute; San Francisco Bay Trail; State Senator Bill Dodd; Assemblymember Cecilia Aguiar-Curry; and Assemblymember Marc Levine.

Site Description: Sonoma Creek is one of the largest tributaries to San Pablo Bay. The project area comprises 34,000 acres and includes the mouths of Sonoma and Tolay Creeks, diked baylands, and adjacent uplands that can provide transitional habitat and marsh migration space.

Historically, nearly all of the Sonoma Creek Baylands were tidal marsh. The marsh plain was bound in the west by the southernmost flank of Sonoma Mountain; to the east, it extended unbroken for miles before meeting the hills of the inner coast range, an expanse known today as the Napa Sonoma Marshes. The project area's northerly boundary, now defined by Schellville and Highway 121, was historically distinguished by a change in gradient in which the fluvial processes of Sonoma Creek gave way to the tidal influences of San Pablo Bay, the area's southern boundary.

Beginning in the 1800s, the marshes were reclaimed for agriculture, salt production, military installations and transportation infrastructure. As in many diked baylands, these areas are subsided and require extensive levee maintenance and stormwater pumping to keep them dry.

Sonoma Creek itself is confined through much of the upper watershed and meanders through the diked baylands in little more than a ditch. However, even minor storms can cause it to overtop levees in the diked baylands, resulting in chronic flooding problems for landowners in the area. Relief from this flooding was the focus of the previously completed *Lower Sonoma Creek Flood Management and Ecosystem Enhancement* report, which ultimately concluded that flood control was possible only with significant investment that was not justified by the value of the land uses. The report recommends flood-compatible land uses instead, with tidal wetland restoration as the most feasible method to achieve this.

Land ownership in the Sonoma Creek Baylands is a mix of public and private. Some of the public lands have been restored to seasonal freshwater marsh while others are in various stages of planning for a mix of fresh and tidal marsh restoration.

The uplands marking the western edge of the area remain largely open with agriculture, an automobile raceway, and open space being the primary uses (Exhibit 2, Project Photographs). Nearly all of Tolay Creek, one of the primary tributaries to Lower Sonoma Creek, is protected within Tolay Lake Regional Park. However, Tolay Creek's lower reach was diverted several decades ago from its natural drainage to San Pablo Bay into Sonoma Creek through ditches. Opportunities exist for connecting uplands to the baylands in this region.

Two of the most important obstacles to restoration are wrapped up in a single land use: transportation infrastructure. SR 37 splits the historic tidal wetlands and spans Lower Sonoma Creek on a bridge that is too short to accommodate flows expected to occur when the tides are restored on upstream properties. The SMART railroad effectively blocks the potential for future marsh migration and interrupts vital ecological processes that deliver sediment and freshwater to the baylands. SLT is urging that SMART railroad be included in the discussion of the redesign of the SR 37 transportation corridor.

PROJECT FINANCING

San Francisco Bay Restoration Authority	\$150,000
Resources Legacy Fund ¹	\$50,000
SLT	\$10,000
Project Total	\$210,000

SLT has received a \$50,000 award from the Resources Legacy Fund and SLT will provide \$10,000 of its own funds toward this planning process.

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

The Strategy meets the following eligibility requirements of the Restoration Authority's enabling legislation. SLT, a 501(c)(3) nonprofit organization, is an eligible grantee as defined by Section 66704.5(a). The project is in the San Pablo Baylands, which is an eligible location along the

¹ The Resources Legacy Fund is a public charity that helps donors engage in strategic endeavors in conservation.

shoreline (Section 66704.5(b)), as defined in the Grant Program Guidelines, Appendix B1C. The Strategy will lead directly to implementation of habitat protection and restoration projects within the region for the next decade. These projects will benefit fish and wildlife and provide nature-based flood protection and public access benefits associated with wetland restoration, as required by Section 66704.5(b). Funding this planning project is consistent with Section 66704.5(e) which provides that the Authority may award grants for all phases of planning for eligible projects.

CONSISTENCY WITH MEASURE AA PROGRAMS AND ACTIVITIES:

The project will help implement Measure AA's Safe, Clean Water and Pollution Prevention Program because the Strategy will identify actions to restore historical ecosystem processes, including restoring wetlands that provide natural filters and remove pollution from the Bay's water.

The project will help implement Measure AA's Vital Fish, Bird and Wildlife Habitat Program because the actions identified in the Strategy will protect and restore wetlands and other Bay and shoreline habitats to benefit wildlife, including shorebirds, waterfowl and fish. They will also enhance the San Francisco Bay National Wildlife Refuge, shoreline parks and open space preserves, and other protected lands in and around the Bay.

The project will help implement Measure AA's Integrated Flood Protection Program because identified actions will provide nature-based flood protection through wetland and habitat restoration along the Bay's edge and at creek outlets that flow to the Bay.

The project will help implement Measure AA's Shoreline Public Access Program because the Strategy will identify opportunities for expansion of the Bay Trail and Water Trail to encourage Bay Area residents to experience the Bay and appreciate all that it offers.

CONSISTENCY WITH MEASURE AA PRIORITIZATION CRITERIA:

1. **Greatest positive impact.** This project will produce a Strategy that integrates multiple benefits (wildlife habitat, clean water, flood protection and public access) in an area with great restoration potential. Like much of the Bay's shoreline, beginning in the mid-1800s the Sonoma Creek Baylands were reclaimed through the draining of tidal wetlands and construction of levees for agricultural, residential, and transportation uses. Unlike most of the shoreline, however, these subsided and vulnerable baylands and adjacent uplands were never intensively developed, and large-scale restoration is much more feasible than in other areas. The project will use the best available science, including existing hydrological modelling, to understand ecosystem processes, which will inform recommendations for restoration. SLT will adapt the recommendations for the North Bay detailed in the Habitat Goals Update to the Sonoma Creek Baylands and build upon the *Lower Sonoma Creek Flood Management and Ecosystem Enhancement* report completed in 2012 by ESA PWA.
2. **Greatest long-term impact.** Along with its other objectives, this Strategy is a climate resilience project, which will evaluate alternatives across multiple climate change scenarios. The Sonoma Creek Baylands have already begun to experience the impacts of severe flooding and high tides. Using the best available science, SLT will evaluate nature-based flood protection alternatives. Additionally, they will identify key connections to ensure ongoing freshwater and sediment inputs from the watershed to the estuary so that tidal marsh

restoration can keep pace with sea level rise. Future generations will depend upon a functioning bay, one that provides clean water, carbon storage, habitat for fish and wildlife, and natural protection against flooding. Ultimately, the land protection and restoration that results from this planning process will provide these benefits.

3. **Leveraging resources and partnerships.** SLT will work with Sonoma RCD, the San Francisco Estuary Institute, public and private landowners, and other stakeholders and experts to complete this Strategy. SLT has already secured a \$50,000 grant from the Resources Legacy Fund to support development of the Strategy.
4. **Benefits to economy.** The Strategy will identify options for nature-based flood protection to protect critical infrastructure such as SR 37 and the SMART rail line, farms, and residences in the Sonoma Creek Baylands that are subject to flood-induced economic loss.
5. **Engage youth and young adults.** SLT will engage with partners to ensure that the Strategy includes a thorough description of opportunities for youth participation in habitat restoration. SLT partners with Point Blue Conservation Science's Students and Teachers Restoring a Watershed (STRAW) program to conduct restoration plantings. Given the STRAW staff's experience doing work with restoration in the San Pablo Baylands, SLT will reach out to them to seek their advice and lessons learned. SLT will incorporate a discussion of the importance of these activities into the Strategy.
6. **Monitoring, maintenance, and stewardship.** The Strategy will include guidelines on monitoring, maintenance and stewardship for implementation projects in the Sonoma Creek Baylands. Proponents of projects associated with the Strategy will be encouraged to base their monitoring, maintenance and stewardship plans on these guidelines. In addition, SLT intends to report on lessons learned from the development of the Strategy, which are expected to cover topics such as stakeholder outreach, science-based scenario development, and project prioritization methods.
7. **Coastal Conservancy's San Francisco Bay Area Conservancy Program.** This project satisfies the selection criteria of the Coastal Conservancy's San Francisco Bay Area Conservancy Program as identified in Appendix A of the Request for Proposals in the following ways:
 - a. The Strategy is consistent with the following adopted local and regional plans.
 - i. *Restoring the Estuary: An Implementation Strategy for the San Francisco Bay Joint Venture* (San Francisco Bay Joint Venture). The Strategy will lead to the protection and restoration of at least 4,000 acres, helping meet the goal of the SF Bay Joint Venture to restore 63,000 acres.
 - ii. *The Baylands and Climate Change: What We Can Do. Baylands Ecosystem Habitat Goals Science Update 2015* (California State Coastal Conservancy). This project promotes the goals for the North Bay subregion by restoring tidal marsh to sustain high marsh as sea level rises, identifying ways to reconnect tributaries to tidal wetlands, and recommending options for raising SR 37 to allow passage of sediment, water and wildlife.
 - iii. *Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California* (U.S. Fish and Wildlife Service). This project helps meet the core goal of this

- recovery plan — comprehensive restoration and management of tidal marsh ecosystems to lead to the delisting of the focal listed species in the plan.
- iv. *Comprehensive Conservation and Management Plan for the San Francisco Estuary* (San Francisco Estuary Partnership). This project includes restoration of critical physical processes and habitats, allowing tidal wetlands to migrate landward, and ensuring successful reproduction and habitat connectivity as climate change alters landscapes.
 - v. *Surviving the Storm* (Bay Area Council Economic Institute). This project supports the development of structural features, such as wetlands, to defend against Bay flooding, and supports development of regional strategies for flood protection.
 - vi. *San Francisco Bay Trail Plan: A Recreational Ring around San Francisco Bay, and San Francisco Bay Trail Design Guidelines & Toolkit* (Association of Bay Area Governments). The Strategy will identify options for Bay Trail and Water Trail alignments where feasible.
 - vii. *Water Quality Control Plan for the San Francisco Bay Basin* (San Francisco Bay Regional Water Quality Control Board). Tidal and freshwater wetland restoration that result from the Strategy will enable filtration of pollutants, helping to meet the water quality objectives for the various pollutants listed in this plan.
- b. The Strategy is multijurisdictional and serves a regional constituency. The Strategy will incorporate input from local and regional agencies and organizations including Sonoma RCD, Sonoma County Water Agency, California Department of Fish and Wildlife, San Pablo Bay National Wildlife Refuge, Bay Trail and others as appropriate. The Strategy will also provide regional and local transportation agencies, including the Metropolitan Transportation Commission and the transportation authorities of Marin, Sonoma, Napa and Solano Counties, with information vital to the redesign of SR 37, a project that will affect San Pablo Bay marshes and Bay Area residents for generations to come.
 - c. The Strategy can be implemented in a timely way. There is an urgent need for this project because the recommendations therein will inform the redesign of SR 37. If SLT cannot provide recommendations for the redesign in the Sonoma Creek Baylands by the end of 2018, the opportunity could be lost to influence the redesign to allow for greater connectivity between the Bay and its watersheds.
 - d. The Strategy will provide avenues to benefits that could be lost if the project is not promptly implemented. The Habitat Goals Update urges that tidal wetland restoration begin as soon as possible. Without this Strategy, initiation of new projects in the baylands surrounding Sonoma Creek by SLT and others will be delayed or may proceed without being fully informed of the consequences of incorrect project sequencing.

With regard to the redesign of SR 37, the planning process is underway and moving rapidly. Without the informed input and recommendations that will result from this Strategy, the redesign planning process may proceed with plans that result in restriction of tidal prism, reduced sediment delivery, reduced ability for marsh migration, and reduced connection to local watersheds.

- e. The Strategy includes matching funds from other sources of funding or assistance. Sonoma Land Trust has received \$50,000 for this project from the Resources Legacy Fund and is contributing \$10,000 in additional funding.
8. **San Francisco Bay Conservation and Development Commission's Coastal Management Program.** This project supports BCDC's Coastal Management program. Due to ongoing loss of and increasing threats to wetlands, BCDC has placed a high priority on wetland enhancement and stakeholder input that supports maintenance of wetland function. BCDC supports direct intervention to prevent additional loss of wetlands and wetland function, and this project will intervene by facilitating the restoration of at least 4,000 acres of tidal wetlands. Additionally, the tidal marsh restoration that will be studied as part of this project will reduce threats of flooding associated with sea level rise and extreme storm events, helping to meet BCDC's objective of reducing threats to life and property by managing the effects of potential sea level rise. The project is consistent with BCDC's objective to increase opportunities for public access, by exploring options for Bay Trail alignments.
9. **San Francisco Bay Joint Venture's Implementation Strategy.** This project is new and not currently on the San Francisco Bay Joint Venture Project List. However, the project's consistency with *Restoring the Estuary: An Implementation Strategy for the San Francisco Bay Joint Venture* has been preliminarily reviewed by Joint Venture staff and deemed to be aligned with Joint Venture goals for restoration of habitat in San Pablo Bay.

COMPLIANCE WITH CEQA:

The proposed project is statutorily exempt from the provisions of the California Environmental Quality Act under 14 Cal. Code of Regulations Section 15262, because the project will only involve preparation of planning studies for possible future actions that have not yet been approved, adopted or funded. The planning studies will consider environmental factors. Staff will file a Notice of Exemption upon approval of the proposed project.