

SAN FRANCISCO BAY RESTORATION AUTHORITY

Staff Recommendation
March 3, 2023

MONTEZUMA WETLANDS RESTORATION PROJECT, PHASE 2

Project No. RA-001
Project Manager: Evyan Borgnis Sloane

RECOMMENDED ACTION: Authorization to disburse up to \$2,100,000 to Montezuma Wetlands LLC to place 300,000 cubic yards of dredged sediment that has been diverted from ocean disposal at the Montezuma Wetlands site in Suisun Marsh, Solano County, for the purpose of raising the elevation required for the Montezuma Wetlands Restoration Project, Phase 2.

LOCATION: Montezuma Slough, Solano County, North Bay Region

MEASURE AA PROGRAM CATEGORY: Safe, Clean Water and Pollution Prevention Program; Vital Fish, Bird and Wildlife Habitat Program.

EXHIBITS

- Exhibit 1: [Project Location](#)
- Exhibit 2: [April 11, 2018 SFBRA Staff Recommendation](#)
- Exhibit 3: [Project Design](#)
- Exhibit 4: [Project Letters](#)

RESOLUTION AND FINDINGS

Staff recommends that the San Francisco Bay Restoration Authority adopt the following resolution and findings:

Resolution:

The San Francisco Bay Restoration Authority (Authority) hereby authorizes the disbursement of an amount not to exceed two million one hundred thousand dollars (\$2,100,000) to Montezuma Wetlands LLC to place 300,000 cubic yards of dredged sediment that has been diverted from ocean disposal at the Montezuma Wetlands site in Suisun Marsh, Solano County, for the purpose of raising the elevation required for the Montezuma Wetlands Restoration Project, Phase 2.

1. 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. A plan for acknowledgement of Authority funding.
 - c. Evidence that all permits and approvals required to implement the project have been obtained.
 - d. Evidence that the grantee has entered into a project labor agreement consistent with San Francisco Bay Restoration Authority Resolution 22.
 - e. Evidence that the grantee has recorded an easement, deed restriction, or other agreement, sufficient to protect the public interest in the project.
2. The grantee shall submit for the review and written approval of the Executive Officer of the Authority the names and qualifications of any contractors to be employed in carrying out the project.

Findings:

Based on the accompanying staff recommendation 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).

STAFF RECOMMENDATION

PROJECT SUMMARY:

Staff recommends the disbursement of \$2,100,000 to Montezuma Wetlands LLC to place 300,000 cubic yards of dredged sediment that has been diverted from ocean disposal at the Montezuma Wetlands site in Suisun Marsh, Solano County (Exhibit 1), for the purpose of raising the elevation required for the Montezuma Wetlands Restoration Project, Phase 2 (the project). The project consists of pumping in dredged sediment into the Phase 2 placement cells over three years in Suisun Marsh, Solano County. The dredged sediment will come from various dredging projects around San Francisco Bay that would otherwise dispose of their sediment in the ocean to be beneficially used for restoration. The project tasks will include negotiations with entities, mostly federal and local public entities, that are carrying out dredging projects that meet the project's requirements for sediment quality and timing. It is estimated that the project will accelerate the wetland restoration and ecological benefits of over 1,100 acres of former salt marsh by raising the area closer to tidal marsh elevation prior to future tidal connections as part of the Phase 2 restoration.

The project is located in Suisun Marsh, which is in the San Francisco estuary where freshwater outflow from the Sacramento-San Joaquin Delta mixes with saline water from the San Francisco

Bay. Tidal marsh in this mixing zone supports high primary productivity that fuels the aquatic food web and provides food for many native fish species. Several state and federally listed species including delta smelt and longfin smelt, as well as other native fish, have been found to concentrate in this region of the estuary and will benefit substantially from the increased food production and habitat expansion provided by the project's planned restoration of tidal marsh and subtidal habitat.

The restoration of tidal marsh and wetland-upland transition zones will also provide benefits to many terrestrial species, including three federally endangered species: salt marsh harvest mouse, Ridgway's rail, and California least tern; as well as the state-listed California black rail. Restoration and enhancement of these habitats will increase areas for foraging and nesting and will provide upland refugia habitat during periods of high tide when tidal marsh habitat is inundated. Upland transition zone habitat will also provide sea level rise resilience providing space for tidal marsh habitats to move upslope over time as well as critical high tide refugia and upland habitats.

Specific project activities to be funded by the proposed authorization include: 1) identifying specific dredging projects (most likely dredging projects by the U.S. Army Corps of Engineers) that are destined for the San Francisco Deep Ocean Disposal Site (SFDODS); 2) working with the U.S. Army Corps of Engineers (USACE) and successful bidders to replace SFDODS with Montezuma Wetlands (an approved upland disposal site); and 3) assisting the successful bidder and the USACE to apply the Measure AA funds to the extra cost (above the cost of ocean disposal) associated with diverting the sediments to Montezuma. This mechanism will allow transparent documentation that the funds were spent to divert sediments from SFDODS and were not spent on sediments already destined for beneficial use. Diverting sediment from ocean disposal is a significant element of this project because sediment is a valuable resource for tidal wetland habitat restoration and sea level rise resilience. Suspended sediment concentrations in San Francisco Bay are in decline and dredging projects remove a million of cubic yards (or more) of sediment from San Francisco Bay each year. This project will keep sediment destined to be removed in the Bay rather than disposed in the ocean.

Two classes of dredged sediment will be placed on site: cover and non-cover sediment. Cover sediments are those with lower concentrations of contaminants that can be used as a top layer that may be in contact with biological resources (e.g., plants and invertebrates); non-cover sediments are those with slightly higher contaminant concentrations that must be covered on the top and sides by a minimum of three feet of cover material so that they do not come into contact with biological resources. Montezuma Wetlands LLC is responsible for sampling incoming dredged sediment to demonstrate that contaminant concentrations do not exceed accepted criteria established in the Montezuma Wetlands Restoration Project's permit from the San Francisco Bay Regional Water Quality Control Board.

Historically, the project site supported tidal marsh that was later diked and drained for ranching, agriculture, and development. These land uses dried out the marsh, causing the site to subside up to ten feet below sea level in some locations. The loss of habitat also reduced important resting, breeding and foraging areas for many species. Since 2003, Montezuma Wetlands LLC has partnered with public and private organizations including the Port of Oakland, Port of San Francisco, Chevron, and USACE to redirect over 9 million cubic yards of dredged sediment from

aquatic disposal sites and apply it to the project site in order to raise surface elevations of the site to marsh plain elevation. In October 2020, with funds from the San Francisco Bay Restoration Authority's April 11, 2018 authorization (Exhibit 2), the Montezuma Wetlands Restoration Project, Phase 1, successfully breached over 500 acres of tidal and seasonal habitat, with an additional 240 acres of transitional zone and high tide refugia habitat now connected to the tides. Pre- and post-construction monitoring has demonstrated high use of the site by fish and birds, as well as success in meeting a wide range of physical and biological performance criteria.

The Montezuma Wetlands Restoration Project, Phase 2 involves the construction of cells to be filled with sediment for the purpose of restoring tidal marsh (Exhibit 3). Phase 2 will require 15-20 million cubic yards of dredged sediment, although the total volume is difficult to predict given ongoing sea level rise and settlement of the site's underlying peaty soil. Once the dredged material is placed, based on the current Phase 2 designs, approximately 580 acres of low tidal marsh, 390 acres of high tidal marsh, and 130 acres of wetland-upland transition zone habitats will be restored. Like Phase 1, there will be final grading of the constructed levees surrounding each cell and its interior sediment area to create a notch to allow for appropriate tidal re-connection. Final grading plans will be developed as the project gets within one to two years of breaching of Phase 2, likely at least 20 years in the future.

Montezuma Wetlands LLC has held extensive meetings with community, environmental, business, and labor groups and incorporated ideas and input from those meetings into the design of the Montezuma Wetlands Restoration Project. Since beginning operations in 2003, the Montezuma Wetlands Restoration Project has worked with the Operating Engineers Local 3 to use union labor for all offloading activities at the site. In the past 15 years, Montezuma Wetlands LLC has allowed for dozens of organizations to conduct research on site that has helped shape the design of the Montezuma Wetlands Restoration Project.

The multi-phase Montezuma Wetlands Restoration Project is overseen by a Technical Review Team (TRT) that consists of regulatory personnel and other experts in a number of disciplines such as wetland ecology, tidal wetland hydrology, toxicology, and biology of specific biota including salt marsh harvest mouse, Suisun Marsh fish, California least terns, and rare plants. The TRT reviews site monitoring plans and data and works with Montezuma Wetlands LLC staff to integrate adaptive management approaches in the design of the Montezuma Wetlands Restoration Project.

Montezuma Wetlands LLC began project design and permitting in 1990, establishing the company as a pioneer in the beneficial use of dredged sediment to accelerate restoration of key subsided tidal wetlands. The core Montezuma Wetlands Restoration Project team has been working together for over 20 years on the Montezuma Wetlands Restoration Project, successfully taking the Montezuma Wetlands Restoration Project through design, agency review, permitting, financing, and construction. The successful operation of the site demonstrates the team's ability to execute the complicated design, as well as regulatory, construction, operational, and financial management activities required for a project of this scale.

Site Description: The project site is located in Suisun Marsh, bordered to the west by Montezuma Slough and to the east by the Montezuma Hills. This site is near Collinsville and approximately 17 miles southeast of Fairfield. Suisun Marsh historically was a vast area of tidal

wetlands most of which were diked over 100 years ago, initially for agriculture and later to create managed wetland habitat for migratory waterfowl and to support duck hunting. Although Suisun Marsh has been highly altered, its diked habitats, as well as remaining tidal marshes, shallow embayments, small tidal channels, and gently sloping uplands continue to provide important habitat for migratory waterfowl, native plants, fish and other terrestrial and aquatic wildlife.

The project site was farmed and ranched for over 100 years, which caused the land to subside. A series of ponds were constructed on the site to receive dredged sediment that will raise the site to elevations that are appropriate for tidal wetland restoration. The ponds have been constructed with winding shapes so that their levees form the banks of what will be tidal channels, providing a range of benefits for fish and wildlife when the site is breached.

The complete Montezuma Wetlands Restoration Project will occur in three Phases (Exhibit 3). Montezuma Wetlands LLC owns all the lands proposed for the three-phase restoration project (approximately 2,000 acres) and approximately 480 acres of adjacent transition and buffer lands plus another 1,000 acres of upland margin. All of the parcels are owned in fee title, with no outstanding mortgages or loans on the land.

PROJECT FINANCING

San Francisco Bay Restoration Authority	\$2,100,000
Montezuma Wetlands LLC	\$2,100,000
Project Total	\$4,200,000

All dredge projects that will be targeted for diversion from SFDODS to Montezuma Wetlands will have existing contract funding for SFDODS disposal. Dredging contractors are required to pay a fee to dispose of sediment, which is paid to Montezuma Wetlands LLC when such sediment is used by Montezuma Wetlands LLC for beneficial reuse. The funds that Montezuma Wetlands LLC is contributing to this project come from the fees paid directly to Montezuma Wetlands LLC from the dredging contractors. The dredging contractors are paid by the project sponsor, which can be a private or public organization, that is benefitting from the dredging project, such as USACE, Port of Oakland, Chevron, etc.

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

The San Francisco Bay Restoration Authority Act (SFBRA Act), Government Code Section 66704.5 authorizes the Authority to grant funds for eligible projects. Consistent with Section 66704.5(a) the grantee is a private entity that owns the project area located in Solano County along Suisun Bay, on a shoreline parcel in the San Francisco Bay area that is outside of the Delta primary zone.

The project is eligible for a grant under Section 66704.5(b)(1) because the project will bring in sediment necessary for the future restoration of tidal and seasonal wetland habitats as well as upland habitat. The project is also eligible under Section 66704.5(b)(2), because the project will

bring in sediment necessary for the future restoration of upland transition habitat that allows for marsh migration in response to sea level rise.

The proposed funding of the project's construction is consistent with Section 66704.5(e), which provides that the Authority may award grants for "all phases of planning, construction, monitoring, operation, and maintenance" of eligible projects.

CONSISTENCY WITH MEASURE AA PROGRAMS AND ACTIVITIES:

The proposed project is consistent with The *Safe, Clean Water and Pollution Prevention Program* in that it will bring in sediment necessary to restore over 1,000 acres of tidal wetlands that naturally filter and remove pollutants from the Bay's water.

The project is also consistent with the *Vital Fish, Bird and Wildlife Habitat Program* because it will bring in sediment necessary to restore over 1,100 acres of tidal wetland habitat and enhance upland habitats, which will significantly expand and improve habitat for native fish, as well as marsh-dependent birds and mammals.

The project is consistent with the *Integrated Flood Protection Program* because it will bring in the sediment necessary to restore upland transition habitats that protects existing habitat and provides marsh migration space.

CONSISTENCY WITH MEASURE AA PRIORITIZATION CRITERIA:

1. **Greatest positive impact.** The project provides the greatest positive benefit in protecting native species through by bringing in sediment needed to restore the existing diked areas along Montezuma Slough with more than 1,100 acres of tidal wetlands and transition zone habitat. The restored habitat will specifically enhance food production and expand habitat for aquatic species including Delta and longfin smelt and salmonids. It will also support terrestrial tidal marsh species, such as Ridgway's rail and salt marsh harvest mouse, all of whose populations have suffered from dramatic habitat loss throughout the San Francisco estuary.
2. **Greatest long-term impact.** By bringing in dredged sediment prior to reconnecting the project area to tidal action, the project is ensuring long-term success by elevating the existing diked and subsided land closer to tidal marsh elevations. The future tidal marsh restoration will also include gently sloping uplands that will accommodate sea level rise and enhance the resiliency of the marsh to climate change impacts while protecting wetland habitats.
3. **Leveraging resources and partnerships.** Grant funding leverages the applicant's funding that has been secured through private and public dredging project sponsors for over 10 years.
4. **Benefits to economy.** The overall Montezuma Wetlands Restoration Project has helped accelerate dredging projects across the region, providing an environmentally beneficial

disposal option that avoids potential fisheries impacts due to dispersion of sediments during direct aquatic disposal. Before Montezuma was available, major dredging projects faced significant challenges and delays. Millions of dollars of regional economic benefits are associated with a reliable 365-day disposal option. Beneficial use of sediment creates many more jobs than ocean disposal and the project has supported several construction firms in the region. Montezuma Wetlands LLC also pays Solano County a fee for placement of sediment and these funds help pay for county services.

5. **Engage youth and young adults.** Montezuma Wetlands LLC has conducted presentations about the project to both middle school and University students. Now that the Phase 1 project site has been breached and tidal action is returned to the property, Montezuma Wetlands LLC is planning to take students out to the site to see the restoration effort, learn about the science that informed the project design and monitoring, and how dredged sediment was beneficially placed to restore elevations and allow for the target habitats to become re-established.
6. **Monitoring, maintenance, and stewardship.** The overall Montezuma Wetlands Restoration Project includes follow-up monitoring and evaluation as a part of its adaptive management program. The overall project has a Technical Review Team, led by the San Francisco Estuary Institute, that will continue to provide input on monitoring and adaptive management of the site.
7. **Coastal Conservancy's San Francisco Bay Area Conservancy Program.** The project is consistent with the Conservancy's San Francisco Bay Area Program's Criteria, as follows:
 - a. Due to its unique position in the estuary, future restoration of tidal marsh at the project site will make substantial progress toward meeting regional goals for tidal marsh restoration and recovery of listed species as called for the Baylands Ecosystem Habitat Goals (1999) report, the Suisun Marsh Plan (2011), and the Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California (2013).
 - b. The future restoration of over 1,000 acres of tidal wetland habitats will benefit regional populations of fish and wildlife; including commercially valuable fish species.
 - c. The overall project has already reintroduced tidal influence to the Phase 1 project site (Exhibit 2).
 - d. The Baylands Goals 2015 science update calls for accelerating the pace of tidal restoration to keep pace with sea level rise; therefore, returning the site to the tides as early as possible will help ensure successful project outcomes.
 - e. Project costs include the applicant's own matching funds.
8. **San Francisco Bay Conservation and Development Commission's Coastal Management Program.** The proposed project is consistent with the McAteer-Petris Act, the Suisun Marsh

Preservation Act, and The Suisun Marsh Protection Plan. The project was permitted by BCDC.

9. **San Francisco Bay Joint Venture's Implementation Strategy.** The project meets the implementation strategy and criteria of the Joint Venture for restoration activities in the San Francisco estuary. The Joint Venture has stated (through personal communication) that because the project is explicitly included in the Habitat Goals report, it can be approved by the Joint Venture and marked as a Tier 1 project based on readiness to be implemented.

COMPLIANCE WITH CEQA:

For its authorization on April 11, 2018 (Exhibit 2), the San Francisco Bay Restoration Authority reviewed and considered the Montezuma Wetlands Restoration Project Final Environment Impact Report/Environmental Impact Statement (EIR/EIS) adopted by Solano County on February 2, 1999, the Recirculated Draft Initial Study/Mitigated Negative Declaration (IS/MND) adopted by Solano County on October 21, 2010 that addresses minor revisions to the Montezuma Wetlands Restoration Project and the Addendum to the EIR/EIS dated March 20, 2018 and determined that the project will eliminate or substantially lessen all potentially significant effects with the exception of impacts to air resources. The EIR/EIS covered the entirety of the Montezuma Wetlands Restoration Project, including the placement of the dredged sediment at the Montezuma Wetlands Restoration Project site. The Montezuma Wetlands Restoration Project has not changed nor are there changed circumstances or new information that would affect the findings in the EIR/EIS.

On April 18, 2018 staff filed two Notices of Determination for the IS/MND and EIR/EIS.