

STATE OF CALIFORNIA
STANDARD AGREEMENT
Std.2 (Grant - Rev 01/18)

AGREEMENT NUMBER 20-073	AM. NO.
TAXPAYERS FEDERAL EMPLOYER IDENTIFICATION NO. 94-6000509	

THIS AGREEMENT, made and entered into this _____ day of _____, 2021
in the State of California, by and between State of California, through its duly elected or appointed, qualified and acting

TITLE OF OFFICER ACTING FOR STATE Executive Officer	AGENCY State Coastal Conservancy	, hereafter called the Conservancy, and
GRANTEE'S NAME Contra Costa County Flood Control and Water Conservation District	, hereafter called the Grantee.	




The Grantee, for and in consideration of the covenants, conditions, agreements, and stipulations of the Conservancy hereinafter expressed, does hereby agree as follows:

SCOPE OF AGREEMENT

Pursuant to Chapter 4.5 of Division 21 of the California Public Resources Code, the State Coastal Conservancy (the "Conservancy") hereby grants to Contra Costa County Flood Control and Water Conservation District (the "grantee") a sum not to exceed \$970,000 (nine hundred seventy thousand dollars), subject to this agreement. The grantee shall use these funds to complete the following project ("the project") at Lower Walnut Creek, three miles east of the City of Martinez, Contra Costa County, as shown on Exhibit A, which is incorporated herein by reference and attached.

(Continued on the following pages)

The provisions on the following pages constitute a part of this agreement.
IN WITNESS WHEREOF, this agreement has been executed by the parties hereto, upon the date first above written.

STATE OF CALIFORNIA		GRANTEE			
AGENCY State Coastal Conservancy		GRANTEE (If other than an individual, state whether a corporation, partnership, etc.) Contra Costa County Flood Control and Water Conservation District			
BY (Authorized Signature) 		BY (Authorized Signature) 			
PRINTED NAME AND TITLE OF PERSON SIGNING Samuel Schuchat, Executive Officer		PRINTED NAME AND TITLE OF PERSON SIGNING Brian M. Balbas, Chief Engineer			
ADDRESS & PHONE NUMBER 1515 Clay Street, 10th Floor Oakland, CA 94612 Phone: (510) 286-1015		ADDRESS & PHONE NUMBER 225 Glacier Dr. Martinez, CA 94553 Phone: (925) 313-2284			
AMOUNT ENCUMBERED BY THIS DOCUMENT \$970,000.00	PROGRAM/CATEGORY (CODE AND TITLE) Local Assistance	FUND TITLE/PROP NO. Federal Trust Fund			I certify that this agreement is exempt from Department of General Services' approval. Shemar Mauleon Contracts Manager Lead
PRIOR AMOUNT ENCUMBERED FOR THIS AGREEMENT \$-0-	FUND ITEM 3760-101-0890 (USFWS)(F20AP10012-00/15.614)	CHAPTER 29	STATUTE 2018	FISCAL YEAR 18/19	
TOTAL AMOUNT ENCUMBERED TO DATE \$970,000.00	PROJECT NAME Lower Walnut Creek Habitat Restoration Project, North Reach				
I hereby certify upon my own personal knowledge that budgeted funds are available for the period and purpose of the expenditure stated above.					
SIGNATURE OF ACCOUNTING OFFICER 		DATE			
<input type="checkbox"/> GRANTEE <input type="checkbox"/> ACCOUNTING <input type="checkbox"/> PROJECT MANAGER <input type="checkbox"/> CONTROLLER <input type="checkbox"/> STATE AGENCY					

The project consists of the restoration and enhancement of up to 227.7 acres of tidal wetlands, waters and associated upland habitat, and rough grading for 2.5 miles of future-phased trails for wildlife-compatible public access, on the Lower Walnut Creek, Contra Costa County. Restoration will be accomplished by breaching and lowering berms, excavating to create new tidal wetlands and channels, and grading existing upland areas to create a diverse landscape of lowland terrestrial habitats, including seasonal wetlands, and uplands integrated with the tidal wetlands. Work includes construction of a new tidal channel connecting to Suisun Bay, providing full tidal flows to the restored wetlands. The access road bisecting the restoration site will be relocated and elevated to increase the connectivity of restored habitats and to improve maintenance access to a buried outfall pipeline.

The grantee shall carry out the project in accordance with this agreement and a work program, as provided in the “WORK PROGRAM” section, below. The grantee shall provide \$500,000 in Federally required matching funds and any funds beyond those granted under this agreement which are needed to complete the project.

CONDITIONS PRECEDENT TO CONSTRUCTION AND DISBURSEMENT

The grantee shall not begin construction of the project and the Conservancy shall not be obligated to disburse any funds unless and until the following conditions precedent have been met:

1. The Board of Supervisors of the grantee has adopted a resolution designating positions whose incumbents are authorized to negotiate and execute this agreement and amendments to it on behalf of the grantee.
2. The Executive Officer of the Conservancy (the “Executive Officer”) has approved in writing:
 - a. A work program for the project, as provided in the “WORK PROGRAM” section, below.
 - b. A plan for installation of signs and acknowledgment of Conservancy support, as provided in the “SIGNS AND ACKNOWLEDGMENT” section, below.
 - c. All contractors that the grantee intends to retain in connection with the project. The grantee must provide written evidence to the Conservancy that each contractor has complied with the bonding requirements described in the “BONDING” section, below.
3. The grantee has provided written evidence to the Conservancy that:

- a. All permits and approvals necessary to the completion of the project under applicable local, state and federal laws and regulations have been obtained.
 - b. The grantee has provided for required insurance coverage, including additional insured endorsement, as described in the “INSURANCE” section, below.
4. The grantee has provided the Conservancy with satisfactory documentation evidencing sufficient property rights in the project site to carry out the project in compliance with this agreement and to protect the public interest in the improvements and facilities constructed under this agreement.
 5. The grantee has completed and returned to the Conservancy the Federal Sub-Awardee Questionnaire.

ADDITIONAL GRANT CONDITIONS

The grantee shall also meet the following conditions:

Prior to the release of funds for project construction, the grantee shall provide evidence of completion of the following:

1. Wetland Monitoring Plan. A plan to collect and report monitoring data in a manner that is compatible and consistent with the Statewide Wetland and Riparian Area Monitoring Program framework (currently available at https://www.mywaterquality.ca.gov/monitoring_council/wetland_workgroup/index.html)
2. Baseline Condition Report. A “Level 2” baseline wetland assessment utilizing the California Rapid Assessment Method (CRAM) within the year prior to the beginning of project construction, unless otherwise agreed upon in writing by the Conservancy and the grantee. (More information is available at <http://www.cramwetlands.org/>). The CRAM assessment shall be completed by a certified CRAM practitioner and the data shall be uploaded at <http://www.cramwetlands.org/>.
3. The Publication of Project Information. The grantee shall upload project information, including periodic monitoring data, to the project tracker for “EcoAtlas”, an online database and web-based viewer of stream and wetland maps, restoration information, and monitoring results (currently available at <http://ptrack.ecoatlas.org/>), to track project information and aggregate data.
4. Plan for Completion of Post-Construction CRAM Assessment. A budget (including an identified funding source) and timeline for the collection of at least one additional CRAM assessment within six years following construction of the project in order to

document the change in wetland condition at the project site. The CRAM assessment shall be completed by a certified CRAM practitioner and the data shall be uploaded at <http://www.cramwetlands.org/>.

TERM OF AGREEMENT

This agreement is effective as of the date entered into, as shown on the first page, which date shall be inserted by the Conservancy upon signature of both parties. An authorized representative of the grantee shall sign the first page of the originals of this agreement in ink or through an electronic signature process specified by the Conservancy.

The term of this agreement is from its effective date through December 31, 2041 (the “termination date”) unless otherwise terminated or amended as provided in this agreement. However, all project work shall be completed by December 31, 2021 (the “completion date”).

The grantee shall deliver a final Request for Disbursement to the Conservancy no later than January 31, 2022.

AUTHORIZATION

The signature of the Executive Officer of the Conservancy on this agreement certifies that at its May 5, 2020 meeting, the Conservancy adopted the resolution included in the staff recommendation attached as Exhibit B. This agreement is executed under that authorization.

The project is being funded entirely through a federal United States Fish and Wildlife Service (USFWS) National Coastal Wetlands Conservation grant (the “federal grant”) awarded to the Conservancy, attached hereto as Exhibits C1 and C2 and incorporated into this agreement by reference. The grantee shall comply with all applicable conditions in the federal grant. The grantee shall provide any information required to enable the Conservancy to meet its obligations to the USFWS, including reporting requirements. The Conservancy shall provide the grantee with a schedule of the applicable reporting deadlines.

Standard Provisions

WORK PROGRAM

Before beginning construction, the grantee shall submit a detailed work program to the Executive Officer for review and written approval of its consistency with the purposes of this grant agreement. The work program shall include:

1. Construction plans and specifications that have been certified by a licensed architect or registered engineer, or approved by the grantee's Public Works Director.
2. A schedule of completion for the project specifically listing the completion date for each project component and a final project completion date.
3. A detailed project budget. The project budget shall describe all labor and materials costs of completing each component of the project, including the grantee's labor and materials costs and costs to be incurred under a contract with any third party retained by the grantee for work under this agreement. For each project component, the project budget shall list all intended funding sources, including the Conservancy's grant, the grantee's required contribution, and all other sources of monies, materials, or labor. The grantee shall review the plans on-site with Conservancy staff.

If all or any part of the project to be funded under this agreement will be performed by third parties ("contractors") under contract with the grantee, then the grantee shall, prior to initiating any contractor selection process, submit the selection package, including any applicable construction plans and specifications that have been certified or approved as described above, to the Executive Officer for review and written approval as to consistency with the purposes of this grant agreement. Upon approval by the Executive Officer, the grantee shall proceed with the contractor selection process. Prior to final selection of a contractor, the grantee shall submit to the Executive Officer for written approval the names of all contractors that the grantee intends to hire. The grantee shall then comply with the above paragraph regarding submission and approval of a work program prior to construction.

The work program shall have the same effect as if included in the text of this agreement. However, the work program may be modified without amendment of this agreement upon the grantee's submission of a modified work program and the Executive Officer's written approval of it. If this agreement and the work program are inconsistent, the agreement shall control.

The grantee shall construct the project in accordance with the approved work program.

SIGNS AND ACKNOWLEDGMENT

Prior to beginning the project, the grantee shall submit, for review and written approval by the Executive Officer, a plan for the installation of signs and acknowledgment of Conservancy support. Except as the Executive Officer agrees otherwise, the plan shall commit the grantee to mention the Conservancy's support in its project-related press releases, contacts with the media, and social media postings, and on its website.

The plan shall commit the grantee to shall install and maintain a sign or signs visible from the nearest public roadway identifying the project, acknowledging Conservancy and USFWS assistance and displaying their logos. The Conservancy shall provide to the grantee specifications for the signs. The grantee may incorporate the required information into other signs as approved by the Executive Officer. In special circumstances, where the placement of signs or the general specifications are inappropriate, the Executive Officer may approve alternative, more appropriate methods for acknowledging the sources of funding. The grantee sign plan shall describe the number, design, placement and wording of the signs, or the specifications of a proposed, alternative method. The grantee shall implement the approved signs and acknowledgment plan. The Conservancy will withhold final disbursement until the signs are installed as approved by the Conservancy.

BONDING AND LIEN RELEASE

If the grantee intends to use any contractors on any portion of the project to be funded under this agreement, construction shall not begin until each contractor has furnished a performance bond in favor of the grantee in the following amounts: for faithful performance, one hundred percent (100%) of the contract value; and for labor and materials, one hundred percent (100%) of the contract value. This requirement shall not apply to any contract for less than \$20,000.

Any bond furnished under this section shall be executed by an admitted corporate surety insurer licensed in the State of California.

For any work done on private property, the Conservancy shall not disburse to the grantee payment for obligations incurred by the grantee with respect to any contractor or subcontractor of the grantee until the grantee submits to the Conservancy a lien release from the contractor or subcontractor corresponding to the work invoiced (and complies with the other prerequisites to payment under this agreement).

COSTS AND DISBURSEMENTS

When the Conservancy determines that all conditions in the “CONDITIONS PRECEDENT TO CONSTRUCTION AND DISBURSEMENT” section have been fully met, the Conservancy shall disburse to the grantee, in accordance with the approved project budget, a total amount not to exceed the amount of this grant, as follows:

The withholding for this agreement is five percent. The Conservancy shall disburse funds for costs incurred to date, less five percent, upon the grantee’s satisfactory progress under the approved work program, and upon the grantee’s submission of a “Request for Disbursement” form, which shall be submitted no more frequently than monthly but no less frequently than quarterly. The Conservancy shall disburse the five percent withheld upon the grantee’s satisfactory completion of construction and compliance with the “PROJECT COMPLETION” section, below, and upon the Conservancy’s written acceptance of the project.

The Conservancy will reimburse the grantee for expenses necessary to the project when documented by appropriate receipts. The Conservancy will reimburse travel and related expenses at actual costs not to exceed the rates provided in Title 2, Division 1, Chapter 3, Subchapter 1, Article 2 of the California Code of Regulations (“CCR”), except that reimbursement may be in excess of these rates upon documentation that these rates are not reasonably available to the grantee. Reimbursement for the cost of operating a private vehicle shall not, under any circumstance, exceed the current rate specified by the State of California for unrepresented state employees as of the date the cost is incurred. The Conservancy will reimburse the grantee for other necessary expenses if those expenses are reasonable in nature and amount taking into account the nature of the project, its location, and other relevant factors.

The grantee shall request disbursements by filing with the Conservancy a fully executed “Request for Disbursement” form (available from the Conservancy). The grantee shall include in the form its name and address, the number of this agreement, the date of the submission, the amount of the invoice, the period during which the work was actually done, and an itemized description, including time, materials, and expenses incurred of all work done for which disbursement is requested. Hourly rates billed to the Conservancy, and specified in the approved work program budget shall be equal to the actual compensation paid by grantee to employees, which may include employee benefits. The form shall also indicate cumulative expenditures to date, expenditures during the reporting period, and the unexpended balance of funds under the grant agreement.

An authorized representative of the grantee shall sign the forms. Each form shall be accompanied by:

1. All receipts and any other source documents for direct expenditures and costs that the grantee has incurred.

2. Invoices from contractors that the grantee engaged to complete any portion of the work funded under this agreement and any receipts and any other source documents for costs incurred and expenditures by any such contractor, unless the Executive Officer makes a specific exemption in writing.
3. A supporting progress report summarizing the current status of the project and comparing it to the status required by the work program (budget, timeline, tasks, etc.) including written substantiation of completion of the portion of the project for which the grantee is requesting disbursement.

The grantee's failure to fully execute and submit a Request for Disbursement form, including attachment of supporting documents, will relieve the Conservancy of its obligation to disburse funds to the grantee until the grantee corrects all deficiencies.

EXPENDITURE OF FUNDS AND ALLOCATION OF FUNDING AMONG BUDGET ITEMS

No increase in the total amount of this grant will be valid unless set forth in a written amendment to this agreement, executed by both parties. The grantee shall expend funds consistent with the approved project budget. Expenditure on items contained in the approved project budget, other than overhead and indirect costs, may vary by as much as ten percent without prior approval by the Executive Officer, provided that the grantee first submits a revised budget to the Conservancy and requests disbursement based on the revised budget. Any deviation greater than ten percent, and any deviation that shifts funds from approved budget items into an overhead or indirect costs category, must be identified in a revised budget approved in advance and in writing by the Executive Officer. The Conservancy may withhold payment for items which exceed the amount allocated in the project budget by more than ten percent and which have not received the approval required above. Any increase in the funding for any particular budget item shall mean a decrease in the funding for one or more other budget items unless there is a written amendment to this agreement.

PROJECT COMPLETION

Upon completion of the project, the grantee shall supply the Conservancy with evidence of completion by submitting a final report by the final Request for Disbursement date set forth in the "TERM OF AGREEMENT" section that includes:

1. A report certifying completion of the project according to the approved work program, including photographs documenting project completion.

2. Documentation that signs are installed as required by the “SIGNS AND ACKNOWLEDGMENT” section of this agreement.
3. A fully executed final “Request for Disbursement.” A “final Request for Disbursement” means a Request for Disbursement that includes the withheld amounts and all remaining amounts for which grantee is entitled to seek payment, if any, pursuant to this agreement.
4. A final inspection report by a licensed architect or registered engineer or the grantee’s Public Works Director, and a copy of “as built” drawings of the completed project.
5. Evidence that the following activities have been completed:
 - a. An updated budget (including an identified funding source) and timeline for the post-construction “Level 2” CRAM assessment required in the Additional Grant Conditions section. The CRAM assessment shall be completed by a certified CRAM practitioner and the data shall be uploaded at <http://www.cramwetlands.org/>.
 - b. Update Project Information. All relevant project information has been updated in the project tracker on EcoAtlas (currently available at <http://ptrack.ecoatlas.org/>) to reflect completion of the project.

The Conservancy shall determine whether the grantee has satisfactorily completed the project. If so, the Conservancy shall issue to the grantee a letter of acceptance of the project and release the withhold amount pursuant to the “COSTS AND DISBURSEMENTS” section. The project shall be deemed complete as of the date of the letter.

EARLY TERMINATION, SUSPENSION AND FAILURE TO PERFORM

Before the project has commenced, either party may terminate this agreement for any reason by providing the other party with seven days notice in writing.

Before the project is complete, the Conservancy may terminate or suspend this agreement for any reason by providing the grantee with seven days notice in writing. In either case, the grantee shall immediately stop work under the agreement and take all reasonable measures to prevent further costs to the Conservancy. The Conservancy shall be responsible for any reasonable and non-cancelable obligations incurred by the grantee in the performance of this agreement prior to the date of the notice to terminate or suspend, but only up to the undisbursed balance of funding authorized in this agreement. Any notice suspending work under this agreement shall remain in effect until further written notice from the Conservancy authorizes work to resume.

If the grantee fails to complete the project as required, or fails to fulfill any other obligations of this agreement prior to the termination date, the grantee shall be liable for immediate repayment to the Conservancy of all amounts disbursed by the Conservancy under this agreement. The Conservancy may, at its sole discretion, consider extenuating circumstances and not require repayment for work partially completed. This paragraph shall not be deemed to limit any other remedies the Conservancy may have for breach of this agreement.

Before the project is complete, the grantee may terminate this agreement for any reason by providing the Conservancy with seven days notice in writing and repaying to the Conservancy all amounts disbursed by the Conservancy under this agreement. The Conservancy may, at its sole discretion, consider extenuating circumstances and allow early termination without repayment for work partially completed.

The parties expressly agree to waive, release and relinquish the recovery of any consequential damages that may arise out of the termination or suspension of this agreement under this section.

The grantee shall include in any agreement with any contractor retained for work under this agreement a provision that entitles the grantee to suspend or terminate the agreement with the contractor for any reason on written notice and on the same terms and conditions specified in this section.

OPERATION AND MAINTENANCE

The grantee shall use, manage, maintain and operate the project throughout the term of this agreement consistent with the purposes for which the Conservancy's grant was made. The grantee assumes all operation and maintenance costs of these facilities and structures; the Conservancy shall not be liable for any cost of maintenance, management, or operation. The grantee may be excused from its obligations for operation and maintenance during the term of this agreement only upon the written approval of the Executive Officer.

For purposes of this agreement, "operation costs" include direct costs incurred for material and labor needed for operations, utilities, insurance, and similar expenses. "Maintenance costs" include ordinary repairs and replacements of a recurring nature necessary to prolong the life of capital assets and basic structures, and the expenditure of funds necessary to replace or reconstruct capital assets or basic structures.

MITIGATION

Without the written permission of the Executive Officer, the grantee shall not use or allow the use for mitigation (in other words, to compensate for adverse changes to the environment elsewhere) of the portion of real property on which the Conservancy has funded construction. In providing permission, the Executive Officer may require that all funds generated in connection with any authorized or allowable mitigation on the real property shall be remitted promptly to the Conservancy. As used in this section, mitigation includes, but is not limited to, any use of the property in connection with the sale, trade, transfer or other transaction involving carbon sequestration credit or carbon mitigation.

INSPECTION

Throughout the term of this agreement, the Conservancy shall have the right to inspect the project area to ascertain compliance with this agreement.

INDEMNIFICATION AND HOLD HARMLESS

The grantee shall indemnify and hold harmless the Conservancy, its officers, agents, and employees from any and all liabilities, claims, demands, damages, or costs, including, without limitation, litigation costs and attorneys' fees, resulting from or arising out of the willful or negligent acts or omissions of the grantee, its officers, agents, contractors, subcontractors, and employees, or in any way connected with or incident to this agreement, except for the active negligence or willful misconduct of the Conservancy, its officers, agents, or employees. The duty of the grantee to indemnify and hold harmless includes the duty to defend as provided in Civil Code section 2778. This agreement supersedes any right the grantee may have as a public entity to indemnity and contribution as provided in Gov. Code Sections 895 et seq.

The grantee waives any and all rights to any type of express or implied indemnity or right of contribution from the State of California, its officers, agents, or employees, for any liability resulting from, growing out of, or in any way connected with or incident to this agreement.

Nothing in this agreement is intended to create in the public or in any member of it rights as a third-party beneficiary under this agreement.

The obligations in this "INDEMNIFICATION AND HOLD HARMLESS" section shall survive termination of this agreement.

INSURANCE

The grantee shall procure and maintain insurance, as specified in this section, against claims for injuries to persons and damage to property that may arise from or in connection with any activities of the grantee or its agents, representatives, employees, or contractors associated with the project undertaken pursuant to this agreement.

As an alternative, with the written approval of the Executive Officer, the grantee may satisfy the coverage requirement in whole or in part through: (a) its contractors' procurement and maintenance of insurance for work under this agreement, if the coverage otherwise fully satisfies the requirements of this section; or (b) the grantee's participation in a "risk management" plan, self insurance program or insurance pooling arrangement, or any combination of these, if consistent with the coverage required by this section.

The grantee shall maintain property insurance, if required below, throughout the term of this agreement. Any required errors and omissions liability insurance shall be maintained from the effective date through two calendar years after the completion date. The grantee shall maintain all other required insurance from the effective date through the completion date.

1. **Minimum Scope of Insurance.** Coverage shall be at least as broad as:
 - a. Insurance Services Office ("ISO") Commercial General Liability coverage, occurrence basis (Form CG 00 01) or comparable.
 - b. Automobile Liability coverage: ISO Form Number CA 0001, Code 1 (any auto).
 - c. Workers' Compensation insurance as required by the Labor Code of the State of California, and Employer's Liability insurance.
2. **Minimum Limits of Insurance.** The grantee shall maintain coverage limits no less than:
 - a. General Liability:
(Including operations, products and completed operations, as applicable) \$2,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the activities under this agreement, or the general aggregate limit shall be twice the required occurrence limit.

- b. Automobile Liability: \$1,000,000 per accident for bodily injury and property damage.
 - c. Worker's Compensation and Employer's Liability Worker's compensation as required by law and Employer's Liability of no less than \$1,000,000 per accident for bodily injury or disease.
3. Deductibles and Self-Insured Retentions. Any deductibles or self-insured retentions must be declared to and approved by the Executive Officer.
4. Required Provisions Concerning the Conservancy and the State of California.
- a. Each insurance policy required by this section shall be endorsed to state that coverage shall not be canceled by either party, except after thirty days' prior written notice by first class mail has been given to the Conservancy; or in the event of cancellation of coverage due to nonpayment, after ten days prior written notice to the Conservancy. The grantee shall notify the Conservancy within two days of receipt of notice that any required insurance policy will lapse or be cancelled. At least ten days before an insurance policy held by the grantee lapses or is cancelled, the grantee shall provide the Conservancy with evidence of renewal or replacement of the policy.
 - b. The grantee hereby grants to the State of California, its officers, agents, employees, and volunteers, a waiver of any right to subrogation which any insurer of the grantee may acquire against the State of California, its officers, agents, employees, and volunteers, by virtue of the payment of any loss under such insurance. Grantee agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation, but this provision applies regardless of whether or not the grantee has received a waiver of subrogation endorsement from the insurer.
 - c. The general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:
 - (i) The State of California, its officers, agents, employees, and volunteers are to be covered as additional insureds with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of the grantee; and with respect to liability arising out of work or operations, including completed operations, performed by or on behalf of the grantee including materials, parts or equipment furnished in connection with the work or operations.
 - (ii) For any claims related to this agreement, the grantee's insurance coverage shall be primary insurance as respects the State of California, its officers,

agents and employees, and not excess to any insurance or self-insurance of the State of California.

(iii) The limits of the additional insured coverage shall equal the limits of the named insured coverage regardless of whether the limits of the named insurance coverage exceed those limits required by this agreement.

5. Acceptability of Insurers. Insurance shall be placed with insurers admitted to transact business in the State of California and having a current Best's rating of "B+:VII" or better or, in the alternative, acceptable to the Conservancy and approved in writing by the Executive Officer.
6. Verification of Coverage. The grantee shall furnish the Conservancy with original certificates and amendatory endorsements, or copies of the applicable policy language, effecting coverage required by this clause. All certificates and endorsements are to be received and approved by the Executive Officer before work commences. The Conservancy may require, at any time, complete, certified copies of all required insurance policies, including endorsements affecting the coverage.
7. Contractors. The grantee shall include all contractors as insureds under its policies or shall require each contractor to provide and maintain coverage consistent with the requirements of this section. To the extent generally available, grantee shall also require each professional contractor to provide and maintain Errors and Omissions Liability insurance appropriate to the contractor's profession and in a reasonable amount in light of the nature of the project with a minimum limit of liability of \$1,000,000.
8. Premiums and Assessments. The Conservancy is not responsible for premiums and assessments on any insurance policy.

AUDITS/ACCOUNTING/RECORDS

The grantee shall maintain financial accounts, documents, and records (collectively, "required records") relating to this agreement, in accordance with the guidelines of "Generally Accepted Accounting Principles" ("GAAP") published by the American Institute of Certified Public Accountants. The required records include, without limitation, evidence sufficient to reflect properly the amount, receipt, deposit, and disbursement of all funds related to the construction of the project, and the use, management, operation and maintenance of the real property, time and effort reports, and supporting documents that permit tracing from the request for disbursement forms to the accounting records and to the supporting documentation.

The Conservancy or its agents may review, obtain, and copy all required records. The grantee shall provide the Conservancy or its agents with any relevant information requested and shall permit the Conservancy or its agents access to the grantee's premises upon reasonable notice, during normal business hours, to interview employees and inspect and copy books, records, accounts, and other material that may be relevant to a matter under investigation for the purpose of determining compliance with this agreement and any applicable laws and regulations.

The grantee shall retain the required records for a minimum of three years following the later of final disbursement by the Conservancy, and the final year to which the particular records pertain. The records shall be subject to examination and audit by the Conservancy and the Bureau of State Audits during the retention periods.

If the grantee retains any contractors to accomplish any of the work of this agreement, the grantee shall first enter into an agreement with each contractor requiring the contractor to meet the terms of this section and to make the terms applicable to all subcontractors.

The Conservancy may disallow all or part of the cost of any activity or action that it determines to be not in compliance with the requirements of this agreement.

COMPUTER SOFTWARE

The grantee certifies that it has instituted and will employ systems and controls appropriate to ensure that, in the performance of this agreement, state funds will not be used for the acquisition, operation or maintenance of computer software in violation of copyright laws.

NONDISCRIMINATION

During the performance of this agreement, the grantee and its contractors shall not deny the agreement's benefits to any person on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status, nor shall they discriminate unlawfully against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status. The grantee shall insure that the evaluation and treatment of employees and applicants for employment are free of such discrimination. The grantee and contractors shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code §12900 et seq.), the regulations promulgated thereunder (Cal. Code Regs., tit. 2, §11000 et seq.), the provisions of Article 9.5, Chapter

1, Part 1, Division 3, Title 2 of the Government Code (Gov. Code §§11135-11139.5), and the regulations or standards adopted by the Conservancy to implement such article. The grantee shall permit access by representatives of the Department of Fair Employment and Housing and the Conservancy upon reasonable notice at any time during the normal business hours, but in no case less than 24 hours' notice, to such of its books, records, accounts, and all other sources of information and its facilities as said Department or the Conservancy shall require to ascertain compliance with this clause. The grantee and its contractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement. (See Cal. Code Regs., tit. 2, §11105.)

The grantee shall include the nondiscrimination and compliance provisions of this clause in all contracts to perform work under this agreement.

AMERICANS WITH DISABILITIES ACT

By signing this agreement, grantee certifies that it is in compliance with the Americans with Disabilities Act (ADA) of 1990, (42 U.S.C., 12101 et seq.), which prohibits discrimination on the basis of disability, as well as all applicable regulations and guidelines issued pursuant to the ADA.

PREVAILING WAGE

Work done under this grant agreement may be subject to the prevailing wage and other related requirements of the California Labor Code, Division 2, Part 7, Chapter 1, sections 1720-1861. If required by law to do so, the grantee shall pay prevailing wage to all persons employed in the performance of any part of the project and otherwise comply with all associated requirements and obligations.

The grantee is responsible for determining whether the project is subject to prevailing wage laws, and for complying with all labor laws applicable to the project. The grantee may also review the Conservancy publication, *Information on Current Status of Prevailing Wage Laws for State Coastal Conservancy Grantees (May 2018)*, available from the Conservancy on request; provided, that this publication is for grantee's informational purposes only, and shall not be construed as legal advice to the grantee on whether the grantee's project is subject to prevailing wage laws.

UNION ORGANIZING

By signing this agreement, grantee hereby acknowledges the applicability of Government Code Sections 16645 through 16649 to this agreement, and certifies that no state funds

disbursed by this agreement will be used to assist, promote or deter union organizing. If grantee makes expenditures to assist, promote or deter union organizing, grantee agrees to maintain records sufficient to show that no state funds, including the funds provided under this agreement, have been used for these purposes, and shall provide these records to the Attorney General upon request.

DRUG-FREE WORKPLACE

The grantee's signature on this agreement constitutes the certification required by Government Code Section 8355 (Drug-Free Workplace Act of 1990), which requires that all state grantees provide a drug-free workplace by doing all of the following:

- (1) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the person's or organization's workplace and specifying actions that will be taken against employees for violations of the prohibition.
- (2) Establishing a drug-free awareness program to inform employees about all of the following:
 - a. The dangers of drug abuse in the workplace.
 - b. The person's or organization's policy of maintaining a drug-free workplace.
 - c. Any available drug counseling, rehabilitation, and employee assistance programs.
 - d. The penalties that may be imposed upon employees for drug abuse violations.
- (3) Requiring that each employee engaged in the performance of the grant be given a copy of the drug-free workplace statement and that, as a condition of employment on the grant, the employee agrees to abide by the terms of the statement.

INDEPENDENT CAPACITY

The grantee, and the agents and employees of grantee, in the performance of this agreement, shall act in an independent capacity and not as officers or employees or agents of the State of California.

ASSIGNMENT

Without the written consent of the Executive Officer, the grantee may not assign this agreement in whole or in part.

TIMELINESS

Time is of the essence in this agreement.

EXECUTIVE OFFICER'S DESIGNEE

The Executive Officer shall designate a Conservancy project manager who shall have authority to act on behalf of the Executive Officer with respect to this agreement. The Executive Officer shall notify the grantee of the designation in writing.

AMENDMENT

Except as expressly provided in this agreement, no changes in this agreement shall be valid unless made in writing and signed by the parties to the agreement. No oral understanding or agreement not incorporated in this agreement shall be binding on any of the parties.

LOCUS

This agreement is deemed to be entered into in the County of Alameda.

Exhibit A

Exhibit 1: Project Location Map

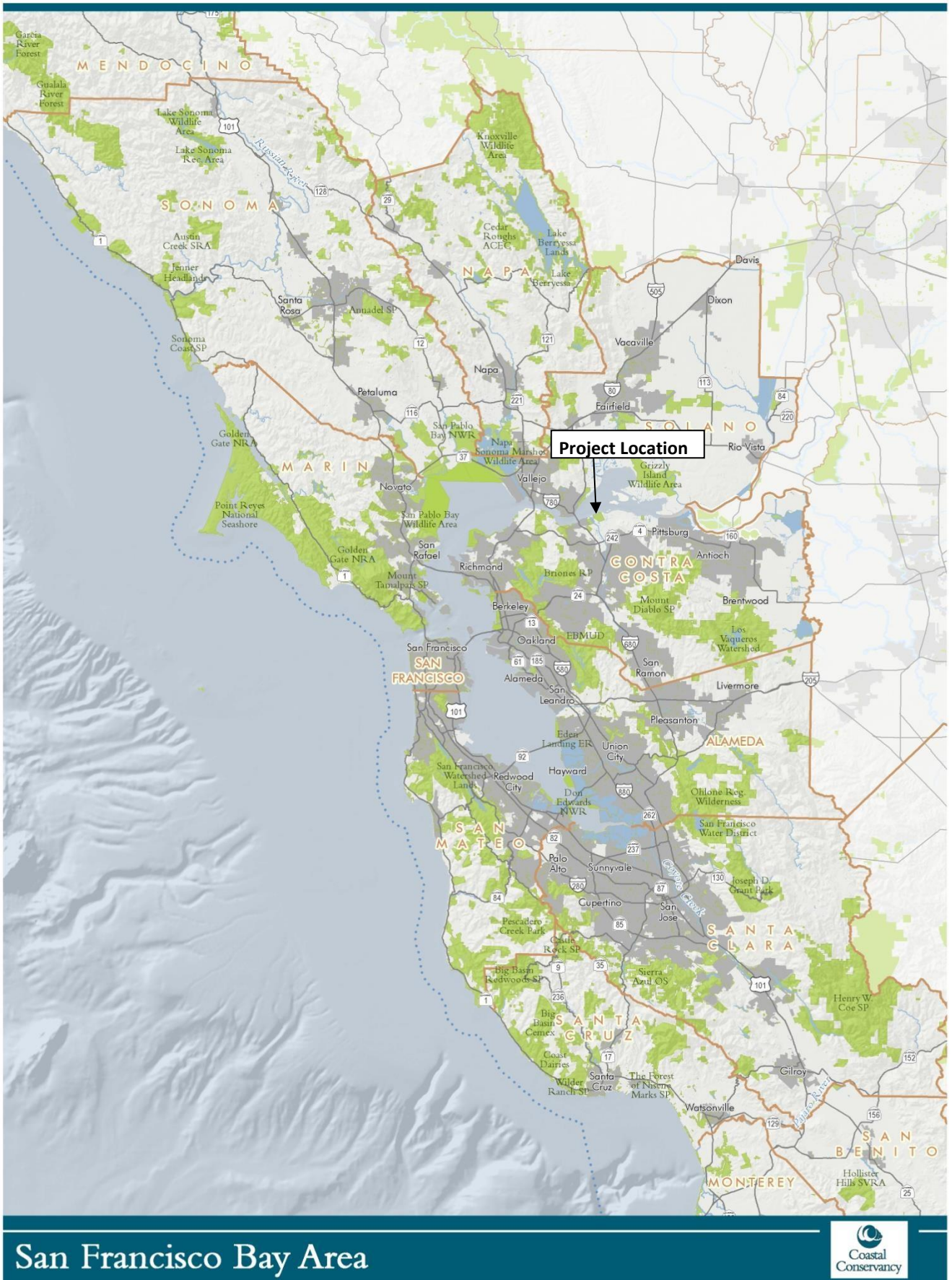


Exhibit A



Exhibit B

COASTAL CONSERVANCY

Staff Recommendation
May 05, 2020

LOWER WALNUT CREEK HABITAT RESTORATION PROJECT, NORTH REACH

Project No. 19-061-01
Project Manager: Avra Heller

RECOMMENDED ACTION: Authorization to disburse up to \$970,000 to the Contra Costa County Flood Control and Water Conservation District to implement the North Reach of the Lower Walnut Creek Habitat Restoration Project, Contra Costa County; and adoption of findings pursuant to the California Environmental Quality Act.

LOCATION: Unincorporated Contra Costa County

PROGRAM CATEGORY: San Francisco Bay Area Conservancy Program

EXHIBITS

Exhibit 1: [Project Location](#)

Exhibit 2: [Project Photos and Design](#)

Exhibit 3: [Lower Walnut Creek Restoration Project Final Initial](#)

[Study/Mitigated Negative Declaration and Mitigation](#)

[Monitoring and Reporting Program](#)

Exhibit 4: [Project Letters](#)

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31160–31165 of the Public Resources Code:

LOWER WALNUT CREEK HABITAT RESTORATION PROJECT, NORTH REACH

"The State Coastal Conservancy hereby authorizes the disbursement of an amount not to exceed nine hundred seventy thousand dollars (\$970,000) to the Contra Costa County Flood Control and Water Conservation District ("the grantee") to implement the North Reach of the Lower Walnut Creek Habitat Restoration Project, consisting of restoration and enhancement of tidal wetlands and associated upland habitat, and rough grading to support future wildlife-compatible public access trails on Lower Walnut Creek, Contra Costa County. Prior to commencement of the project, the grantee shall submit for the review and written approval of the Executive Officer of the Conservancy the following:

1. A detailed work program, schedule, and budget.
2. A plan for acknowledgement of Conservancy funding.
3. Names and qualifications of any contractors to be retained in carrying out the project.
4. Evidence that all permits and approvals required to implement the project have been obtained.
5. Evidence that the grantee has entered into any agreements that are necessary to implement the project on those portions of the project site that the grantee does not own, and evidence that the grantee has entered into and recorded agreements that the Executive Officer determines are necessary to protect the public interest in the project. "

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 Chapter 4.5 of Division 21 of the Public Resources Code, regarding the San Francisco Bay Area Conservancy Program
 2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.
 3. The Conservancy has independently reviewed and considered the Lower Walnut Creek Restoration Project Final Initial Study/Mitigated Negative Declaration adopted by Contra Costa County on November 19, 2019 pursuant to the California Environmental Quality Act ("CEQA") and attached to the accompanying staff recommendation as Exhibit 3. The Conservancy finds that the Lower Walnut Creek Restoration Project as
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LOWER WALNUT CREEK HABITAT RESTORATION PROJECT, NORTH REACH

designed and mitigated avoids, reduces, or mitigates the potentially significant environmental effects to a less-than-significant level, and that there is no substantial evidence based on the record as a whole that the Lower Walnut Creek Restoration Project may have a significant effect on the environment, as defined in 14 Cal. Code Regulations Section 15382.”

PROJECT SUMMARY:

Staff recommends the Conservancy authorize disbursement of \$970,000 in funds expected to be awarded to the Conservancy by the United States Fish and Wildlife Service (USFWS) National

Coastal Wetlands Conservation (NCWC) grant program, for the North Reach element of the Lower Walnut Creek Habitat Restoration Project, which entails the restoration and enhancement of up to 227.7 acres of tidal wetlands, waters and associated upland habitat, and rough grading for 2.5 miles of future-phased trails for wildlife-compatible public access, on the Lower Walnut Creek, Contra Costa County.

The Lower Walnut Creek Habitat Restoration Project, North Reach (project) provides multiple benefits and addresses a number of critical regional needs. The project primarily addresses: 1) Historic wetland loss and habitat restoration, 2) Long-term ecological resilience, and 3) Lack of wildlife-compatible public access and recreation in this area of Contra Costa County.

Historic Loss of Wetland Habitat and Fragmentation

Since the 1850’s San Francisco Bay has lost 80% of its historic tidal wetlands, and areas adjacent to Walnut Creek have lost 85%. This reduction in habitat area threatens native marsh-dependent fish and wildlife species, including special status species such as salmonids, salt marsh harvest mouse, Ridgway’s rail, and California black rail. The Lower Walnut Creek Habitat Restoration Project will enhance and restore estuarine wetlands, and improve habitat connectivity by approximately doubling the width of marsh corridor along the Walnut Creek channel and helping fill a nearly mile-wide gap between two large historic tidal marshes on either side of the site along the shoreline of Suisun Bay (Exhibit 2). NCWC funding was requested for the 231.9-acre North Reach subset of the larger 386-acre Lower Walnut Creek Habitat Restoration Project.

This 231.9-acre subset is in the brackish part of the San Francisco estuary where freshwater flows from the Sacramento-San Joaquin Delta mix with saline waters from San Francisco Bay. 227 acres of the subset will be restored to tidal marsh and associated upland habitats, while the remainder will be graded to support future public access. Tidal marsh in this mixing zone provides habitat for

LOWER WALNUT CREEK HABITAT RESTORATION PROJECT, NORTH REACH

protected species and also supports high primary productivity, providing food for many native fish species. Adjacent seasonal wetlands and upland/transitional areas provide a rare ecological opportunity for unique habitat combinations that were once more prevalent along the Bay's edge. This restoration project will also provide the foundational work for a future project phase to create wildlife viewing opportunities and public access amenities.

Long Term Ecological Resilience

This project has been designed to provide sustainable benefits in consideration of future environmental changes, particularly sea level rise. The project enhances the overall resilience of wetland habitats within the project area by providing space for tidal marsh migration with rising sea levels, increased tidal connectivity, reconnecting sediment flow pathways to promote healthy marsh accretion, and reducing the fragmentation of existing wetland habitats in the region. The restoration approach will capitalize on existing landscape features to restore a tidal marsh system integrated with a matrix of lowland terrestrial ecotone habitats (such as non-tidal pickleweed marsh, seasonal ponds and wetlands, annual grasses and coastal scrub). These habitats will provide enhanced ecosystem functions under present day conditions, and be able to evolve and migrate with sea-level rise. The project anticipates a gradual estuarine transgression and is designed to be self-sustaining, provide high ecological value, and function in perpetuity.

Lack of wildlife-compatible public access and recreation opportunities

The project is located on the north shore of Contra Costa County. To the east and west along the shoreline are Peyton Marsh and the Point Edith Wildlife Area, respectively, both of which are managed by California Department of Fish and Wildlife and are only accessible by boat. There are very few nearby locations where the large population of Contra Costa County can access tidal marshes and view wildlife without a boat. Upon completion of the habitat restoration work and the rough grading, the John Muir Land Trust will implement public access improvements at the North Reach, which will serve as a destination for a community without adjacent shoreline access. The anticipated source of funds for the public access improvements is via the Priority Conservation Area (PCA) Grant Program. Grant funding is provided by the Metropolitan Transportation Commission (MTC) and the Conservancy, and the program is jointly administered by the Conservancy and MTC/Association of Bay Area Governments (ABAG). At its October 17, 2019 meeting, the Conservancy recommended 16 projects for inclusion into the PCA Grant Program, including \$950,000 to the John Muir Land Trust for construction of trails, bridges, overlooks and other public access amenities as part of the Pacheco Marsh Restoration Project, which is an element of the Lower Walnut Creek Restoration Project (a Conservancy grant for the public access project has not yet been authorized).

In response to the challenges highlighted above, the project specifically will:

1. *Restore estuary-watershed connections* to nourish the baylands with sediments and freshwater. The project will incorporate multiple breaches and channels along Walnut Creek to reconnect the flow of freshwater, sediment, and biota between the creek and the baylands. The high sediment supply delivered from the Walnut Creek watershed (second highest of the San Francisco Bay watersheds according to a 2016 San Francisco Estuary Institute review of the project site), will help the restored marshes accrete sediment and maintain resilience to sea-level rise. In the North Reach's approximately 231.9-acre project area, restoration will be accomplished by breaching and lowering berms, excavating to create new tidal wetlands and channels, and grading existing upland areas to create a diverse landscape of lowland terrestrial habitats, including seasonal wetlands, and uplands integrated with the tidal wetlands (Exhibit 2). An existing undersized culvert beneath the TransMontaigne Access Road will be enlarged to allow full tidal flows to the restored wetlands. The District's access road will be relocated to increase the connectivity of restored habitats and to improve maintenance access to a buried outfall pipeline.
 2. *Design complexity and connectivity into the baylands landscape at various spatial scales.* The project will provide for a more continuous band of wetlands along Walnut Creek and connects along the Bay shoreline to large historic marshes (Exhibit 2). The North Reach has been designed to provide habitat complexity (e.g., seasonal wetlands, alkali flat, moist grassland, upland grassland and scrub in the upland transition zone).
 3. *Plan for the baylands to migrate.* The project includes large upland transition areas that provide space for natural marsh migration with sea level rise. This space coupled with Walnut Creek's high sediment load should make the site resilient to even high rates of sea level rise.
 4. *Reduce stressors by removing invasive vegetation.* Invasive vegetation removal before, during, and after construction is a key component of project implementation.
 5. *Provide initial construction for public access:* This project will rough grade 2.5 miles of public trails along the restoration project within Pacheco Marsh (the inland marsh portion of the North Reach – see Exhibit 2). Completion of construction of the public trails will occur in the future, as part of a different element of the Lower Walnut Restoration Project.
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LOWER WALNUT CREEK HABITAT RESTORATION PROJECT, NORTH REACH

The project is designed to minimize the need for active operations and ongoing maintenance. The proposed project will set levees back from the channel to restore wetland habitat and provide modest levels of flood protection. The current configurations of Walnut Creek and Pacheco Creek are remnants of a traditional engineered flood protection project implemented by the U.S. Army Corps of Engineers (USACE) in the 1960s. Ultimately, the USACE project didn't achieve the design level of flood protection; and much higher-than-expected creek sedimentation resulted in the need for periodic dredging to maintain flow capacity. The project ultimately results in modest improvements in flood risk reduction, while taking advantage of natural sediment processes to create new habitat and reduce dredging needs. Once the project is complete, the District will perform routine observation and maintenance to maintain the project's flood protection facilities as part of their regular levee monitoring program. Typical levee monitoring activities which will be applied to the new setback levee include inspection for erosion along the levee tops and slopes. Anticipated levee maintenance includes mowing and weed control and repair of erosion sites. The District will monitor the condition of the proposed improved culvert (TransMontaigne Pier Access Road) to ensure adequate tidal exchange for the restoration area. Long term operations and maintenance provided by the District will be funded using ad valorem tax revenue collected from property owners in the watershed. Public access facilities will require occasional management and maintenance and the District has partnered with the John Muir Land Trust to perform these management duties.

Site Description: The project site is located at the mouth of Walnut Creek, three miles east of the City of Martinez, on the southern shore of Suisun Bay (see Exhibit 1). Land use in the project vicinity is primarily industrial and open space and has been disturbed by human activities including dredging, levee-building, other filling, and grading. The resulting landscape is lacking much of the structure and functions (connectivity, natural hydrology, native soils, etc.) that characterize native plant and wildlife communities. The North Reach is subdivided by several remnant berms originally used to contain material dredged from Walnut Creek, creating a series of poorly drained basins disconnected from the creek and the tides. Past disposal of clean dredged material created high ground up to 12 feet above the surrounding tidal marsh. Invasive, non-native plants are present within the marsh, non-tidal wetlands and waters, and transition habitats. Upland communities are dominated by invasive non-native plants. The North Reach abuts a functioning tidal brackish marsh outboard of the existing berms.

The project site comprises three parcels: one co-owned by the District and John Muir Land

LOWER WALNUT CREEK HABITAT RESTORATION PROJECT, NORTH REACH

Trust, one owned by Marathon Oil and one owned by State Lands Commission (SLC). The District is in the process of obtaining a long-term lease from SLC and the rights to construct the project from Marathon Oil, which intends to transfer its property to John Muir Land Trust. After the District completes construction of the project, it will transfer its interest in the coowned property and the SLC lease to John Muir Land Trust for the long-term operation and management of the site as part of the suite of properties already under the Land Trust's longterm stewardship. The District and John Muir Land Trust have worked together on restoration planning and design of the North Reach.

Grantee Qualifications: The District has significant direct experience in successfully delivering grant-funded projects of this magnitude. The District, and their program manager, Paul Detjens, recently completed the 62-acre Upper Sand Creek Basin, a \$15 million partially state-grant funded detention basin with a complex riparian restoration zone. The project was delivered ontime and within available funds. In 2017, the District completed a 90% state-grant funded levee rehabilitation project in North Richmond that significantly lowers flood risk while preserving riparian and wetland vegetation. Mr. Detjens has been the project manager for the Lower Walnut Creek Restoration Project to date, including management of state and federal grants. The District and Mr. Detjens have demonstrated full competency to bring the project to a successful conclusion.

The Conservancy has previously worked with the John Muir Land Trust on a variety of acquisitions and public access projects throughout Contra Costa County, the largest of which being the Franklin-Fernandez Ranch acquisition and trail development projects which resulted in the creation of four new miles of Bay Area Ridge Trail and ridge trail connectors, as well as grazing improvements. John Muir Land Trust manages 3,200 acres of open space in Alameda and Contra Costa counties. They possess expertise in property and habitat management as well as the development of public access trails and amenities.

Project History: In January of 2018 the Conservancy (as one of the few California State agencies who can act as a designated recipient of USFWS National Coastal Wetlands Conservation (NCWC) funds) put out a call for partnership proposals for coastal wetland restoration projects.

The District responded to that call for proposals, and Conservancy staff worked closely with the District to submit an application for a \$1,000,000 NCWC grant in June 2019 for the implementation of this project. As mentioned earlier, at its October 2019 meeting, the Conservancy also recommended inclusion into the PCA Grant Program a grant of \$950,000 to the John Muir Land Trust for the public access amenities intended for this project site in the next phase of work.

LOWER WALNUT CREEK HABITAT RESTORATION PROJECT, NORTH REACH

PROJECT FINANCING (North Reach only)

US Fish and Wildlife Service (*via* a grant to the Conservancy) \$970,000

Contra Costa Flood Control District	\$2,445,170
San Francisco Bay Restoration Authority	\$4,504,406
State Wildlife Conservation Board	\$812,500
Bay Area IRWM	\$932,377
National Fish and Wildlife Foundation	\$910,000
California Department of Fish and Wildlife	\$950,000
Project Total	\$11,524,453

The USFWS is expected to award \$1,000,000 to the Conservancy for the implementation of this project, contingent on compliance with the National Environmental Protection Act and other grant requirements. \$970,000 of the grant will support project implementation directly, while the remaining \$30,000 will pay for Conservancy staff costs. In addition to the capital costs of the project, John Muir Land Trust will provide \$5,000 in in-kind match via \$4,500 value in volunteer time spent on vegetation management (establishment and maintenance), as well as \$500 in match costs associated with their staff costs regarding volunteers and coordination.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

This project is undertaken pursuant to Chapter 4.5 of the Conservancy's enabling legislation,

Public Resource Code Sections 31160-31165, to address resource goals in the San Francisco Bay Area. Section 31162 of the Public Resources Code authorizes the Conservancy to undertake projects and award grants in the nine-county San Francisco Bay Area, including Contra Costa County, that achieve the goals of the San Francisco Bay Area Conservancy Program. All of the proposed project area is within Contra Costa County. The proposed project will serve to achieve the objectives described in Section 31162(a), which authorizes the Conservancy to improve public access around the bay, coast, ridgetops, and urban open spaces through trail systems and related facilities. This project will prepare for pedestrian and cycling improvements along Marsh Creek Trail. The proposed project will also serve to achieve the objectives described in Section 31162(b), which authorizes the Conservancy to protect, restore, and enhance natural habitats, connecting corridors, watersheds, scenic areas, and other open-space resources of regional significance. The proposed project will assist in the enhancement of natural habitat for a variety of listed species in the San Francisco Bay Area.

LOWER WALNUT CREEK HABITAT RESTORATION PROJECT, NORTH REACH

The proposed project complies with Section 31163(c), which mandates that the Conservancy use specific criteria to develop priority projects within the San Francisco Bay Area Conservancy Program. The project meets the selection criteria under 31163(c), in that it: 1) is supported by and is consistent with adopted regional plans including the San Francisco Baylands Ecosystem Habitat Goals report (1999; Science Update 2015), Restoring the Estuary San Francisco Bay Joint Venture Implementation Plan (Updated 2007), the Contra Costa Flood Control District's 50 Year Plan – From Channels to Creeks (year), USFWS Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California (2013), the San Francisco Estuary Partnership's Comprehensive Conservation and Management Plan (2016), Bay Area Integrated Regional Watershed Management Plan (IRWMP) (2013), and the San Francisco Basin (Region 2) Water Quality Control Plan (May 2017); 2) serves a regional constituency by improving water quality discharged into the Bay-Delta, enhancing recreational opportunities in coastal Contra Costa County, and providing invaluable habitat, flood control, and public access benefits along the mouth of Lower Walnut Creek; 3) can be implemented in a timely manner; 4) provides the opportunity to implement a multi-benefit project that would be lost or have to be significantly scaled down if the project cannot be implemented in the near future; and 5) will include significant matching funds from the Contra Costa Flood Control District, the San Francisco Bay Area Restoration Authority, the State Wildlife Conservation Board, the California Department of Water Resources Bay Area Integrated Regional Water Management Grants, the National Fish and Wildlife Foundation, the California Department of Fish and Wildlife, and others.

CONSISTENCY WITH CONSERVANCY'S 2018-2022 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

Consistent with **Goal 12, Objective D** of the Conservancy's 2018-2022 Strategic Plan, the proposed project will enhance tidal wetlands, managed wetlands, seasonal wetlands, and upland habitat.

Consistent with **Goal 13, Objective B** of the Conservancy's 2018-2022 Strategic Plan, this project will help implement projects that provide recreational facilities such as picnic and staging areas, docks and piers, parking lots, interpretive signs, interpretive or educational centers, and natural play spaces.

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:**

USFWS Coastal Program Strategic Plan for 2017-2021: The project will help meet Objective 1.1: Restore and enhance coastal habitats, processes, and ecosystems based upon established National, Regional, and Ecoregion interim priorities. The project will help to conserve and restore the mosaic of habitat types and associated processes that support relevant estuarine ecosystems.

State Wildlife Action Plan (CDFW, 2015 Update): Consistent with the overall vision of the *State Wildlife Action Plan* (CDFW, 2015 Update), the project will contribute to conservation of ecosystem processes, habitat quality, climate change resilience and sustainability. The project is expected to support several species identified in SWAP 2015 as focal species for conservation. The project will implement the following tidal salt marsh conservation strategies (SWAP 2015, pp. 5.3-48-5.3-56). Similar conservation strategies apply for freshwater marsh, but are of lower priority for the project:

- Protection of land through acquisition or lease (Conservation Strategy 1)
- Research and data gathering on effective restoration methods (Conservation Strategy 2)
- Public outreach and education (Conservation Strategy 3)
- Invasive species control (Conservation Strategy 6)
- Integrated resource management (Conservation Strategy 7)
- Partnership for joint advocacy for recreation (Conservation Strategy 8)

California Department of Fish and Wildlife Ecosystem Restoration Program (ERP) Conservation Strategy (2014): The 2014 ERP Conservation Strategy

LOWER WALNUT CREEK HABITAT RESTORATION PROJECT, NORTH REACH

outlines conservation priorities to guide restoration for the Delta and its watershed from 2008-2030. The ERP provides a comprehensive ecosystem restoration strategy for the ERP Focus Area which includes Suisun Marsh and North San Francisco Bay. The project will advance the following

Conservation Strategy goals:

- Recover endangered and other at-risk species and native biotic communities (Goal 1);
- Rehabilitate ecological processes (Goal 2);
- Protect and restore habitats (Goal 4);
- Prevent the establishment of and reduce impacts from non-native invasive species (Goal 5); and
- Improve or maintain water and sediment quality (Goal 6).

4. **Support of the public:** This project has received a wide array of public support. This is demonstrated by the letters in support of the Conservancy's grant application to NCWC, as well as the Contra Costa Flood Control District's grant application to the San Francisco Bay Area Restoration Authority. Supporters include: Congressman Mike Thompson, the Wildlife Conservation Board, the California Department of Fish and Wildlife, East Bay Regional Park District, the John Muir Land Trust, Marathon, American Rivers, Save Mt. Diablo, Walnut Creek Watershed Council, Central Contra Costa Sanitary District, and many others. (See Exhibit 4)
 5. **Location:** The proposed project is in Contra Costa County, which is within the jurisdiction of the San Francisco Bay Area Conservancy Program (see Exhibit 1).
 6. **Greater-than-local interest:** The purpose of the project is the restoration of ecosystem processes including tidal exchange, accretion, and sediment transport. The delivery of sediment supply from Walnut Creek to these newly restored tidal baylands and associated uplands is expected to create a system that is self-sustaining over the long term. The improved delivery of sediment to vulnerable baylands should help continue to ensure that the wetlands have the ability to keep pace with sea level rise, and the project has been designed so that habitats will be able to migrate upslope over time. The approach of restoring tidal influence and accretion has been used in large marshes for decades in the northern portions of San Francisco Bay (e.g. Napa-Sonoma Salt Pond Restoration) and successfully provided long-term benefits for those restoration sites. The project is also expected to provide habitat benefits for a
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LOWER WALNUT CREEK HABITAT RESTORATION PROJECT, NORTH REACH

variety of special status species including: California Ridgway's rail (*Rallus obsoletus*), California black rail (*Laterallus jamaicensis coturniculus*), salt marsh harvest mouse (*Reithrodontomys raviventris halicoetes*), Longfin Smelt (*Spirinchus thaleichthys*), fall-run Chinook salmon (*Oncorhynchus tshawytscha*), central California coast steelhead DPS (*Oncorhynchus mykiss*), green sturgeon (*Acipenser medirostris*), as well as a wide variety of other coastal-dependent or migratory shore birds.

7. **Sea level rise vulnerability:** The project is specifically designed to be resilient and adaptable to the long-term effects of sea level rise and has been designed to ensure continued coastal wetlands benefits. Early in planning, the project coordinated with regional baylands experts to develop strategies for improving long-term resilience of the lower Walnut Creek landscape to support sustained ecosystem services and wildlife habitat under changing future conditions. This planning occurred primarily via the Flood Control 2.0 project, funded by the US EPA and led by scientists from the San Francisco Estuary Institute in partnership with the District. As such, the design features gradual slopes with a number of ecotones that allow upward migration of habitats to counter the effects of sea level rise.

Additional Criteria

8. **Urgency:** The anticipated NCWC grant award will cover the period of January 1, 2020 – December 31, 2021. Although a NCWC grant has not yet been awarded, in March 2020, NCWC announced its decision to award a grant for the project.
 9. **Resolution of more than one issue:** The purpose of the project is the restoration of ecosystem processes including tidal exchange, accretion, and sediment transport. The delivery of sediment supply from Walnut Creek to these newly restored tidal baylands and associated uplands is expected to create a system that is self-sustaining over the long term. The improved delivery of sediment to vulnerable baylands should help continue to ensure that the wetlands have the ability to keep pace with sea level rise, and the project has been designed so that habitats will be able to migrate upslope over time. The restoration of these baylands to tidal action is expected to provide flood control benefits to adjacent properties. Finally, the rough grading of 2.5 miles of future trails will lay the structural groundwork for the creation of wildlife-compatible public access along a stretch of Contra Costa's shoreline that is currently only accessible by boat.
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10. **Leverage:** See the “Project Financing” section above.
11. **Readiness:** The project is currently on schedule for construction in the summer / fall of 2020, with monitoring and adaptive management to follow for a minimum of three years.
- Recent project milestones include the completion of the California Environmental Quality Act document (Initial Study / Mitigated Negative Declaration), submittal of regulatory permit applications, and the release of the 65% construction documents.
12. **Realization of prior Conservancy goals:** “See “Project History” above.”
13. **Return to Conservancy:** \$30,000 of the total \$1,000,000 USFWS NCWC grant will be provided directly to the Conservancy to cover staff costs associated with managing this project.
14. **Cooperation:** There has been public involvement throughout the entire planning and design process (2014-present) for the project. At the inception of the planning and design process, the District hosted a ‘listening tour’ in which staff visited and brought together various stakeholder groups, including neighbors, non-government entities and regulators and asked what the creek meant to them, what problems they saw with its current management and condition, and what was their vision for Lower Walnut Creek. These answers fed into a unified vision for the project, and the formation of a Stakeholder Advisory Group, which has met periodically throughout the planning and design process to review progress and provide input at key decision points. In addition to the stakeholder group, the team has hosted over 20 public site tours (typically for two hours on Saturday mornings). Another important aspect of public involvement is the project’s social media presence. Besides the comprehensive project website at www.LowerWalnutCreek.org, the project also has an active Facebook page and a series of nine project videos called “Lower Walnut Creek Adventures” on YouTube. Further public engagement has focused on project partners such as the Walnut Creek Watershed Council, and the John Muir Land Trust (JMLT). The project also has significant coordination with other public agencies, including the California Department of Fish and Wildlife (CDFW), which provided financial support for project planning and design efforts.
15. **Minimization of greenhouse gas emissions:** See description of mitigation measures regarding Air Quality in the CEQA section below.
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CONSISTENCY WITH SAN FRANCISCO BAY PLAN:

The Lower Walnut Creek Project helps implement BCDC's San Francisco Bay Plan (Bay Plan), dated January 2008 (reprinted 2012), by supporting the following policies:

1. **Fish, Other Aquatic Organisms and Wildlife, Policy 1** which states that "to the greatest extent feasible, the Bay's tidal marshes, tidal flats, and subtidal habitat should be conserved, restored and increased." (page 16);
2. **Water Quality, Policy 1** which states that "tidal marshes, tidal flats, and water surface area and volume should be conserved and, whenever possible, restored and increased to protect and improve water quality. Fresh water inflow into the Bay should be maintained at a level adequate to protect Bay resources." (page 19);
3. **Tidal Marshes and Mudflats, Policy 4** which calls for the restoration of tidal marshes and tidal flats that have been diked from the Bay to tidal action in order to replace lost historic wetlands, where and whenever possible (page 23);
4. **Public Access, Policy 4** which states: "public access should be sited, designed and managed to prevent significant adverse effects on wildlife." (page 68).

CEQA COMPLIANCE:

Staff has independently evaluated the Lower Walnut Creek Restoration Project Final Initial Study/Mitigated Negative Declaration (MND) and Mitigation Monitoring and Reporting Program (MMRP) adopted by Contra Costa County on November 19, 2019, and concurs that there is no substantial evidence that the proposed project will have a significant effect on the environment. Staff therefore recommends that the Conservancy find that the project as mitigated avoids, reduces or mitigates the possible significant environmental effects to a level of less-than-significant and that there is no substantial evidence that the project will have a significant effect on the environment as that term is defined by 14 Cal. Code Regs. §15382.

The MND analyzes the Lower Walnut Creek Restoration Project as whole, which is a larger project than the North Reach component to be funded under this authorization. Because the MND analyzes the larger restoration project, this CEQA discussion pertains to the entire Lower Walnut Creek Restoration project, not just the North Reach. The term "project" in this section therefore refers to the larger restoration project.

LOWER WALNUT CREEK HABITAT RESTORATION PROJECT, NORTH REACH

The MND indicates that the project will not have a significant effect on the environment with incorporation of certain mitigation measures. The potential effects for which mitigation is proposed are in the areas of air quality, biological resources, cultural resources, hazards and hazardous materials, hydrology and water quality, recreation, tribal cultural resources and mandatory findings of significance. The District will be responsible for compliance with the mitigation measures. The potential significant effects on air quality, biological resources, cultural resources, and hazards and hazardous materials, will be mitigated by the measures listed below. The following is a summary of potential impacts and planned mitigation measures for the project.

Air Quality

The project could result in potentially significant air quality impact, but mitigation measures will reduce the impact to less-than-significant. The District will require its contractors to follow Bay Area Air Quality Management District Basic Construction Mitigation Measures to reduce vehicular emissions and emissions of fugitive dust and equipment exhaust. Those measures include watering exposed surfaces twice daily, all haul trucks transporting loose materials will be covered, vehicle speed limited to 15 mph on unpaved roads, all roadways, driveways and sidewalks will be paved and completed as soon as possible, idling time will be minimized, construction equipment will be properly maintained, and a sign will be posted publicly for a point of contact at the Air District regarding dust complaints.

Biological Resources

The project would result in: (1) potential impacts on western pond turtle; (2) potential impacts on special-status birds; (3) potential impacts on California black rail and Ridgway's rail; (4) potential impacts on salt marsh harvest mouse and Suisun shrew; (5) potential impacts on special-status plants; (6) potential impacts on special-status fish; (7) potential impacts on sensitive natural communities; (8) potential impacts on wetlands and other waters; and (9) potential construction-related impacts on movement of native resident or migratory fish species or established native resident or migratory wildlife corridors. These potential impacts will be reduced to less than significant effects through mitigation measures. The mitigation measures include having a qualified biologist provide Worker Environmental Awareness Training to all field management and construction personnel. Qualified biologists will conduct pre-construction surveys, and if any listed species are discovered, work will not begin in the immediate vicinity of that discovery until USFWS/CDFW is contacted, and the listed species have been able to leave the area. A Stormwater Pollution Prevention Plan (SWPPP) will be

LOWER WALNUT CREEK HABITAT RESTORATION PROJECT, NORTH REACH

developed and implemented for the project area to prevent construction-related water quality impacts.

(1) Construction-related impacts on western pond turtle would be potentially significant. Mitigation measures will reduce construction-related impacts on western pond turtle to a less-than-significant level by providing biological monitoring within 150 feet of sensitive aquatic sites; environmental training to construction personnel; general protection measures, including speed limits on all levees and roads during construction; and specific survey and relocation measures for western pond turtles, if encountered. Operational and long-term effects of the project on western pond turtle will be less than significant.

(2) Construction-related impacts on tricolored blackbird, short-eared owl, Northern harrier, saltmarsh common yellowthroat, Suisun song sparrow, and nesting birds protected by the Migratory Bird Treaty Act would be potentially significant. However, mitigation measures will reduce potential construction-related impacts to nesting special-status birds to a less-than-significant level by providing environmental training to construction personnel, providing general protection measures, and requiring avoidance of construction-related work during the nesting bird season. If avoidance of the nesting season is not possible, then pre-construction nesting bird surveys and establishment of no-construction buffer zones around active bird nests will be used to avoid or minimize the potential for this impact to occur. Operational and long-term effects of the project on tricolored blackbird, short-eared owl, Northern harrier, saltmarsh common yellowthroat, Suisun song sparrow, and nesting birds protected by the Migratory Bird Treaty Act will be less than significant.

(3) Temporary construction-related impacts would result in potentially significant impacts on California black rail and Ridgway's rail. However, implementation of mitigation measures will reduce potential construction-related impacts to Ridgway's rail and black rail to less-than-significant by providing environmental training to construction personnel, providing general protection measures, avoiding disturbance to rail nesting habitat (including avoiding construction activities requiring heavy equipment within 500 feet of marsh areas during breeding season – February 1 – August 31), conducting pre-construction protocol surveys (*Site Specific Protocol for Monitoring Marsh Birds*) to identify any active nests, and stopping work if project activities disturb nesting rails. Operational and long-term effects of the project on California black rail and Ridgway's rail will be less than significant.

LOWER WALNUT CREEK HABITAT RESTORATION PROJECT, NORTH REACH

(4) Construction-related impacts and ongoing Operation and Maintenance (O&M)- related impacts on salt marsh harvest mouse and Suisun shrew would be potentially significant. However, implementation of mitigation measures will reduce potential construction and ongoing O&M impacts to salt marsh harvest mouse and Suisun shrew to a less-than-significant level by providing environmental training to construction personnel, providing general protection measures, conducting pre-construction surveys, identification and avoidance of suitable habitat for the species, and where avoidance is not possible, using hand tools to clear vegetation. Vegetation removal in SMHM habitat will be conducted under supervision of the USFWS and CDFW approved biologist. Further, suitable marsh habitat will be protected during work activities, silt fencing will separate suitable habitat from adjacent work areas, a biomonitor will be in place to stop work if the species is detected, and work during high tide periods will be avoided. With implementation of these mitigation measures, construction- and ongoing O&M -related impacts will be less than significant.

(5) Temporary construction-related impacts would result in significant impacts on special-status plants, and if special-status plants are present in the areas that have not yet been surveyed, these have potential to be impacted indirectly through changes in site hydrology. However, implementation of mitigation measures will reduce potential construction-related impacts to special-status plants and potential indirect impacts to special-status plants due to changes in hydrology to a less-than-significant level. This will be achieved by: conducting pre-construction special-status plant surveys; delineating and avoiding special-status plants within the project work limits by establishing a no-disturbance buffer, including fencing and signage, around the plant to protect it from construction-related activity; compensating for special-status plant impacts that cannot be avoided; and reporting special-status plant occurrence to the California Natural Diversity Database (CNDDB). Operational and long-term effects of the project will be less than significant.

(6) Construction-related impacts on special-status fish and marine mammals would be potentially significant. However, implementation of mitigation measures will reduce the impact of project construction on special-status fish to less-than-significant by restricting the timing of in-water work to periods in which special-status aquatic species are unlikely to be present, and if work cannot be avoided outside of that period other measures will be taken including instillation of silt screens which will exclude fish from channels in active construction, National Marine Fisheries Services approved sound attenuation monitoring plan for any pile-driving activities and by ensuring the water quality effects of in-water

LOWER WALNUT CREEK HABITAT RESTORATION PROJECT, NORTH REACH

work occur at less than significant levels. Operational and long-term effects of the project will be less than significant.

(7) Construction-related impacts on sensitive natural communities would be potentially significant. Implementation of mitigation measures will reduce construction-related impacts to less than significant by ensuring that sensitive natural communities are delineated and, to the extent feasible, avoided; minimizing impacts by developing and implementing an erosion control plan and SWPPP; using silt curtains to protect submerged aquatic vegetation; avoiding the introduction of non-native, invasive plant species; using only pesticides certified by the USEPA for use in/adjacent to aquatic environments, and monitoring the vegetation and geomorphology for adaptive management to meet the goals of the project. Operational and long-term effects of the project will be less than significant.

(8) Construction-related activities would potentially significantly impact wetlands and other waters. However, implementation of mitigation measures will reduce impacts to less than significant by isolating the in-water work area to isolate suspended sediments to the work area, restricting work activities to within the construction footprint, and by avoiding the introduction and spread of weeds. Although the project will include grading and vegetation management activities within potentially jurisdictional wetlands and waters, and temporal loss of wetlands and waters during construction, these activities will support the goals of habitat restoration and will result in a net increase in wetlands and waters. The project will result in long-term benefits, and therefore the potential operational/long-term impact on wetlands and waters is less than significant.

(9) Construction-related activities would potentially significantly impact submerged aquatic vegetation and fish habitat. However, implementation of mitigation measures will reduce impacts to less than significant. Prior to construction or other habitat restoration or conversion activities, a USFWS-approved biologist shall conduct a survey for submerged aquatic vegetation (SAV) at the shoreline of the North Reach. Locations of SAV shall be mapped in GIS, and a buffer will be established to exclude activities that would indirectly remove or alter the habitat or result in indirect adverse impacts on the SAV. If impacts cannot be avoided, the District will consult with CDFW to devise a plan for minimizing impacts. Potential minimization measures include: 1) salvaging and replanting native SAV at the same location following construction, 2) salvaging and relocating native SAV, 3) collection of seeds or other propagules of SAV to reintroduce at the site or other location; 4) payment of in lieu fees for preservation of individual native SAV plants.

Cultural Resources

The project would result in: (1) potential impacts on archaeological resources or tribal cultural resources; and (2) potential impacts on human remains.

(1) Implementation of mitigation measures will reduce potentially significant impacts to archeological resources to less than significant with mitigation incorporated. Prior to authorization to proceed, a Secretary of the Interior-qualified archeologist will conduct a training program for all field and construction workers involved in site-disturbance. A Secretary of the Interior-qualified archeologist will be retained with 24 hours of any archeological resources discoveries. If determined that the project could damage a historical resource as defined by CEQA, construction will cease in an area determined by the archeologist until a mitigation plan has been prepared, approved by the District and implemented to the satisfaction of the archeologist (and Native American representative appropriate).

(2) Implementation of mitigation measures will reduce potentially significant impacts to human remains to less than significant. Mitigation includes compliance with applicable State laws, including Section 7050.5 of the Health and Safety Code. This would require work to halt within 100 feet of the find and immediate notification of the County coroner. If the coroner determines the human remains are Native American, the coroner will notify the California State Native American Heritage Commission (NAHC), who will appoint a Most Likely Descendant (MLD) (PRC Section 5097.98) to make recommendations to the District for the appropriate means of treating the human remains and any associated funerary objects.

Hazards and Hazardous Materials

The project would result in potential impacts due to exposure of public and workers to hazardous materials. Preparation and implementation of a Hazardous Materials Dewatering and Management Plan will reduce impacts to less than significant with mitigation incorporated. This mitigation measure will establish procedures analyzing the chemical concentrations in dewatering fluids and ensuring the dewatering fluids are disposed of in accordance with all applicable federal and state laws.

The potential significant effects on hydrology and water quality, recreation, tribal cultural resources and mandatory findings of significance will be also mitigated by these same measures.

LOWER WALNUT CREEK HABITAT RESTORATION PROJECT, NORTH REACH

Upon approval of the project, Conservancy staff will file a Notice of Determination.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
California-Great Basin Region
Wildlife & Sport Fish Restoration Program
2800 Cottage Way, W-1729
Sacramento, California 95825

In Reply Refer to:
FWS/IR10/Lower Walnut Crk

January 5, 2021

Ms. Avra Heller
California State Coastal Conservancy
1515 Clay Street, 10th Floor
Oakland, California 94612-1401
DUNS: 808322408

Subject: Notice of Grant Award for **FBMS#** [F20AP10012](#)

Dear Ms. Heller:

The U.S. Fish & Wildlife Service (Service) has completed the environmental compliance documentation for your Federal financial assistance project “[Lower Walnut Creek Habitat Restoration Project, North Reach](#)”, submitted to the Service’s CFDA Program 15.614.

Compliance requirements associated with the National Environmental Policy Act, the Endangered Species Act, the Magnuson Stevens Fishery Conservation and Management Act, and Section 106 of the National Historic Preservation Act, and Section 106 of the Clean Water Act have been satisfied. As a result, we are removing the following special conditions that were in your June 10, 2020 Notice of Award and inserting a new special condition to ensure compliance. The completion of all applicable Federal environmental compliance now allows for the release of all remaining funds for this project.

SPECIAL CONDITIONS REMOVED

LOWER WALNUT CREEK HABITAT RESTORATION PROJECT, NORTH REACH

Drawdown of funds in ASAP is limited to reimbursement of expenditures not to exceed \$30,000 (federal share) of administrative costs including project and grant management. As a condition of award, the Recipient and their sub-recipient(s) and contractor(s) must not begin any potentially impactful work related to this award until the Service has notified you in writing that such work can begin. Recipients and sub-recipients of Federal grants and cooperative agreement awards must comply with the requirements of the National Environmental Policy Act (NEPA), Section 7 of Endangered Species Act (ESA), Magnuson-Stevens Fishery Conservation and Management Act, Bald and Golden Eagle Protection Act, and Section 106 of the National Historic Preservation Act (NHPA).

There is always the possibility of accidental discovery of buried archaeological deposits. If archaeological remains are uncovered, the grantee will be required that work halts immediately until a qualified archaeologist can evaluate the materials. Upon discovery of suspected archaeological deposits, the grantee will be required to contact the US Fish and Wildlife Service and the State Historic Preservation Officer immediately. The State Historic Preservation Officer and the Fish and Wildlife Service will determine necessary next steps. In the event any Ms. Avra

Heller January 5, 2021

Page 2

archaeological or historic materials are encountered during project activity, work in the immediate area must stop and the following actions taken:

1. Implement reasonable measures to protect the discovery site, including any appropriate stabilization or covering;
2. Take reasonable steps to ensure the confidentiality of the discovery sites; and
3. Take reasonable steps to restrict access to the site of discovery.

The recipient must notify the concerned Tribes and all appropriate county, state, and federal agencies, including the State Historic Preservation Office. Agencies and the Tribe(s) will discuss the possible measures to remove or avoid cultural material, and will reach an agreement with the recipient regarding actions to be taken and disposition of material. If Human remains are uncovered, appropriate law enforcement agencies must be notified first, and the above steps followed. If the remains are determined to be Native, consultation with the affected Tribe(s) will take place in order to mitigate the final disposition of said remains.

SPECIAL CONDITION RETAINED

Any nesting, brooding, or brood rearing bald eagles encountered by field crews at survey sites shall be avoided by a distance of at least 200 m, if work activity is visible to the eagles (direct line of sight), or 100 m, if work activity is not visible

LOWER WALNUT CREEK HABITAT RESTORATION PROJECT, NORTH REACH

to the eagles, per Service guidelines for bald eagles (USFWS 2007), for as long as such eagle activity is present.

Because golden eagles appear to have a lower tolerance for human disturbance than bald eagles, any nesting, brooding, or brood rearing golden eagles encountered by field crews at work sites shall be avoided by a distance of at least 800 m, if work activity is visible to the eagles (direct line of sight); or 400 m, if work activity is not visible to the eagles for as long as such eagle activity is present.

SPECIAL CONDITION ADDED

The recipient and subrecipient will ensure that all required general and special conditions included in the US Army Corp of Engineers Permit No. 2004-292960S, dated December 11, 2020, will be adhered to and met in order to be in compliance with required federal regulations for this award. Any amendments to that Permit which take place during the term of this award, must be adhered to and met as if part of the original permit.

All other provisions and conditions for this grant award remain in effect. With receipt of this Letter Addendum, the California Coastal Conservancy may begin to draw funds for construction related activities. Please contact our Grants Manager, Becky Miller, (916) 978-6185 with any questions. Please include the Service's Grant Award number provided in the subject line of this letter in all written communications.

Sincerely,

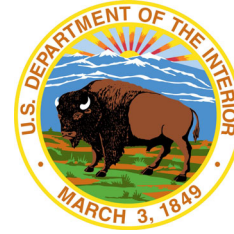
Lawrence M. Riley, Manager
Wildlife and Sport Fish Restoration Program

cc: Sean Williamson, California State Coastal
Conservancy Mike Piazzoni, IR10 Wildlife and Sport
Fish Restoration Program

Exhibit C2

1. DATE ISSUED MM/DD/YYYY 06/10/2020		1a. SUPERSEDES AWARD NOTICE dated except that any additions or restrictions previously imposed remain in effect unless specifically rescinded	
2. CFDA NO. 15.614 - Coastal Wetlands Planning, Protection and Restoration			
3. ASSISTANCE TYPE Project Grant			
4. GRANT NO. F20AP10012-00 Formerly		5. TYPE OF AWARD Other	
4a. FAIN F20AP10012		5a. ACTION TYPE New	
6. PROJECT PERIOD MM/DD/YYYY From 01/01/2020		Through MM/DD/YYYY 12/31/2021	
7. BUDGET PERIOD MM/DD/YYYY From 01/01/2020		Through MM/DD/YYYY 12/31/2021	
8. TITLE OF PROJECT (OR PROGRAM) Lower Walnut Creek Habitat Restoration Project, North Reach			

NOTICE OF AWARD



AUTHORIZATION (Legislation/Regulations)

Coastal Wetlands Planning, Protection and Restoration Act, 16 U.S.C.
§§ 3951 - 3956

9a. GRANTEE NAME AND ADDRESS State Coastal Conservancy 1515 Clay St Fl 10 Oakland, CA 94612-1499		9b. GRANTEE PROJECT DIRECTOR Avra Heller 1515 Clay St Fl 10 Oakland, CA 94612-1499 Phone: 510-286-1212	
10a. GRANTEE AUTHORIZING OFFICIAL Avra Heller 1515 Clay St Fl 10 Oakland, CA 94612-1499 Phone: 510-286-1212		10b. FEDERAL PROJECT OFFICER Ms. Becky Miller 2800 COTTAGE WAY, W-1729 US Fish and Wildlife Service SACRAMENTO, CA 95825 Phone: 916-978-6185	

ALL AMOUNTS ARE SHOWN IN USD

11. APPROVED BUDGET (Excludes Direct Assistance)				12. AWARD COMPUTATION																																													
I Financial Assistance from the Federal Awarding Agency Only				a. Amount of Federal Financial Assistance (from item 11m) \$ 1,000,000.00																																													
II Total project costs including grant funds and all other financial participation				b. Less Unobligated Balance From Prior Budget Periods \$ 0.00																																													
				c. Less Cumulative Prior Award(s) This Budget Period \$ 0.00																																													
				d. AMOUNT OF FINANCIAL ASSISTANCE THIS ACTION \$ 1,000,000.00																																													
				13. Total Federal Funds Awarded to Date for Project Period \$ 1,000,000.00																																													
				14. RECOMMENDED FUTURE SUPPORT (Subject to the availability of funds and satisfactory progress of the project):																																													
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n. Non-Federal Share	\$	500,000.00																																															

REMARKS (Other Terms and Conditions Attached -

☒ Yes☐ No

GRANTS MANAGEMENT OFFICIAL:

Larry Riley, WSFR Manager
2800 COTTAGE WAY, W-1729
SACRAMENTO, CA 95825
Phone: 916-978-6182

17. VENDOR CODE0070057967			18. DUNS808322408			19. CONG. DIST.13
LINE#	FINANCIAL ACCT	AMT OF FIN ASST	START DATE	END DATE	TAS ACCT	PO LINE DESCRIPTION
1	0051001113-00010	\$1,000,000.00	01/01/2020	12/31/2021	8151	Coastal Wetlands

NOTICE OF AWARD (Continuation Sheet)

PAGE 2 of 6	DATE ISSUED 06/10/2020
GRANT NO. F20AP10012-00	

SCOPE OF WORK

1. Project Description

This award titled “Lower Walnut Creek Habitat Restoration Project, North Reach” is based on Service approval of your organization’s proposal, hereby incorporated by reference into this award.

Terms and Conditions

1. [U.S. Fish and Wildlife General Award Terms and Conditions](#)

2. Mandatory Disclosures

Conflicts of interest: Per [2 CFR §1402.112](#), non-Federal entities and their employees must take appropriate steps to avoid conflicts of interest in their responsibilities under or with respect to Federal financial assistance agreements. In the procurement of supplies, equipment, construction, and services by recipients and by subrecipients, the conflict of interest provisions in [2 CFR §200.318](#) apply. Non-Federal entities, including applicants for financial assistance awards, must disclose in writing any conflict of interest to the DOI awarding agency or pass-through entity in accordance with [2 CFR §200.112](#). Recipients must establish internal controls that include, at a minimum, procedures to identify, disclose, and mitigate or eliminate identified conflicts of interest. The recipient is responsible for notifying the Service Project Officer identified in their notice of award in writing of any conflicts of interest that may arise during the life of the award, including those that reported by subrecipients. The Service will examine each conflict of interest disclosure to determine whether a significant potential conflict exists and, if it does, work with the applicant or recipient to develop an appropriate resolution. Failure to resolve conflicts of interest in a manner that satisfies the government may be cause for termination of the award. Failure to make required disclosures may result in any of the remedies for noncompliance described in [2 CFR §200.338](#), including suspension or debarment (see also [2 CFR Part 180](#)).

Lobbying: The recipient must not use any federally appropriated funds (annually appropriated or continuing appropriations) or matching funds under a Federal award to pay any person for lobbying in connection with the award. Lobbying is influencing or attempting to influence an officer or employee of any U.S. agency, a Member of the U.S. Congress, an officer or employee of the U.S. Congress, or an employee of a Member of the U.S. Congress connection with the award. The recipient must complete and submit the [SF-LLL, “Disclosure of Lobbying Activities”](#) form to the Service Project Officer identified in their notice of award if the Federal share of their award is more than \$100,000 and the recipient has made or has agreed to make any payment using non- appropriated funds for lobbying in connection with the application or award. See [43 CFR, Subpart 18.100](#) for more information on when additional submission of this form is required.

Other Mandatory Disclosures: Recipients and subrecipients must disclose, in a timely manner, in writing to the Service Project Officer identified in their notice of award or pass-through entity all violations of Federal criminal law involving fraud, bribery, or gratuity violations potentially affecting the Federal award. Non-Federal entities that receive a Federal award including the term and condition outlined in [2 CFR 200, Appendix XII—Award Term and Condition for Recipient Integrity and Performance Matters](#) are required to report certain civil, criminal, or administrative proceedings to SAM. Failure to make required disclosures can result in any of the remedies for noncompliance described in [2 CFR §200.338](#), including suspension or debarment.

SPECIAL TERMS AND REQUIREMENTS

NOTICE OF AWARD (Continuation Sheet)

PAGE 3 of 6	DATE ISSUED 06/10/2020
GRANT NO. F20AP10012-00	

1. Environmental Compliance Reviews

Drawdown of funds in ASAP is limited to reimbursement of expenditures not to exceed \$30,000 (federal share) of administrative costs including project and grant management. As a condition of award, the Recipient and their sub-recipient(s) and contractor(s) must not begin any potentially impactful work related to this award until the Service has notified you in writing that such work can begin. Recipients and sub-recipients of Federal grants and cooperative agreement awards must comply with the requirements of the National Environmental Policy Act (NEPA), Section 7 of Endangered Species Act (ESA), Magnuson-Stevens Fishery Conservation and Management Act, Bald and Golden Eagle Protection Act, and Section 106 of the National Historic Preservation Act (NHPA).

Any nesting, brooding, or brood rearing bald eagles encountered by field crews at survey sites shall be avoided by a distance of at least 200 m, if work activity is visible to the eagles (direct line of sight), or 100 m, if work activity is not visible to the eagles, per Service guidelines for bald eagles (USFWS 2007), for as long as such eagle activity is present.

Because golden eagles appear to have a lower tolerance for human disturbance than bald eagles, any nesting, brooding, or brood rearing golden eagles encountered by field crews at work sites shall be avoided by a distance of at least 800 m, if work activity is visible to the eagles (direct line of sight); or 400 m, if work activity is not visible to the eagles for as long as such eagle activity is present.

2. Inadvertent Archeological or Historical Discoveries

There is always the possibility of accidental discovery of buried archaeological deposits. If archaeological remains are uncovered, the grantee will be required that work halts immediately until a qualified archaeologist can evaluate the materials. Upon discovery of suspected archaeological deposits, the grantee will be required to contact the US Fish and Wildlife Service and the State Historic Preservation Officer immediately. The State Historic Preservation Officer and the Fish and Wildlife Service will determine necessary next steps. In the event any archaeological or historic materials are encountered during project activity, work in the immediate area must stop and the following actions taken:

1. Implement reasonable measures to protect the discovery site, including any appropriate stabilization or covering;
2. Take reasonable steps to ensure the confidentiality of the discovery sites; and
3. Take reasonable steps to restrict access to the site of discovery.

The recipient must notify the concerned Tribes and all appropriate county, state, and federal agencies, including the State Historic Preservation Office. Agencies and the Tribe(s) will discuss the possible measures to remove or avoid cultural material, and will reach an agreement with the recipient regarding actions to be taken and disposition of material. If Human remains are uncovered, appropriate law enforcement agencies must be notified first, and the above steps followed. If the remains are determined to be Native, consultation with the affected Tribe(s) will take place in order to mitigate the final disposition of said remains.

AWARD CONDITIONS

1. Pre-Award Costs

The Service authorizes the recipient to use the Pre-award costs for the engineering design, of \$10,000,

NOTICE OF AWARD (Continuation Sheet)

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GRANT NO. F20AP10012-00	

as match. Pre-award costs are those incurred prior to the effective date of this award directly pursuant to the negotiation and in anticipation of the award where such costs are necessary for efficient and timely performance of the scope of work. Such costs are allowable only to the extent that they would have been allowable if incurred after the date of the award.

2. Matching Requirements

Grant is eligible for reimbursement of amount obligated, not to exceed 67% percent of total expenditures. If cost share percentage identified in the attached budget changes for any reason, please notify the project officer for further guidance. See also 2 CFR §200.306.

3. Indirect Cost Restrictions

The recipient must provide a copy of their approved negotiated indirect cost rate agreement to the Service Project Officer identified on the notice of award before charging any indirect costs to this award. The recipient is required to submit their indirect cost rate proposal to their cognizant agency for indirect costs no later than 90 calendar days past the award period of performance start date. In the event the recipient does not establish an approved rate by the award period of performance end date, the recipient must contact the Service Project Officer identified on the notice of award to discuss the situation and determine what budget revisions may be required. If the recipient submitted their rate agreement in a timely manner but the cognizant agency delayed processing it, the recipient should provide relevant details to the Service Project Officer.

PAYMENTS

1. Domestic Recipients Enrolled in Treasury's ASAP System

The recipient will request payments under this award in the [U.S. Treasury's Automated Standard Application for Payment \(ASAP\)](#) system. When requesting payment in ASAP, your Payment Requestor will be required to enter an Account ID. The number assigned to this award is the partial Account ID in ASAP. When entering the Account ID in ASAP, the Payment Requestor should enter the award number identified in the subject line on letter followed by a percent sign (%). Refer to the ASAP.gov Help menu for detailed instructions on requesting payments in ASAP. ***Cost accounting is required at the grant level.***

REPORT

1. Interim Financial Reports

The recipient is required to submit interim financial reports on an annual basis directly in GrantSolutions. The recipient must follow the financial reporting period end dates and due dates provided in GrantSolutions. The interim reporting due dates are available by signing in to GrantSolutions and selecting the menu for Reports>Federal Financial Report. The GrantSolutions financial report data entry fields are the same as those on the SF-425, ["Federal Financial Report"](#) form. See also our instructional video on ["Completing the Federal Financial Report \(SF-425\)"](#).

2. Interim Performance Reports

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The recipient is required to submit interim performance reports on an annual basis directly in GrantSolutions. The recipient must follow the performance reporting period end dates and due dates provided in GrantSolutions. The interim reporting due dates are available by signing in to GrantSolutions and selecting the menu for Reports>FPR.

3. Final Reports

The recipient must liquidate all obligations incurred under the award and submit a *final* financial report in GrantSolutions no later than 90 calendar days after the award period of performance end date. The GrantSolutions financial report data entry fields are the same as those on the SF-425, [“Federal Financial Report”](#) form. See also our instructional video on [“Completing the Federal Financial Report \(SF-425\)”](#).

The recipient must submit a *final* performance report no later than 90 calendar days after the award period of performance end date. Performance reports must contain: 1) a comparison of actual accomplishments with the goals and objectives of the award as detailed in the approved scope of work; 2) a description of reasons why established goals were not met, if appropriate; and 3) any other pertinent information relevant to the project results. Please include the Service award number on all reports.

The recipient must follow the final Federal Financial Report and the final Performance Report reporting period end dates and due dates provided in GrantSolutions. The final reporting due dates are available by signing in to GrantSolutions and selecting the menu for Reports>Federal Financial Report or Reports>FPR.

4. Reporting Due Date Extensions

Reporting due dates may be extended for an award upon request to the Service Project Officer identified in the notice of award. The request should be sent by selecting the award in GrantSolutions and selecting send message. The message must include the type of report to be extended, the requested revised due date, and a justification for the extension. The Service may approve an additional extension if justified by a catastrophe that significantly impairs the award Recipient’s operations. The recipient must submit reporting due date extension requests through GrantSolutions to the Service Project Officer identified in their notice of award before the original due date. The Service Project Officer will respond to the recipient after approval or denial of the extension request.

5. Significant Developments Reports

See 2 CFR §200.328(d). Events may occur between the scheduled performance reporting dates that have significant impact upon the supported activity. In such cases, recipients are required to notify the Service in writing as soon as the recipient becomes aware of any problems, delays, or adverse conditions that will materially impair the ability to meet the objective of the Federal award. This disclosure must include a statement of any corrective action(s) taken or contemplated, and any assistance needed to resolve the situation. The recipient should also notify the Service in writing of any favorable developments that enable meeting time schedules and objectives sooner or at less cost than anticipated or producing more or different beneficial results than originally planned.

NOTICE OF AWARD (Continuation Sheet)

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BUDGET AND PROGRAM REVISIONS

1. Budget and Program Plan Revisions

The recipient must report to the Service Project Officer identified in their notice of award deviations from budget or project scope or objective, and request prior approvals for budget and program plan revisions per [2 CFR §200.308](#), unless otherwise specifically waived in this award.

AWARD ATTACHMENTS

STATE COASTAL CONSERVANCY

F20AP10012-00

1. SF-424 Narrative and Budget

Application for Federal Assistance SF-424

* 1. Type of Submission:

- ☐ Preapplication
☒ Application
☐ Changed/Corrected Application

* 2. Type of Application:

- ☒ New
☐ Continuation
☐ Revision

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received:

06/26/2019

4. Applicant Identifier:

5a. Federal Entity Identifier:

5b. Federal Award Identifier:

F20AP10012

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name:

California State Coastal Conservancy

* b. Employer/Taxpayer Identification Number (EIN/TIN):

94-3164968

* c. Organizational DUNS:

8083224080000

d. Address:

* Street1:

1515 Clay Street

Street2:

10th Floor

* City:

Oakland

County/Parish:

CA

* State:

CA: California

Province:

* Country:

USA: UNITED STATES

* Zip / Postal Code:

94612-1467

e. Organizational Unit:

Department Name:

San Francisco Bay Program

Division Name:

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:

Ms.

* First Name:

Avra

Middle Name:

* Last Name:

Heller

Suffix:

Title: Project Manager

Organizational Affiliation:

California State Coastal Conservancy

* Telephone Number:

5102861212

Fax Number:

* Email:

avra.heller@scc.ca.gov

Application for Federal Assistance SF-424

* 9. Type of Applicant 1: Select Applicant Type:

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

* 10. Name of Federal Agency:

Fish and Wildlife Service

11. Catalog of Federal Domestic Assistance Number:

15.614

CFDA Title:

Coastal Wetlands Planning, Protection and Restoration

* 12. Funding Opportunity Number:

F19AS00132

* Title:

National Coastal Wetlands Conservation Grant Program

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment

Delete Attachment

View Attachment

* 15. Descriptive Title of Applicant's Project:

Lower Walnut Creek Habitat Restoration Project, North Reach

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

Application for Federal Assistance SF-424**16. Congressional Districts Of:**

* a. Applicant

13

* b. Program/Project

11

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment

Delete Attachment

View Attachment

17. Proposed Project:

* a. Start Date:

01/01/2020

* b. End Date:

12/31/2020

2021 per email dated
5/11/2020 bml**18. Estimated Funding (\$):**

* a. Federal	1,000,000.00
* b. Applicant	0.00
* c. State	250,000.00
* d. Local	245,000.00
* e. Other	5,000.00
* f. Program Income	0.00
* g. TOTAL	1,500,000.00

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.☒ c. Program is not covered by E.O. 12372.*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**☐ Yes☒ No

If "Yes", provide explanation and attach

Add Attachment

Delete Attachment

View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix:

Ms.

* First Name:

Avra

Middle Name:

* Last Name:

Heller

Suffix:

* Title:

Project Manager

* Telephone Number:

5102861212

Fax Number:

* Email:

avra.heller@scc.ca.gov

* Signature of Authorized Representative:

Avra Heller

* Date Signed:

06/26/2019

BUDGET INFORMATION - Construction Programs			
NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.			
COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	\$ 30,000.00	\$	\$ 30,000.00
2. Land, structures, rights-of-way, appraisals, etc.	\$	\$	\$
3. Relocation expenses and payments	\$	\$	\$
4. Architectural and engineering fees	\$ 10,000.00	\$	\$ 10,000.00
5. Other architectural and engineering fees	\$	\$	\$
6. Project inspection fees	\$	\$	\$
7. Site work	\$ 55,000.00	\$	\$ 55,000.00
8. Demolition and removal	\$	\$	\$
9. Construction	\$ 1,269,000.00	\$	\$ 1,269,000.00
10. Equipment	\$	\$	\$
11. Miscellaneous	\$	\$	\$
12. SUBTOTAL (sum of lines 1-11)	\$ 1,364,000.00	\$	\$ 1,364,000.00
13. Contingencies	\$ 136,000.00	\$	\$ 136,000.00
14. SUBTOTAL	\$ 1,500,000.00	\$	\$ 1,500,000.00
15. Project (program) income	\$	\$	\$
16. TOTAL PROJECT COSTS (subtract #15 from #14)	\$ 1,500,000.00	\$	\$ 1,500,000.00
FEDERAL FUNDING			
17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter the resulting Federal share.		Enter eligible costs from line 16c Multiply X 66.6667 % \$ 1,000,000.00	

Project Summary

The **Lower Walnut Creek Habitat Restoration Project, North Reach** is located in the San Francisco Bay Area of California, 3 miles east of the City of Martinez, on the southern shore of Suisun Bay (the north eastern lobe of San Francisco Bay). The Project will restore and enhance coastal wetlands and adjacent habitats at the mouth of Walnut Creek (some maps show this as Pacheco Creek, or Pacheco Slough). NCWC funding is requested to restore a 231.9-acre subset of a larger 386-acre project area, known as the North Reach, of the larger project. This 231.9-acre subset, is henceforth described and referred to in this application as the Project.

Need

Historic Loss of Wetland Habitat and Fragmentation. Since the 1850's San Francisco Bay has lost 80% of its historic tidal wetlands, with areas adjacent to Walnut Creek losing 85% ¹. This reduction in habitat area threatens native marsh-dependent fish and wildlife species, including special status species such as salmonids, salt marsh harvest mouse, Ridgway's rail, and California black rail. The project improves habitat connectivity by approximately doubling the width of marsh corridor along the Walnut Creek channel and helping fill a nearly mile-wide gap between two large historic tidal marshes on either side of the site along the shoreline of Suisun Bay. **Long Term Ecological Resilience.** The Project approach takes advantage of regionally rare, site-specific opportunities for increasing baylands resilience. The Project will enhance the overall resilience of wetland habitats by providing space for tidal marsh migration in the face of rising sea levels, increasing tidal connectivity, reconnecting sediment flow pathways to promote healthy marsh accretion, and reducing the fragmentation of existing wetlands habitats. **Public Access.** The Lower Walnut Creek Project is in an area which currently has very limited public shoreline access. The phase of work covered by this grant will provide the critical physical foundation for project partner, the John Muir Land Trust, to provide expanded public access and wildlife-orientated recreation amenities as part of a future project phase. The current phase will provide wetland restoration education by giving volunteers the opportunity to participate in the vegetation management portion of restoration project.

Activities

North Reach Restoration (the Project) will be accomplished by breaching and lowering berms, excavating to create new tidal wetlands and channels, and grading existing supratidal areas to create a diverse landscape of lowland terrestrial habitats, including seasonal wetlands, and uplands integrated with the tidal wetlands. Additionally, an access road will be relocated to increase the connectivity of restored habitats and to create the foundation for future public access improvements.

Outputs and Outcomes

- (1) Increased habitat diversity and improved habitat for fish and wildlife by restoring and enhancing up to 227.7 acres of tidal wetlands, waters and associated upland habitat on a 231.9-acre site.
- (2) Provide high tide refugia for sensitive species and increased sea level rise resilience by constructing lowland terrestrial (transitional) habitat and upland habitats and restoring sediment supply via new tidal channels to support resilient tidal wetlands.
- (3) Rough grading to support 2.5 miles of future trails for wildlife-compatible public access.

¹ SFEI, *Resilience Landscape Vision for Lower Walnut Creek*. November 2016

Budget Narrative - FY 2020 NCWC Proposal

Of this application's \$1,000,000 funding request, \$970,000 would become a pass-through grant to the Contra Costa Flood Control District to fund the habitat restoration project described in this application. The remaining \$30,000 would fund the California State Coastal Conservancy's grant administration work. A detailed budget summary table and narrative is included below.

Budget Table and Timeline

The construction of the habitat restoration portion of the project will be led by the Contra Costa County Flood Control and Water Conservation District, who will retain a specialized engineering contractor to perform the field work.

Task*	Funder	Amount	Completion Date
4. Final Engineering Design	CDFW	\$10,000*	December 2019 *pre-award match
8c. North Reach Habitat Construction			December 2021
General Site Prep	CCC /NCWC / WCB	\$55,000	
Earthwork	CCC /NCWC / WCB	\$754,500	
Access Road Relocation	CCC /NCWC / WCB	\$22,500	
Hydraulic Structure to Improve Tidal Flows	CCC /NCWC / WCB	\$15,000	
Revegetation	CCC /NCWC / WCB	\$225,000	
Vegetation Establishment and Maintenance	CCC /NCWC / WCB /JMLT	\$252,000	
Contingency	CCC / NCWC	\$136,000	
Subtotal – Construction		\$1,460,000	
Grant Management	NCWC	\$30,000	December 2021
Total		\$1,500,000	

Acronyms: CCC – Contra Costa Flood Control District, WCB – California Wildlife Conservation Board (State agency), CDFW – California Department Fish and Wildlife, JMLT – John Muir Land Trust

***NOTE:** Task numbers do not start at 1 because other project tasks are outside the scope of this NCWC grant application. These tasks only represent the subset of tasks where NCWC funding is requested. Other tasks such as design, permitting, monitoring and JMLT's future public access improvements (parking lot, trail surfacing, pedestrian bridges, signage, benches, etc.) are not shown in this total.

Summary Budget by Cost Categories

Category	Amount
Administrative and legal	\$30,000
Design	\$10,000* requested as pre-award match
Construction	\$1,460,000 (This includes the \$55,000 in Site Work and \$136,000 in Contingency which are called out as separate line items in the preceding SF424-C.)
Total	\$1,500,000

Administrative and Legal Expenses:

Project management costs are projected to be \$30,000. The California State Coastal Conservancy will use NCWC funds to cover project management and legal staff time needed to prepare a staff recommendation and present it to the Conservancy Board for authorization, prepare a grant agreement, process invoices, prepare reports, and conduct other administrative work associated with managing the NCWC grant as well as the intended pass-through grant to the Contra Costa Flood Control District.

Position/Staff Person	Hours	Hourly Rate	Fringe Benefit Percentage	Indirect Cost Rate	Total Billable
Project Manager, Conservancy Project Development Analyst II	189	\$37.88	51.99%	68.69%	\$18,356
Attorney III	35	\$75.84	51.99%	68.69%	\$6,806
SF Bay Program Manager, PLM II	20	\$65.03	51.99%	68.69%	\$3,335
SF Bay Asst. Program Manager, Coastal Program Development Manager	10	\$58.54	51.99%	68.69%	\$1,501
Total	254				\$29,998 (Rounding to \$30,000)

Final Engineering Design (pre-award costs)

The Contra Costa Flood Control District received a \$537,456 California Department of Fish and Wildlife Prop 1 grant for planning and design work for this project. We are requesting to use

\$10,000 of that grant as **pre-award match**, supporting the final engineering design work required for this project. The Final Engineering Design is expected to be completed in December of 2019.

Habitat Restoration Construction

This task will include hired construction contractor work for general site preparation, earthwork, infrastructure protection, and revegetation. Also included in this task is the measures required to minimize impacts to wildlife and the environment, including protective fencing, and construction stormwater best management practices. Habitat Construction will be cost-shared between the NCWC program and state and local funders. Construction costs total **\$1,460,000**, as described below. Funding for construction costs will come from a combination of NCWC funds (\$970,000), and California Wildlife Conservation Board funds (\$240,000), Contra Costa County Flood Control and Water Conservation District funds (\$245,000), and the John Muir Land Trust (\$5,000: \$500 cash match and \$4,500 in-kind volunteer labor) providing the \$490,000 construction match. All construction funds reported here will be used to pay for a construction contractor to perform the tasks in the budget table above. These tasks include general site preparation, earthwork, access road relocation (to facilitate future public access), revegetation and vegetation establishment and maintenance.

In-Kind Cost Calculation

John Muir Land Trust's \$4,500 in-kind volunteer match hours are calculated as an estimated eight, 22-person volunteer days, at the Independent Sector's announced rate of \$25.43/person/hour. For details, see <https://independentsector.org/news-post/new-value-volunteer-time-2019/>

Required Indirect Cost Statement

The California State Coastal Conservancy (SCC) is a U.S. state government entity receiving less than \$35 million in direct Federal funding annually with an indirect cost rate of 68.69%. We are required to prepare and retain for audit an indirect cost rate proposal and related documentation to support those costs. SCC anticipates charging indirect costs on SCC staff time for the grant. These costs are included in the \$30,000 in staff time, as seen in the staff timetable above.

Useful Life - *included here as opposed to the Project Statement as per. NOFO instructions pg. 11*

The restored habitat is expected to be self-maintaining, designed to migrate upslope, and to provide critical habitat values for at least 100 years. The District along with future site manager, the John Muir Land Trust, will manage and maintain the property according to the Monitoring and Adaptive Management Plan, attached to this application as an exhibit.

NICRA / Indirect Cost Statement

The California State Coastal Conservancy has a federally approved ICR of 68.69%. Our agency's current NICRA is already on file with WSFR.

Single Audit Reporting Statement

The California State Coastal Conservancy's required Single Audit Reporting Statement is on file with WSFR.

Assurances

The California State Coastal Conservancy's required Assurances are on file with WSFR.

Lobbying Disclosure Form

The California State Coastal Conservancy's required SF-LLL Disclosure of Lobbying Activities form is on file with WSFR.

Conflict of Interest Disclosures

At the time of this application there are no known actual or potential conflicts of interest, should this award be made.

Required Overlap/Duplication Statement

There is no overlap or duplication between this application and any of our other Federal applications or funded projects in regard to activities, costs, or time commitment of key personnel.

Project Statement

The California State Coastal Conservancy is applying for a \$1M NCWC grant to restore or create at least 227.7 acres of coastal wetlands and associated upland habitat on a 231.9-acre portion of Lower Walnut Creek, working in partnership with the owner of the project site, the Contra Costa County Flood Control and Water Conservation District. (The remaining 4.2 acres will remain unrestored to provide 2.5 miles of grading for future public trails, as well as area to be developed to support other public access amenities as part of a future project phase.)

Need

The Lower Walnut Creek Habitat Restoration Project, North Reach is a multi-benefit project that addresses a number of critical regional needs. For purposes of this application, the project primarily addresses: 1) Historic Loss of Wetland Habitat and Fragmentation, 2) Long Term Ecological Resilience, and 3) Lack of wildlife-compatible public access and recreation.

Historic Loss of Wetland Habitat and Fragmentation

Since the 1850's San Francisco Bay has lost 80% of its historic tidal wetlands, and areas adjacent to Walnut Creek have lost 85%. This reduction in habitat area threatens native marsh-dependent fish and wildlife species, including special status species such as salmonids, salt marsh harvest mouse, Ridgway's rail, and California black rail. The project enhances and restores estuarine wetlands that have suffered large historic losses. There has also been habitat fragmentation, which limits genetic diversity between isolated populations of Salt Marsh Harvest Mouse and Black Rail, further threatening their viability. The project improves habitat connectivity by approximately doubling the width of marsh corridor along the Walnut Creek channel and helping fill a nearly mile-wide gap between two large historic tidal marshes on either side of the site along the shoreline of Suisun Bay (Figure 2). Implementation of the overall restoration project will create and enhance a 386-acre mosaic of tidal marsh and channels, adjacent terrestrial lowlands, and uplands to support a diversity of plant communities and wildlife species. **NCWC funding is requested for a 231.9-acre subset, known as the North Reach of the larger project.** This 231.9-acre subset, henceforth described and referred to in this application as the Project, is in the brackish part of the San Francisco estuary, where freshwater flows from the Sacramento-San Joaquin Delta mix with saline waters from San Francisco Bay. Tidal marsh in this mixing zone provides habitat for protected species and also supports high primary productivity, providing food for many native fish species. Adjacent seasonal wetlands and upland/transitional areas provide a rare ecological opportunity for unique habitat combinations that were once more prevalent along the Bay's edge. This restoration project will also provide the foundational work for a future project phase to create wildlife viewing opportunities and public access amenities.

Long Term Ecological Resilience

Creating a landscape that will be resilient to future climate and ecological changes has been identified as an important regional goal (Goals Project 2015). The project has been designed to provide sustainable benefits in consideration of future environmental changes, particularly sea level rise. The project enhances the overall resilience of wetland habitats within the project area by providing space for tidal marsh migration with rising sea levels, increased tidal connectivity, reconnecting sediment flow pathways to promote healthy marsh accretion, and reducing the fragmentation of existing wetland habitats in the region. The restoration approach capitalizes on large areas of supratidal elevation lands and existing (degraded) landscape features to restore a tidal marsh system integrated with a matrix of lowland terrestrial ecotone habitats. Regional ecosystem goals (Goals Project 2015) call for restoration with this type of habitat matrix and note

that opportunities for its creation are rare along San Francisco Bay's mostly-developed shoreline. These habitats will provide enhanced ecosystem functions under present day conditions and sustainably evolve with sea-level rise. The connectivity of wetland and lowland terrestrial habitats is important to support ecosystem functions, including wildlife habitat and biogeochemical functions such as nutrient exchange. In addition, the project will enhance carbon sequestration at the site, by specifically incorporating greenhouse gas sequestration and climate change adaptation planning into in habitat management and restoration. The project anticipates a gradual estuarine transgression and is designed to be self-sustaining and provide high ecological value and function in perpetuity.

Lack of wildlife-compatible public access and recreation opportunities

The Project is located on the north shore of Contra Costa County. To the east and west along the shoreline, are Peyton Marsh and the Point Edith Wildlife Area, both of which are managed by California Department of Fish and Wildlife and are only accessible by boat. There are very few nearby locations where the large population of Contra Costa County can access tidal marshes and view wildlife without a boat. The proposed future phase public access improvements at the North Reach will serve as a destination for a community without adjacent shoreline access.

Project Objectives

- **Objective 1: Administer one project under pass-through grant to the Contra Costa Flood Control District, including project coordination and administrative support, compliance, and monitoring by December 2021.**
- **Objective 2: Restore and enhance at least 134.7 acres of tidal wetland habitat for fish and wildlife by December 2021.** The restored wetlands will improve ecological function and habitat quantity, quality, and connectivity (including upland transition zones) in the Lower Walnut Creek area for native, resident plant and animal species including special status species.
- **Objective 3: Restore and enhance at least 68.2 acres of upland and lowland grasslands, sandy alkali playa, and scrub habitat for wildlife by December 2021.** These habitats will provide foraging and nesting areas for a variety of wildlife, high water refugia, and improve the site's resilience to sea level rise.
- **Objective 4: Restore and enhance at least 13.9 acres of non-tidal wetland and pickleweed marsh habit for wildlife by December 2021.** Pickleweed marsh is especially valuable for Salt Marsh Harvest Mouse and this non-tidal pickleweed marsh habitat will be in addition to the tidal pickleweed marsh habitat created in Objective #2 above.
- **Objective 5: Create, restore and enhance at least 10.9 acres of tidal waters, scald / playa and seasonal ponds by December 2021.** These water features will benefit a variety of fish and wildlife species.
- **Objective 6: Rough grade 2.5 miles of access paths to facilitate future public access project by December 2021.** Project partner John Muir Land Trust (JMLT) will follow the restoration Project's construction with a separate public access construction project (not funded by NCWC). JMLT's construction project is dependent on the completion of this objective.
*Note – the 2.5 miles of rough grading for public trails is part of the total 4.2 acres that will remain unrestored for the installation of public amenities at a future phase of the project.

Expected results and benefits

Beyond these specific, quantified results, the project will contribute to the recovery of special status species and restore regional long-term ecological resilience.

Contribute to the Recovery of Special Status Species

The historic reduction in tidal wetland habitat described above threatens special status species such as salmonids, salt marsh harvest mouse, Ridgway's rail, and California black rail. The Project advances the Recovery Plan for Tidal Marsh (USFWS 2013) by restoring high quality tidal marsh habitat (including high marsh/upland ecotone habitat) in the Suisun Bay Area Recovery Unit (Figures III-7 and III-8. (Priority 1)-p.302). Lower Walnut Creek provides habitat for Chinook salmon migration and spawning, and steelhead passage. The Project alleviates limiting factors for salmonids, as identified in the Recovery Plans, such as poor water quality, riparian dysfunction, insufficient rearing habitats, and other estuary/lagoon issues. Anadromous salmonids will benefit from the enhancement and restoration of tidal wetlands, which will result in the creation of complex habitat, providing structure, shade, and increased productivity.

Restore Long Term Ecological Resilience

Creating a landscape that will be resilient to future climate and ecological changes has been identified as an important regional goal (SFEI 2016; Goals Project 2016). The Project approach takes advantage of regionally rare, site-specific opportunities for increasing baylands resilience, such as undeveloped higher elevation areas, proximity to watershed supply of freshwater and sediments, and adjacency to large natural marshes. See Ranking Criteria 8 for more details on this project's water quality benefits for San Francisco Bay.

Approach

The overarching Lower Walnut Creek Restoration Project has been developed in multiple phases. NCWC Funding is requested for the North Reach portion of Phase 3, implementation.

Phase 1 - Planning and Stakeholder Outreach (2016-2018. Completed)

Phase 2 - Environmental Compliance, Permitting and Design; (in progress to be completed 2019)

Phase 3 - Implementation of North Reach and South Reach Restoration (2020)

Phase 4 - Implementation of North Reach Public Access (2021 to 2022)

Phase 5 - Monitoring and Adaptive Management of North and South Reaches (2019 to 2023+)

The approach to implementation is to complete the design plans (currently in progress at 65% design - **a nominal amount of design funding will be used as pre-award match for this application**), acquire needed regulatory approval (currently in progress), solicit competitive bids, select a qualified contractor, award the contract, and construct the needed grading and revegetation work per the approved plans. The Project is currently on schedule for construction in the summer / fall of 2020, with monitoring to follow for a minimum of 3 years.

Key Personnel

Avra Heller, Project Manager, California State Coastal Conservancy (SCC), is SCC's project manager assigned to oversee the administration of the NCWC funding for this project. Ms. Heller is a project manager for the Conservancy's SF Bay Program, and has over eight years of grant management experience, managing both Federal and State grants, both as a grantee and grantor.

Paul Detjens, Senior Civil Engineer, Contra Costa County Flood Control and Water Conservation District is currently managing the overall design and permitting phases of the project. Mr. Detjens is a registered professional engineer in California and has 28 years of experience in project development and has successfully delivered numerous habitat projects throughout his career.

Kevin Emigh, Supervising Civil Engineer, Design / Construction Division, Contra Costa County Public Works Department will have direct oversight of the Project's final construction plans, and the Project's construction by a hired contractor. Mr. Emigh has over 30 years of direct experience constructing and overseeing complex public projects and is a registered professional engineer in the State of California.

Linus Eukel, Executive Director, John Muir Land Trust leads the partner entity that will provide the long-term stewardship of Pacheco Marsh, and provide the public access and volunteer participation portions of the Project, as well as the planned future phase public access work.

Land Tenure

The creek portion of the North Reach will continue to be held by its long-term fee owner, the Contra Costa County Flood Control and Water Conservation District (District). The inland marsh portion of the North Reach, otherwise known as [Pacheco Marsh](#) was purchased by the District and the John Muir Land Trust in 2003, and both partners have worked together since then on restoration planning and design. Upon the completion of restoration grading, the John Muir Land Trust will assume fee ownership and stewardship of Pacheco Marsh in perpetuity as part of the suite of properties already under their long term stewardship.

Restoration Approach

Restoration will be accomplished by breaching and lowering levees and berms to reintroduce tidal action to diked former baylands, constructing new setback levees for flood protection, and grading filled areas to create new tidal channels, tidal wetland, and lowland terrestrial areas. The design is documented in the Lower Walnut Creek Project Study Report (ESA 2017). For this project, the approach capitalizes on large areas of supratidal elevation lands and existing (degraded) landscape features to restore tidal marsh integrated with a matrix of lowland terrestrial ecotone habitats. Regional ecosystem goals (Goals Project 2015) call for restoration of this type of habitat matrix and note that opportunities for its creation are rare along San Francisco Bay's mostly-developed shoreline.

Maintenance and Adaptive Management

A comprehensive draft Monitoring and Adaptive Management Plan (MAMP) was developed in 2018. (A draft copy is included as Attachment 2 to this application.) It describes the Project's habitat restoration design, performance criteria, permit compliance monitoring and reporting, and an adaptive management framework. The MAMP is expected to be finalized in the fall of 2019. Design objectives have been developed and target functions have been described for each habitat created by the Project. Restoration implementation details described in the plan include measures for protection of existing resources, site preparation, planting materials (species, sizes, type of containers, transplant types), installation methods, and quantities for each habitat type to receive active planting. Schematic cross sections have been developed to convey target functions for each habitat zone. The plan describes post construction maintenance, monitoring methods, management actions, and reporting procedures. Monitoring and adaptive management reports will be produced following each monitoring event/year. As part of the Project, the John Muir Land Trust and District will be jointly responsible for funding and implementing monitoring and management

through the monitoring period, with the John Muir Land Trust assuming long term stewardship of the Project.

Readiness

The Project is currently on schedule for construction in the summer / fall of 2020, with monitoring and adaptive management to follow for a minimum of three years. Recent project milestones include the completion of the draft California Environmental Quality Act document (Initial Study / Mitigated Negative Declaration), submittal of regulatory permit applications, and the release of the 65% construction documents. The team is currently working on finalizing the construction documents in anticipation of soliciting bids for construction in late 2019. Due to file size, excerpts from the 65% construction plans covering the North Reach have been emailed to USFWS service review staff.

Project Location

The project is located in the San Francisco Bay Area of California, 3 miles east of the City of Martinez, along the lowest 2.5 miles of Walnut Creek and 1.5 miles of Pacheco Creek (Figures 1 and 2). Specifically, the project is on the south shoreline of Suisun Bay (lat. 38.035672, long. -122.091482) where Walnut Creek, the largest watercourse in Contra Costa County, joins the Bay.

Useful Life – included in Budget Narrative as per. NOFO instructions pg. 11

Allocation of Project Costs and Timeline

The construction of the habitat restoration portion of the project will be led by the Contra Costa County Flood Control and Water Conservation District, who will retain a specialized engineering contractor to perform the construction work.

Task*	Funder	Amount	Completion Date
4. Final Engineering Design	CDFW	\$10,000*	December 2019 *pre-award match
8c. North Reach Habitat Construction			
General Site Prep	CCC /NCWC / WCB	\$55,000	December 2021
Earthwork	CCC /NCWC / WCB	\$754,500	
Access Road Relocation	CCC /NCWC / WCB	\$22,500	
Hydraulic Structure to Improve Tidal Flows	CCC /NCWC / WCB	\$15,000	
Revegetation	CCC /NCWC / WCB	\$225,000	
Vegetation Establishment and Maintenance	CCC /NCWC / WCB /JMLT	\$252,000	
Contingency	CCC / NCWC	\$136,000	
Subtotal – Construction		\$1,460,000	
Grant Management	NCWC	\$30,000	December 2021
Total		\$1,500,000	

Acronyms: CCC – Contra Costa Flood Control District, WCB – State of California Wildlife Conservation Board, CDFW – California Department Fish and Wildlife, JMLT – John Muir Land Trust

***NOTE:** Task numbers do not start at 1 because other project tasks fall outside the scope of this NCWC grant application. These tasks only represent the subset of tasks where NCWC funding is requested. Other tasks such as design, permitting, and monitoring are not shown in this total.

State Trust Fund

Because the State of California has established trust funds for conservation of natural areas, including coastal wetlands, the non-federal match requirement is 25% rather than 50%. The primary California trust fund for these purposes was established in 1990, when voters approved Proposition 117, the Mountain Lion Initiative. This initiative required the State to create the Habitat Conservation Fund (HCF) and to annually appropriate thirty million dollars to the account for use by the Coastal Conservancy, the Department of Fish and Wildlife, and other specified agencies. HCF funds are generated by both the State's General Fund and designated cigarette tax monies. In addition, the State has the income tax check-off for wildlife habitat and the Environmental License Plate Program, both of which provide for voluntary citizen contributions to habitat conservation efforts by State Agencies.

Compliance

The project will fully comply with all federal requirements. The U.S. Army Corps of Engineers will be the lead agency for the National Environmental Policy Act, along with their primary role with federal permitting and will lead any Section 7 ESA consultation efforts. Section 106 compliance is underway, with significant efforts to identify any historic resources is being addressed in the Project's CEQA document.

Relationship to Other Projects and Other Federal Grants

The Project is part of an overall effort to counter the historic loss of wetland habitat and fragmentation throughout the San Francisco Bay Area. The Project both broadly satisfies regional restoration needs and is specifically identified in the *Baylands Goals Reports*¹. The project furthers several other regional conservation planning efforts, including the San Francisco Bay Joint Venture's (SFBJV) Implementation Strategy (2001), the USFWS Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California (2013), The San Francisco Estuary Blueprint Comprehensive Conservation and Management Plan (2016), and the San Francisco Basin (Region 2) Water Quality Control Plan (May 2017) pp. 2-2 and 4-90. The Project is designated as a Tier 1 priority project in the SFBJV's priority projects list as the Project meets the SFBJV's primary goal of protecting, restoring and enhancing wetlands and associated uplands.

At the Federal level, the South Reach of the project has benefited from a grant from the US Environmental Protection Agency's San Francisco Bay Water Quality Improvement Fund, which granted the project \$275,000 for project design, and \$1,225,000 for project implementation. To prevent overlap, the EPA implementation funding has been specifically dedicated to the South Reach of the project, whereas requested NCWC implementation funding would be for the North Reach of the project. The table below elaborates on other regionally significant wetland restoration projects, though they are not directly related to this project and there is no federal funding overlap.

Regional Wetland Project	Agency or Organization providing fund	Relationship/proximity to Proposal and associated Regional Plans
Lower Walnut Creek	Contra Costa County Flood Control District, San Francisco Bay Restoration	This 50 acre tidal marsh restoration is closely related to North Reach Project covered in this application. Both share a similar design and deliver same regional goals.

¹ *Baylands Ecosystem Habitat Goals Report (1999) pp. 94, 104-105 and the Baylands Goals Project Update (2015) pp. 133-136*

Restoration - South Reach	Authority (SFBRA), California Division of Fish and Wildlife (CDFW), US EPA	Construction planned for 2020. – US EPA funding mentioned above will support this adjacent project site
Tulle Red	California Division of Water Resources (CA DWR) , SFCWA	Creation of 420 acres of tidal wetlands on the opposite shore of Suisun Bay from Project. Provides similar types of wetlands habitat and supports same regional goals.
McNabney Marsh	East Bay Regional Park District (EBRPD), Mt. View Sanitary District, Ducks Unlimited, Audubon	138 acre restored muted-tidal wetland located 0.75 miles west of the Project. Supports same regional goals. Tide gate installed 2009, new management plan being developed by Ducks Unlimited.
Bay Point Regional Shoreline Restoration	East Bay Regional Park District, Measure WW	Restores 30 acres of channel, wetland, transitional and upland habitats. Located 6.5 miles east of the Project, Bay Point is a close analogue in terms of protected species, types of habitat, sea level rise resiliency and types of habitat. Currently under construction in 2019.
Dotson Marsh (formerly named Breuner Marsh)	EBRPD, California Wildlife Conservation Board, California State Coastal Conservancy, US EPA, USFWS	Restoration of 60 ac of tidal wetlands in East Bay Parks property ~15 mi west of LWC Project. Restoration completed in 2017. Project supports same regional goals and was used as a tidal wetland restoration example. NCWC funded.

Public Involvement and Interagency Coordination

Throughout the entire planning and design process (2014-present), public involvement has been a foundational value of the Project. At its inception, the project hosted a ‘listening tour’ in which staff visited and brought together various stakeholder groups, including neighbors, non-government entities and regulators and asked what the creek meant to them, what problems they saw with its current management and condition, and what was their vision for Lower Walnut Creek. These answers fed into a unified [vision](#) for the project, and the formation of a Stakeholder Advisory Group, which has met periodically throughout the planning and design process to review progress and provide input at key decision points. In addition to the stakeholder group, the team has hosted over 20 public site tours (typically for two hours on Saturday mornings). Another important aspect of public involvement is the project’s social media presence. Besides the comprehensive project website at www.LowerWalnutCreek.org, the project also has an active Facebook page and a series of nine project videos called “[Lower Walnut Creek Adventures](#)” on YouTube. Further public engagement has focused on project partners such as the [Walnut Creek Watershed Council](#), and the [John Muir Land Trust \(JMLT\)](#). The project also has significant coordination with other public agencies, including the:

California State Lands Commission

The State Lands Commission (SLC) owns many of the open space areas adjacent to North Reach / Pacheco Marsh. The District and SLC are coordinating to maximize continuity and ecological connectivity between the restored habitat areas on the North Reach with existing habitats on adjacent State Lands.

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) has provided financial support for project planning and design efforts. CDFW awarded the Project \$537,457 in grant funding through the Proposition 1 Restoration Grants Program. This funding supported final design, permitting and environmental compliance documentation. We are requesting that \$10,000 of this award be considered pre-award match for this application.

Responses to Ranking Criteria

(1) Wetlands conservation

One of the primary needs for the project is the historic loss and fragmentation of wetland habitat in the San Francisco Bay Area. This project is specifically designed to reverse coastal wetland loss and habitat degradation. San Francisco Bay has lost 80% of its historic tidal wetlands, with areas adjacent to Walnut Creek losing 85% since the 1850's (SFEI 2016). This reduction in habitat area threatens native marsh-dependent fish and wildlife species, including special status species such as salmonids, salt marsh harvest mouse, Ridgway's rail, and California black rail. With the loss of wetlands, there has been habitat fragmentation which limits genetic diversity between isolated populations, further threatening their viability. In addition to enhancing and restoring estuarine wetlands, the project will improve habitat connectivity by approximately doubling the width of marsh corridor along the Walnut Creek channel, and helping fill a nearly mile-wide gap between two large historic tidal marshes on either side of the site (see Attachment 1) along the shoreline of Suisun Bay (the northeastern lobe of San Francisco Bay).

Table 1 below shows the habitat to be delivered by the Project's Restoration Actions. Of the 231.9 acre project area, 159.4 acres (68.73% of project area) will be a variety of wetland habitats, 149.3 acres (64.36% of project area) of which are Nationally Decreasing wetland types.

Table 1. Land cover and wetland type

Land Cover Type After Restoration	Acres	Percentage of Wetlands in Project Area	Percentage of Total Project Area
WETLANDS			
Nationally Decreasing			
Estuarine Intertidal Emergent Wetland			
<i>Tidal Pickleweed Marsh</i>	34.0		
<i>Brackish Emergent Tidal Marsh</i>	100.7		
Subtotal	134.7	85%	58.08%
Palustrine Emergent Wetland			
<i>Seasonal Ponds</i>	0.7		
<i>Seasonal Wetland</i>	3.0		
<i>Non-tidal Pickleweed Marsh</i>	10.9		
Subtotal	14.6	9%	6.28%
Regionally Decreasing			
Goals Project. 2015. "Baylands Ecosystem Habitat Goals Science Update (2015)". Science Foundation Chapter 5, Appendix 5.1 - Case Study Vernal Pools"			
Palustrine - Other ("Vernal Pools and Other Seasonal Depressional Wetlands")			
<i>Scald/Playa</i>	2.1		
Subtotal	2.1	1%	0.89%

Nationally Stable or Increasing			
Estuarine Subtidal Wetland <i>Tidal Channels/Waters</i>	8.1		
Subtotal	8.1	5%	3.48%
TOTAL WETLANDS	159.4	100%	68.73%
UPLANDS			
<i>Upland (Ruderal/non-native grassland, coastal scrub, scattered trees)</i>	42.8		
<i>Lowland Grassland</i>	25.5		
<i>Developed (to support future public access)</i>	4.2		
Subtotal	72.5		31.27%
Total Project Area	231.9		

Table 2. Specific habitat types restored and enhanced.

Habitat Type	Total Restored Area	Total Enhanced Area	Restored Area plus Enhanced Area
	Acres	Acres	Acres
Upland	72.51	0.02	72.52
<i>Upland (annual grassland, coastal scrub, a few scattered trees, design habitats above 12ft elevation)</i>	42.82	0.02	42.83
<i>Lowland Grassland (existing creeping wild rye and other design habitats between 7-12ft elevation)</i>	25.51	0.00	25.51
<i>Developed (trail/road/parking)</i>	4.18	0.00	4.18
Non-Tidal Wetland	13.84	0.00	13.84
<i>Pickleweed Marsh</i>	10.88	0.00	10.88
<i>Seasonal Wetland</i>	2.96	0.00	2.96
Tidal Wetland	61.95	72.73	134.68
<i>Brackish Tidal Marsh</i>	27.98	72.73	100.71
<i>Pickleweed Marsh (Tidal)</i>	33.97	0.00	33.97
Non-Tidal Waters	2.75	0.04	2.79
<i>Scald/Playa</i>	2.03	0.04	2.07
<i>Seasonal Pond</i>	0.71	0.00	0.72

Tidal Waters	7.60	0.48	8.07
<i>Tidal Channels</i>	7.60	0.48	8.07
Total	158.64	73.26	231.90

(2) Maritime forests on coastal barriers

Not applicable.

(3) Long-term conservation

Table 3. Duration of Conservation Benefits

Mechanism	Benefits in Perpetuity (acres)	Benefits 26-99 Years (acres)	Benefits 10-25 Years (acres)
Easement	n/a	n/a	n/a
Fee-Title	n/a	n/a	n/a
Restoration	158.64	0	0
Enhancement	73.26	0	0
Total	231.90	0	0

Restoration of coastal wetlands by the Project will provide long-term benefits to the San Francisco Bay ecosystem, including contributing to recovery of threatened and endangered species (USFWS 2013; Goals Project 1999; Goals Project 2015). The project is specifically designed to provide coastal wetlands benefits over the long term. All lands restored by the Project will be publicly held in perpetuity. As described in detail in the “Land Tenure” section of the Project Statement, the long-term steward of the inland portion of North Reach, otherwise known as [Pacheco Marsh](#) is the John Muir Land Trust (JMLT). JMLT has a 30-year track record of land stewardship, and will manage the habitat, vegetation and public access amenities (not part of the NCWC grant) in perpetuity. The creek portion of the North Reach will continue to be held by its long-term fee owner, the Contra Costa County Flood Control and Water Conservation District (District). The District has held fee title to these Lower Walnut Creek lands since 1963, with a portion being covered by either an easement or long a long-term lease (depending on location) from the State Lands Commission (SLC) in favor of the District.

A comprehensive Monitoring and Adaptive Management Plan (MAMP) has been developed and describes the habitat restoration design, performance criteria and permit compliance monitoring and reporting, and an adaptive management framework. A draft copy of the MAMP is attached as Attachment 2.

The purpose of the project is the restoration of ecosystem processes including tidal exchange, accretion, and sediment transport. The delivery of sediment supply from Walnut Creek to these newly restored tidal baylands and associated uplands is expected to create a system that is self-sustaining over the long term. The improved delivery of sediment to vulnerable baylands should help continue to ensure that the wetlands have the ability to keep pace with sea level rise, and the project has been designed so that habitats will be able to migrate upslope over time. The approach of restoring tidal influence and accretion has been used in large marshes for decades in the northern portions of San Francisco Bay (e.g. Napa-Sonoma Salt Pond Restoration) and successfully provided long-term benefits for those restoration sites.

The combination of an adaptive management framework and established long-term stewardship entities, will ensure the Project's long lasting benefits. Because the Project was specifically designed to require low to no maintenance, is designed to migrate upslope, and includes no hardened structures, the restored habitat is expected to provide critical habitat values for at least 100 years.

(4) Coastal Watershed Management

The specific restoration actions provided by the Project have been identified as a high priority in many regional and statewide conservation plans over the past several decades. The following plans are highlighted because many specifically identify the project area, and all have been developed or updated over the past decade and continue to guide regional conservation investments, and represent the diversity of conservation targets and habitats that are protected and enhanced by this Project.

Plans specifically including the Lower Walnut Creek North Reach Restoration Project:

San Francisco Baylands Ecosystem Habitat Goals Report (1999, Technical Update 2016). With input from over 100 scientists, the Goals Project identified science-based actions to support ecosystem functions and services in light of expected climate and other environmental changes.

The Lower Walnut Creek Project is specifically noted as priority as part of the Contra Costa North region of the bay (pp. 133-136). The Goals Project identifies the following recommendations (in *italics*), all of which have been incorporated into the Project plan:

- *Restore estuary-watershed connections* to nourish the baylands with sediments and freshwater. The Project will incorporate multiple breaches and channels along Walnut Creek to reconnect the flow of freshwater, sediment, and biota between the creek and the baylands. The high sediment supply delivered from the Walnut Creek watershed (second highest of the San Francisco Bay watersheds; SFEI 2016), will make the restored marshes resilient to sea-level rise.
- *Design complexity and connectivity into the baylands landscape at various spatial scales.* The Project will provide for a more continuous band of wetlands along Walnut Creek and connects along the Bay shoreline to large historic marshes (Figure 6). The North Reach has been thoughtfully designed to provide habitat complexity (e.g., seasonal wetlands, alkali flat, moist grassland, upland grassland and scrub in the upland transition zone).
- *Plan for the baylands to migrate.* The Project includes large upland transition areas that provide space for natural marsh migration with sea level rise. This space coupled with Walnut Creek's high sediment load, should make the site resilient to even high rates of SLR.
- *Reduce stressors by removing invasive vegetation.* Invasive vegetation removal before, during, and after construction is a key component of Project implementation.

The Project will deliver results that are fully aligned with these recommendations. The Project will restore a continuum of habitats from tidal channels through tidal marshes and adjacent terrestrial areas. The restoration is laid out with attention to enhancing interactions across the habitat

ecotones. Higher elevation areas adjacent to the marsh will provide terrestrial species with refuge from higher tides and more extreme high-water events with climate change.

Resilient Landscape Vision for Lower Walnut Creek (SFEI 2016) – 48 pgs.

Flood Control 2.0 is not a traditional flood control plan that relies on hard infrastructure. Rather, it is a San Francisco Bay Area regional effort to develop multi-benefit projects that restore creek and wetland habitats, improve water quality, and enhance shoreline resilience around San Francisco Bay, restoring habitat while providing flood control as an additional benefit. This project draws from specific recommendations in [Flood Control 2.0's](#) Resilient Landscape Vision for Lower Walnut Creek (SFEI 2016).

Specific Recommendations incorporated by the Project include:

- *Strategy 1: Sustaining Resilient Marshes by Improving Natural Delivery of Freshwater and Sediment* by setting back levees, reconnecting creeks to floodplains and creating zones for distributary corridors. The Project design includes all three measures.
- *Strategy 2: Sustaining Resilient Marshes Using Dredged Sediment.* The Project area significantly benefits from 'elevation capital' from past creek sediment being deposited on site in the 1970s. This will allow the project to create higher elevation lands that can serve as areas for habitat migration and future wetlands with sea level rise.
- *Strategy 4: Improving Ecological Connectivity across Marshes and Along Creeks.* As shown in Figure 6, the Project is specifically located to connect adjacent habitat along the bay shoreline, as well as connections between restored (and planned restorations) immediately upstream along Lower Walnut Creek.

**Plans whose goals are in line with the Lower Walnut Creek North Reach Restoration Project:
*USFWS Coastal Program Strategic Plan for 2017-2021***

This plan was developed by the USFWS Coastal Program staff using a strategic habitat conservation planning framework to update program objectives and activities to better address the conservation challenges using a landscape conservation approach. The project will help meet Plan Objective 1.1: Restore and enhance coastal habitats, processes, and ecosystems based upon established National, Regional, and Ecoregion interim priorities. The Project will help to Conserve and restore the mosaic of habitat types and associated processes that support relevant estuarine ecosystems.

The California State Coastal Conservancy's Strategic Plan (2018): The California State Coastal Conservancy's 2018-2022 Strategic Plan goals and objectives include protecting, restoring and enhancing natural habitats and related lands. A major component is the restoration of the Bay Area's tidal marshes, seasonal wetlands and other wetlands habitats. The project supports Goal 12; Objective D: Enhance tidal wetlands, managed wetlands, seasonal wetlands, riparian habitat, and subtidal habitat.

San Francisco Bay Conservation and Development Commission's San Francisco Bay Plan (2008): The Project will implement the goals outlined in the Bay Plan to protect and improve water quality (p. 19), to provide transition zone between tidal and upland habitats, restore diked former Baylands, and have specific long-term and short-term goals, success criteria, and a monitoring program (pp. 23-4), and to provide the maximum public access possible that avoids adverse effects on Bay natural resources (pp. 67-68).

Restoring the Estuary (Updated 2007): San Francisco Bay Joint Venture (SFBJV) Implementation Plan. The project will address the following goal of the Plan: *Restore 2,000 acres of bay habitats, 1,000 acres of seasonal wetlands...* in the Suisun Subregion (area includes Contra Costa shoreline and uplands, pg 40). The Project is well placed and works toward this goal.

Bay Area Integrated Regional Watershed Management Plan (IRWMP) (2013): The Lower Walnut Creek Restoration Project is specifically listed on the IRWMP's list of active projects, and is specifically described under Existing Bay Area Efforts (pg 4-44). The IRWMP calls for "recovering wetlands so that they can store floodwater, recharge aquifers, filter pollutants, and provide habitat" (Pg 4-42). The project furthers the following IRWMP objectives by restoring and enhancing seasonal wetlands that will provide fish and wildlife habitat:

Objective 3.1. Protect, restore, and rehabilitate watershed and bay processes [as measured by acres of wetlands protected and/or restored, along with other indicators]

Objective 5.1. Protect, restore, and rehabilitate habitat for species protection

State Wildlife Action Plan (CDFW, 2015 Update): Consistent with the overall vision of *State Wildlife Action Plan* (CDFW, 2015 Update), the Project contributes to conservation of ecosystem processes, habitat quality, climate change resilience and sustainability. The project is expected to support several species identified in SWAP 2015 as focal species for conservation. The Project implements the following tidal salt marsh conservation strategies (SWAP 2015, pp. 5.3-48-5.3-56). Similar conservation strategies apply for freshwater marsh, but are of lower priority for the project:

- Protection of land through acquisition or lease (Conservation Strategy 1)
- Research and data gathering on effective restoration methods (Conservation Strategy 2)
- Public outreach and education (Conservation Strategy 3)
- Invasive species control (Conservation Strategy 6)
- Integrated resource management (Conservation Strategy 7)
- Partnership for joint advocacy for recreation (Conservation Strategy 8)

California Department of Fish and Wildlife Ecosystem Restoration Program (ERP)

Conservation Strategy (2014): The 2014 ERP Conservation Strategy outlines conservation priorities to guide restoration for the Delta and its watershed from 2008-2030. The ERP provides a comprehensive ecosystem restoration strategy for the ERP Focus Area which includes Suisun Marsh and North San Francisco Bay. The Project advances the following Conservation Strategy goals:

- Recover endangered and other at-risk species and native biotic communities (Goal 1);
- Rehabilitate ecological processes (Goal 2);
- Protect and restore habitats (Goal 4);
- Prevent the establishment of and reduce impacts from non-native invasive species (Goal 5);
- and
- Improve or maintain water and sediment quality (Goal 6).

(5) Conservation of threatened and endangered species

Table 4. Threatened and Endangered Species Benefitting from this Restoration Project

Species Name	Federal / State Ranking	Species Management Plans and Designating Documents	Project Benefit

1. California Ridgway's rail (<i>Rallus obsoletus</i>)	FE/SE	North American Waterbird Conservation Plan; USFWS's 2013 Recovery Plan for Tidal Marsh Ecosystems for Northern and Central California	Restore and enhance high tide refugia and foraging habitat. Increase species resiliency from climate change.
2. California black rail (<i>Laterallus jamaicensis coturniculus</i>)	SSC/ST	North American Waterbird Conservation Plan; USFWS's 2013 Recovery Plan for Tidal Marsh Ecosystems for Northern and Central California	
3. Salt Marsh Harvest Mouse (<i>Reithrodontomys raviventris halicoetes</i>)	FE/SE	USFWS's 2013 Recovery Plan for Tidal Marsh Ecosystems for Northern and Central California; Lower Walnut Creek Restoration Project, Salt Marsh harvest Mouse Technical Memorandum	Create new and enhance existing pickleweed marsh habitat.
4. Longfin Smelt (<i>Spirinchus thaleichthys</i>)	-/ST	2009 California Dept. of Fish and Wildlife Status Review	Improve nearshore water quality.
5. Winter-, Spring-, Fall-Run Chinook salmon (ESUs) (<i>Oncorhynchus tshawytscha</i>)	Spring-Run: FT/ST	2007 Federal Recovery Plan for The Evolutionarily Significant Units of Sacramento River Winter-Run Chinook Salmon and Central Valley Spring-Run Chinook Salmon and The Distinct Population Segment of California Central Valley Steelhead;	Improve nearshore water quality, provide migration resting habitat.
	Winter-Run: FE/SE Fall-Run: SSC		
6. Central California Coast DPS Steelhead (<i>Oncorhynchus mykiss</i>)	FT/ST	2016 Multispecies Recovery Plan: California Coastal Chinook Salmon, Northern California Steelhead, Central California Coast Steelhead	
7. Green Sturgeon (<i>Acipenser medirostris</i>)	FT / SSC	National Marine Fisheries Service. 2018. Recovery Plan for the Southern Distinct Population Segment of North American Green Sturgeon	The waters of Suisun Bay are designated as Critical Habitat for this species. The project will improve water quality in the Bay adjacent to the project site – thereby improving Critical Habitat for this species.

FT= Federally threatened, ST= State threatened, FE= Federally endangered, SE= State endangered, SSC= State Species of Special Concern.

Within the 231.9-acre Project area, the Project will restore and enhance up to 134.7 acres of tidal marsh, and up to 14.6 acres of Palustrine Emergent Wetland. The Project will also create, restore, or enhance 42.8 acres of upland grassland and scrub, and 25.5 acres of lowland terrestrial habitats,

including lowland grassland and seasonal wetlands. (See first table in ranking criteria 1.) All of these will provide direct or indirect habitat benefits for the seven state and / or federally-listed species in the table above:

- A. Foraging and high tide refuge habitat for **California Ridgway's rail** and **California black rail**;
- B. Foraging and high tide refuge habitat for **Salt Marsh Harvest Mouse**;
- C. Enhanced water quality for **longfin smelt** and **Green Sturgeon**;
- D. Enhanced migration resting and spawning habitat for **steelhead** and **Chinook**.

Benefits for these listed species are discussed below.

1. California Ridgway's rail (*Rallus obsoletus*). Status: State and federally endangered.

California Ridgway's rail, recognized as endangered in 1970 as the California Clapper Rail, was historically abundant in all San Francisco Bay marshes and also occurred in other marshes along the California coast. Their population declined with the loss of more than 90% of the Estuary's tidal marshes and further declined in recent years with the invasion of non-native cordgrass species. The project supports and implements the goals, recommendations and objectives of the USFWS's 2013 *Recovery Plan for Tidal Marsh Ecosystems for Northern and Central California* and will implement the tidal marsh habitat expansion, specifically achieving "2.2.4 Restore or enhance buffer zones in existing habitats adjacent to populations of species covered in (the) recovery plan" through the creation of ecotones and upland transition zones, and a network of complex tidal slough habitat restoration elements recommended by the Plan as being necessary for recovery of the CA Clapper Rail.

Surveys by ESA biologists in January through March 2019 did not detect California Ridgway's rail (CRR) on the Project site. California Ridgway's rails generally occur in very low densities in tidal brackish marshes in Suisun Bay. Surveys by CDFW in 2006 found CRR in Point Edith Marsh approximately 0.8 mile to the east, and there is a 2008 record of CRR 1.5 miles to the west, in the marsh west of Interstate 680 (CDFW 2018). Surveys from 2011 to 2017 in Point Edith Marsh east of Walnut Creek did not detect any CRR (Yakich 2017).

The Project, along with other tidal restoration projects in the regional area, will help to provide the resilient landscape that CRR will need this century to meet the challenges of sea level rise and meet delisting criteria. Specifically, the Project benefits CRR by restoring and enhancing wetlands which will provide areas close to the rails' salt marsh foraging and nesting habitat where the birds can hide from predators during high tides. These high tide refugia are very rare around San Francisco Bay, where extensive development has left little open space adjacent to tidal marshes. Predation is a major threat to this species.

2. California black rail (*Laterallus jamaicensis coturniculus*). Status: State Threatened, federal Bird of Special Concern. The species has been consistently observed on the Project site, most recently in surveys in January, February and March, 2019.

Black rail are tiny, secretive birds endemic to California and western Arizona. Project biologists detected black rail in the North Reach tidal marsh. As with Ridgway's rail, large scale loss of tidal marsh habitat, fragmentation and degradation of remaining habitat, particularly high tidal marsh, is responsible for its population decline. Remnant tidal marshes of the San Francisco Estuary serve as the largest refuge for black rail but these marshes represent only 15% of historic habitat. Black rails

are particularly vulnerable during high tides when high marsh vegetation is submerged and where refugia are lacking. The species is covered in the USFWS's 2013 *Tidal Marsh Recovery Plan*, which attributes the decline in Central/South Bay black rail population to “predation during high tides and insufficient high tide refugia. Recommended conservation actions include: provide high marsh and upland transition refugial habitat.”

This project advances the 2013 *Tidal Marsh Recovery Plan* by restoring high quality tidal marsh habitat (including high marsh/upland ecotone habitat) in the Suisun Bay Area Recovery Unit (Figures III-7 and III-8. (Priority 1)-p.302). The Project will also provide upland habitat buffers in tidal areas specifically to provide high-tide refugia (for both rails and SMHM). Construction of high-tide refugia is a recommendation of the 2014 Coastal California (BCR 32) Waterbird Conservation Plan.

3. Salt Marsh Harvest Mouse (*Reithrodontomys raviventris halicoetes*). Status: State and Federally Endangered.

The southern subspecies (*R. r. raviventris*) is primarily restricted to the sides of San Francisco Bay, and the northern subspecies of salt marsh harvest mouse (SMHM) (*R. r. halicoetes*) occurs along Suisun and San Pablo Bays. The Project aims to improve habitat for this northern subspecies of SMHM. Historically, the marshes in San Francisco Bay were a complex mosaic of vegetation zones, generally consisting of low marsh adjacent to mudflats dominated by cordgrass (*Spartina foliosa*), high marsh plains dominated by pickleweed, and broad transitions of peripheral halophytes (i.e., salt-tolerant plants that cannot endure as much tidal inundation) into upland habitats. The loss of wetland habitats, and especially loss of the pickleweed marsh and broad transition areas have caused similar reductions in historic SMHM populations.

The tidal and non-tidal marshes of Suisun Bay have been known to support SMHM for more than a century (Dixon 1908). Scientific trapping efforts in the wake of the 1988 Shell Oil Spill detected SMHM in the Peyton Slough Marsh to the west of the Project area, and SMHM was detected in numerous locations, including the northwest quadrant of the North Reach of the Project area. The Shell Oil program trapping also detected SMHM in the Point Edith Ecological Reserve immediately east of the Project. The project commissioned the “*Lower Walnut Creek Restoration Project, Salt Marsh harvest Mouse Technical Memorandum*” (HT Harvey and Associates, 2018) to advise the project on how SMHM currently use the site’s habitat, and how to maximize habitat benefits for the SMHM. The study found that portions of the Project’s North Reach currently provide habitat for the SMHM, and there were significant opportunities for SMHM habitat improvement, especially in terms of providing refugia and long-term adaptation space from the effects from rising tides. Specifically, there are deep, dense stands of pickleweed within the southeast and southwest quadrants of the North Reach. Although these areas are somewhat isolated from each other by the current access road and are subject to flooding during heavy rainfall years, they provide some of the best potential habitat for SMHM on the LWC project site. Other areas within the northeast quadrant also provide suitable habitat, including patches of pickleweed, grasses, and other species providing relatively dense cover. The areas of the northwest quadrant proposed for restoration have no habitat value for the SMHM, except perhaps for occasional dispersal or grassland foraging. Lower Walnut Creek on the east side of the North Reach provides suitable brackish marsh habitat for the species; it is similar to the tidal marshes to the east and west of the site but may be slightly less brackish due to freshwater discharges from the Walnut Creek watershed.

The Project will create over 30 acres of pickleweed marsh and project design includes broad transition zones for SMHM refugia and for future upwards migration of habitat types as sea levels rise. Upon reviewing the project plans, the HT Harvey memorandum concluded that “The proposed restoration will increase the habitat value of the site for the SMHM, as well as expanding the overall acreage of suitable and high-quality habitat.”

4. Longfin Smelt (*Spirinchus thaleichthys*). Status: State threatened (2009).

Longfin smelt are primarily found in the San Francisco Estuary, and their abundance has declined substantially and in relation to changes in beneficial freshwater outflow as well as lack of suitable habitat. Priority actions in the 2009 CDFW status review include improving and/or expanding habitat for the species. CDFW recommends reducing pollution of estuaries by chemicals harmful to longfin smelt and their food web.¹ The project will facilitate this action by improving nearshore water quality by restoring and enhancing wetlands that filter contaminants from the project area, which drains directly to Suisun Bay. With the created tidal wetlands and tidal channels, the Project also focuses on delivering connectivity of habitats so native fish species (such as Splittail, Chinook Salmon, Steelhead, and Longfin Smelt) can access/exit the site during typical tides and flood events, and can seek refugia in channels to reduce predation. The Fall 2018 CDFW Interagency Ecological Program surveys documented small numbers of longfin smelt both in Suisun Bay (adjacent to the site) and San Pablo Bays (west of the project area).

5. Chinook salmon (*Oncorhynchus tshawytscha*) Status: State Species of Special Concern (Fall-Run)

The Project will provide habitat for migrating Chinook salmon. This project will help to achieve specific recovery actions outlined in the 2007 Federal Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-Run Chinook Salmon and Central Valley Spring-Run Chinook Salmon prepared by the NOAA National Marine Fisheries Service, including 1) the protection and restoration of watershed and estuarine habitat complexity and connectivity; and 2) the prevention of in-bay disposal of sediments. The Project will alleviate limiting factors for salmonids, as identified in the Recovery Plans (listed above) such as poor water quality, riparian dysfunction, insufficient rearing habitats, and other estuary/lagoon issues. Anadromous salmonids will benefit from the enhancement and restoration of tidal wetlands, creation of complex habitat, providing structure, shade, and increased productivity. These benefits will be provided through direct use and indirectly to salmonids that use downstream habitats. As with the Longfin Smelt, the project will deliver connectivity between habitats, so native fish species can access/exit the site during typical tides and flood events, and, especially when outmigrating, can seek refugia in the restoration area channels to reduce predation. Fall run chinook salmon are consistently found about 5 miles upstream of the mouth of Lower Walnut Creek.

6. Central California Coast Steelhead DPS (*Oncorhynchus mykiss*) Status: Federally and State Threatened

This project will improve nearshore water quality as well as providing new estuarine rearing habitat for Central California Coast Steelhead. Though, Central California Coast Steelhead historically

¹ A Status Review of the Longfin Smelt in California. California Department of Fish and Game. January 2009.

occurred in Walnut Creek, there is no known anadromous population in Walnut Creek at this time. However, currently there are rainbow trout (landlocked steelhead) populations upstream of the project site. Migratory steelhead do come through the project site, though Walnut Creek is no longer their natal stream. The Project will alleviate limiting factors for salmonids, as identified in the Recovery Plans, such as poor water quality, riparian dysfunction, insufficient rearing habitats, and other estuary/lagoon issues.

Steelhead begin life upstream in freshwater, and smolts emigrate from their natal streams to San Francisco Bay and then to the Pacific Ocean. On their way, they often stop to rest and feed in tidal marshes, which provides them protection from predators as well as abundant invertebrate food sources. Constituent elements for critical habitat include estuarine areas free of obstructions and of sufficient quality to support adult and juvenile rearing, which would be increased by the project. Anadromous salmonids will benefit from the enhancement and restoration of tidal wetlands, which result in creation of complex habitat, structure, shade, and increased productivity. These benefits will be provided through direct use and indirectly to salmonids that use downstream habitats. As with the Chinook salmon, the project will deliver connectivity between habitats, so native fish species can access/exit the site during typical tides and flood events, and, especially when outmigrating, can seek refugia in channels to reduce predation.

The 2016 Central California Coast federal recovery plan identifies a series of DPS level recovery actions for the designed to improve the long-term viability of the DPS. Those relevant to the proposed project include:

- Increase quality and extent of estuarine habitat
- Rehabilitate and enhance floodplain connectivity
- Improve habitat complexity

The project would further the following recommendation from CDFG's 1996 Steelhead Restoration and Management Plan for California: "Watershed restoration and protection must be a focal point of CDFG's efforts to restore steelhead populations...Priority should be given to acquisition of riparian lands that have water rights, stream reaches that support depressed native stocks, and estuaries."

7. Green Sturgeon (*Acipenser medirostris*)

The southern distinct population segment (sDPS) of North American green sturgeon (*Acipenser medirostris*) is an anadromous, late-maturing species which spawns in the Sacramento River Basin. For the majority of its life history this species resides in nearshore marine environment and coastal bays and estuaries. sDPS green sturgeon were federally listed as threatened under the Endangered Species Act in 2007. The recent (2018) National Marine Fisheries Service's Recovery Plan for this species designates San Francisco Bay, and more specifically, Suisun Bay as Critical Habitat for this species. This project will help to achieve a specific recovery action defined in that plan for the San Francisco Bay-Delta. Non-point source contaminants are listed as a high threat for juvenile green sturgeon. This project's wetland restoration work will improve water quality and help to achieve RA5a (*Recovery Plan for the DPS of North American Green Sturgeon*, pg. 54) to implement BMPs that non-point source sedimentation and other contaminants within the San Francisco Bay-Delta.

(6) Benefits to fish

Table 5. Selected Fish Species benefiting from Lower Walnut Creek North Reach Restoration Project

Species	Importance	Species Management Plans and Designating Documents	Species' benefit from Project
1. Longfin smelt (<i>Spirinchus thaleichthys</i>)	State threatened species	A Status Review of the Longfin Smelt in California. California Department of Fish and Game. January 2009.	Improve nearshore water quality. (See Criterion 5 above.)
2. Central California Coast Steelhead DPS (<i>Oncorhynchus mykiss</i>)	Federally threatened anadromous species	2016 Multispecies Recovery Plan: California Coastal Chinook Salmon, Northern California Steelhead, Central California Coast Steelhead	Improve nearshore water quality, provide migration resting habitat. (See Criterion 5 above.)
3. Winter-, Spring-, Fall-Run Chinook Salmon ESUs (<i>Oncorhynchus tshawytscha</i>)	Spring-Run: State and Federally threatened anadromous species. Winter-Run: State and Federally endangered anadromous species	2007 Federal Recovery Plan for The Evolutionarily Significant Units of Sacramento River Winter-Run Chinook Salmon and Central Valley Spring-Run Chinook Salmon.	Improve nearshore water quality, provide migration resting habitat.
4. Green Sturgeon (<i>Acipenser medirostris</i>)	FT / CA Species of Special Concern	National Marine Fisheries Service. 2018. Recovery Plan for the Southern Distinct Population Segment of North American Green Sturgeon	The waters of Suisun Bay are designated as Critical Habitat for this species. The project will improve water quality in the Bay adjacent to the project site – thereby improving Critical Habitat for this species.
5. Topsmelt (<i>Atherinops affinis</i>)	Important in the estuarine food web (key prey item)		This species spawn and reside in estuarine habitats. They will directly benefit from this project's expansion of tidal marsh habitat and localized improved water quality.
6. Threespine stickleback (<i>Gasterosteus aculeatus</i>)	Anadromous; Common estuarine resident - Important prey species		Anadromous, utilizes estuary for migration and rearing. Species will benefit from increased migration, rearing, and resting habitats

7. Starry Flounder (<i>Platichthys stellatus</i>)	Common estuarine resident.	Pacific Coast Groundfish Fishery Management Plan (2016)	Species will benefit from improved nearshore water quality.
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As described in response to criteria 5 above, Lower Walnut Creek provides rearing and refuge habitat for multiple runs of Chinook salmon and Central California Coast steelhead. The Project will alleviate limiting factors for salmonids, as identified in the Recovery Plans, by improving water quality, riparian connectivity and function. Anadromous salmonids will benefit from the enhancement and restoration of tidal wetlands, which result in creation of complex habitat, structure, shade, and increased productivity. These benefits will be provided through direct use and indirectly to salmonids that use downstream habitats. The project will deliver connectivity between habitats, so native fish species can access/exit the site during typical tides and flood events, and, especially when outmigrating, can seek refugia in channels to reduce predation.

Restoring and enhancing wetlands that filter contaminants from the project area will also provide water quality improvement benefits for other marine and estuarine fish in Suisun Bay. With the created tidal wetlands and tidal channels, the Project also focuses on delivering connectivity of habitats so fish species (such as Chinook Salmon, Steelhead, and Longfin Smelt) can access/exit the site during typical tides and flood events, and can seek refugia in channels to reduce predation.

(7) Benefits to coastal-dependent or migratory birds

The project will restore and enhance habitat for large numbers of waterfowl, shorebirds and other bird species of concern. The mosaic of seasonal ponds, tidal marsh, seasonal wetlands, open water, and adjacent grassland will provide valuable foraging, wintering and breeding habitat for many bird species. The project focuses on coastal wetlands dependent birds such as the state and federally endangered, and state fully protected, California Ridgway's Rail (CRR; *Rallus obsoletus obsoletus*), formerly known as California Clapper Rail, the state threatened and state fully protected California Black Rail (CBR; *Laterallus jamaicensis coturniculus*) and the non-listed Virginia rail (*Rallus limicola*). Recent protocol-level surveys have confirmed a population of CBR within the Project limits, in exactly the type of habitat the project plans to create. Virginia Rails were also found on site. The project's created or restored low and high marsh areas provide foraging or nesting grounds for rails, as well as the Suisun song sparrow (found on site) and Salt Marsh Common Yellowthroat (found on site), among others.

Predator species will also benefit from the restored foraging and hunting lands provided by the Project. Predators found on site, and expected to benefit include: great egret (*Ardea alba*), great horned owl (*Bubo virginianus*), short-eared owl (*Asio flammeus*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), northern harrier (*Circus hudsonius*), white-tailed kite (*Elanus leucurus*) a state fully protected species, and osprey (*Pandion haliaetus*).

Table 6. Selected Bird Species benefiting from Lower Walnut Creek Project

Common Name	Importance	Species Management Plans and Designating Documents	Project benefits species by:
1. Ridgway's rail	FE/SE/FP	USFWS 2013 Recovery Plan for Tidal Marsh Ecosystems for Northern and Central California	Restoration of foraging and high tide refuge habitat

	High BCR 32 (Coastal California Region) Concern	Coastal California (BCR 32) Waterbird Conservation Plan, 2014.	
2. California black rail	ST/FP High BCR 32 (Coastal California Region) Concern	USFWS 2013 Recovery Plan for Tidal Marsh Ecosystems for Northern and Central California Coastal California (BCR 32) Waterbird Conservation Plan, 2014.	Restoration of foraging and high tide refuge habitat. Surveyed on site.
3. Virginia Rail	Low BCR 32 (Coastal California Region) Concern/ Moderate Continental Concern	Coastal California (BCR 32) Waterbird Conservation Plan, 2014.	Restoration of foraging and high tide refuge habitat. Surveyed on site.
4. Suisun song sparrow (<i>Melospiza melodia maxillaris</i>)	SSC – endemic to Suisun Bay – confined to tidal brackish marsh	USFWS 2013 Recovery Plan for Tidal Marsh Ecosystems for Northern and Central California; California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California, 2008.	Restoration of foraging habitat in wetlands. Surveyed on site.
5. Salt marsh / San Francisco common yellowthroat (<i>Geothlypis trichas sinuosa</i>)	SSC	USFWS 2013 Recovery Plan for Tidal Marsh Ecosystems for Northern and Central California.	Restoration of foraging habitat in wetlands. Surveyed on site.
6. Great egret (<i>Ardea alba</i>)	Important in the tidal wetland food web (predator species)	Coastal California (BCR 32) Waterbird Conservation Plan, 2014.	Restoration of foraging habitat in wetlands. Surveyed on site.
7. Great horned owl (<i>Bubo virginianus</i>)	Important in the tidal wetland food web (predator species)	MBTA - Protected Species.	Restoration of foraging habitat in wetlands. Surveyed on site.

8. Short-eared owl (<i>Asio flammeus</i>)	SSC	California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California, 2008.	Restoration of foraging habitat in wetlands. Surveyed on site.
9. Red-tailed hawk (<i>Buteo jamaicensis</i>)	Important in the tidal wetland food web (predator species)	MBTA - Protected Species.	Restoration of foraging habitat in wetlands. Surveyed on site.
10. Red-shouldered hawk (<i>Buteo lineatus</i>)	Important in the tidal wetland food web (predator species)	MBTA - Protected Species.	Restoration of foraging habitat in wetlands. Surveyed on site.
11. Northern Harrier (<i>Circus cyaneus</i>)	SSC	California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California, 2008. MBTA - Protected Species.	Restoration of foraging habitat in wetlands. Surveyed on site.
12. White-tailed kite (<i>Elanus leucurus</i>)	FP	MBTA - Protected Species.	Restoration of foraging habitat in wetlands. Frequently seen hunting on site.
13. Osprey (<i>Pandion haliaetus</i>)	WL	MBTA - Protected Species.	Restoration of foraging habitat in wetlands. Occupied Osprey nest on adjacent parcel.

Abbreviations: FE: Federally endangered, FT = federally threatened, SSC = CDFW species of special concern, SE: state endangered, ST = state threatened, FP = CDFW fully protected, WL = CDFW watch list, MBTA = Migratory Bird Treaty Act.

(8) Prevent or reduce contamination

Table 7. Project Actions that Reduce or Prevent Contamination

Action	Contaminant	Benefit from Action
1. Create Wetlands	Fertilizers, human and household wastes, toxic compounds in storm water	Natural biological processes sequester and filter these contaminants so cleaner water enters Suisun Bay
2. Reconnect Creek to Historic Floodplain	Fertilizers, human and household wastes, toxic compounds in storm water	Restores natural processes by allowing sediment laden storm water to spread out over historically diked floodplain areas. Allows full tidal action.
3. Remove abandoned industrial dredge pipelines	Plastics, oils, trash	Soils have been tested as clean, so effect is removing trash and pipelines left behind from past dredging operations.

4. Remove / control invasive species	Invasive exotic weeds, species such as Mediterranean stinkwort (<i>Dittrichia graveolen</i>), and perennial pepperweed (<i>Lepidium latifolium</i>).	Improved foraging and nesting habitat for wildlife. Improved ecosystem health. Reduced chance of spread of exotic weeds into other adjacent wildlife areas.
5. Prevent industrial development	Concrete, asphalt, motor oil, trash	The Project site is zoned for heavy industry and was slated for development. The Project partners' purchase of this site in 2003 for eventual restoration prevented the planned destruction of the remaining habitat on the site.

The Project will reduce contamination reaching Suisun Bay by creating or enhancing wetlands that use natural biological processes to remove contamination, increasing the width of the floodplain bench and reconnecting the project's fluvial floodplain to decrease downstream sedimentation, removing invasive exotics from existing wetlands, and preventing further on-site industrial development. The Project will improve the quality and productivity of wetlands and wetland-upland transitional habitats over the current non-tidal and seasonally hypersaline conditions that prevail in the diked portions of the former floodplain. In combination with existing seasonal wetlands, the restored and enhanced habitats would provide water quality benefits, in addition to increased opportunities to wildlife for cover, nesting, foraging, and migratory functions. These restored and enhanced wetlands will improve water quality by filtering and breaking down nutrients, contaminants, organic particles, and sediment carried by runoff. Many chemicals—fertilizers, human and household wastes, toxic compounds—are tied to sediments that can be trapped in wetlands. Plants and biological processes in wetlands break down and convert these pollutants into less harmful substances.

The project not only will create new wetlands that improve water quality, it will also remove outdated levees and dikes, allowing the main stem of Walnut Creek to reoccupy its historic floodplain. In other areas of the project, the width of the floodplain bench will be significantly increased as well. This will provide more acreage for these natural filtering processes to improve water quality. The project also will include an intensive vegetation management process to halt the spread of invasive plant species already on site, such as perennial pepperweed (*Lepidium latifolium*) and Mediterranean stinkwort (*Dittrichia graveolen*). By removing invasives from existing wetlands, the Project will reduce the dispersal of propagules around the Suisun Bay region. Continued invasive species management is part of the project's Monitoring and Adaptive Management Plan, which will be implemented by the District and JMLT as part of long-term stewardship of the site. A draft copy of the plan is attached as Attachment 2.

As mentioned in the table above, in 2003, project partners purchased the Project site at a tax default sale when a proposed large-scale warehouse facility (which would have obliterated all on-site wetland habitat) defaulted on their property taxes and abandoned the site. This purchase preserved the Project area in perpetuity and prevented contamination that would have occurred if the site were developed and operated as an industrial facility.

(9) Catalyst for future conservation

As described below in response to Criteria 10 - Partners in Conservation, the Project enjoys broad regional support. The Contra Costa County Flood Control and Water Conservation District sees Lower Walnut Creek Restoration as a flagship demonstration project, and they hope the attention and funding the Project attracts will help build support for future restoration actions along the District's 79-mile network of creeks and channels. Beyond the Project (North Reach), the District is moving forward with similar restoration work a mile upstream at the South Reach of the project. The South Reach's 50-acre tidal marsh restoration is closely related to the North Reach Project covered in this application. Both share a similar design and will reinforce the delivery of the regional wetland habitat restoration goals and expand the habitat benefits of this the North Reach project further upstream.

The District has also completed a preliminary design on a similar future restoration project in between the North and South Reaches. This 86-acre site, creatively titled the Middle Reach, consists of similar levee setbacks and tidal and pickleweed marsh enhancement. The North Reach project is a direct catalyst for these future and concurrent restoration efforts.

The habitat restoration proposed in this Project along with the rough grading for 2.5 miles of future public access trails will be foundational for the John Muir Land Trust's future phase construction of amenities for public access and wildlife-oriented recreation on the site. The Project has also energized various groups in the watershed, which is the largest watershed in Contra Costa County. As an example, the [Walnut Creek Watershed Council](#) has attracted interest and funding, and is actively spearheading new restoration initiatives in the watershed, such as forming a watershed-based Arundo Removal and Replacement Team.

Finally, the Project's proposed innovative use of sediment from the adjacent Walnut Creek channel, and its careful geomorphic design which will allow for natural marsh accretion to keep pace with sea level rise, is a potential catalyst in that it will hopefully serve case study project for future similar projects around the San Francisco Bay Area.

(10) Partners in conservation

Table 8.

Organization	Description of Investment	Project Contribution	Status
Contra Costa County Flood Control and Water Conservation District	Implementation funding	\$245,000	Committed.
State of California - Wildlife Conservation Board	Implementation funding	\$240,000	Recommended for grant award in November 2019.
John Muir Land Trust	\$4,500 in-kind match² in volunteer time for vegetation management (establishment and maintenance), as well as \$500 in cash match in costs	\$5,000	Committed.

² Volunteer hours estimated as eight, 22-person volunteer days, at the Independent Sector's announced rate of \$25.43/person/hour. For details, see <https://independentsector.org/news-post/new-value-volunteer-time-2019/>

	associated with volunteer participation and coordination.		
California Department of Fish and Wildlife	Currently partially funding Design / CEQA / Permitting to prepare project for construction. Funding Source: Proposition 1, Delta Water Quality and Ecosystem Restoration Grant Program.	\$10,000*	*Pre-award match of CA Prop 1 grant funds. Match funding expected to be spent by December 2019.
Total		\$500,000	

The Lower Walnut Creek Restoration project enjoys broad financial support from a range of partners. The Contra Costa County Flood Control and Water Conservation District (the District) is the local agency who is spearheading this project, and if this application is awarded, will be the pass-through grantee. The District will provide \$245,000 match for the construction tasks listed in the budget justification. Other local partners include the State of California - Wildlife Conservation Board providing cash match of \$240,000, and the John Muir Land Trust, with a financial pledge of \$500, and an in-kind match of \$4,500 in volunteer labor. **See attached support letters.**

The California Department of Fish and Wildlife (CDFW) is another state partner, who provided \$537,456 to partially fund the project's design and environmental permitting. will be expended on the Project by December of 2019. We are requesting to use \$10,000 of these CDFW funds as pre-award match. Those funds are expected to be fully expended by December of 2019

(11) Federal share reduced

Table 9.

Total Project Cost	\$1,500,000
NCWC Grant Program Request	\$1,000,000
Actual Match (cash + in-kind)	\$500,000
Non-Federal cost share (cash)	\$495,500
Non-Federal cost share (in-kind)	\$4,500
Required (25%) match	\$375,000
Additional cash match above required match	\$120,500
Percent cash match above required	32%

The required non-federal match (25% of total) is \$375,000. Total non-federal cash match funds in the amount of \$495,500 will contribute an additional \$120,500 in excess of that minimum requirement. This cash match funding represents an additional 32% match over the minimum requirement. In addition to the cash match, JMLT will also provide \$4,500 in in-kind match in the form of volunteer labor for vegetation management associated with the project's vegetation establishment and maintenance task. This additional in-kind match brings the non-federal match to \$500,000, establishing an overall match amount of 50%, which significantly reduces the federal share.

(12) Education/outreach program or wildlife-oriented recreation

In addition to JMLT's work to deliver the future public access phase, JMLT's financial commitment in this phase includes organizing volunteers who will assist with the project's vegetation management task while learning about habitat restoration and wetland ecology. Volunteers will have the opportunity to assist in this restoration project by planting, pruning, watering, weeding, maintaining browse protection, and other vegetation management activities, all while experiencing the restored wetland environment before it officially opens to the public. JMLT's volunteer work will result in the participant's education about wetland plants and wetland ecosystems. JMLT's volunteers typically are also enthusiastic 'birders', so JMLT anticipates significant interest in bird-focused educational opportunities while onsite.

Currently the site is not open to the broader public, except on periodic tours led by the Flood Control District, which accommodate roughly 150 people per year. While the phase of work covered by this grant won't significantly change these visitor numbers, the work is critically important to the next phase of work that specifically provides these public access amenities. In other words, this phase doesn't increase the number of visitors, but it facilitates the important work that does. Objective 6. of this application provides for "rough grading of 2.5 miles of access paths to facilitate future public access project by December 2021." The phase of work covered by this grant will provide the critical physical foundation for the John Muir Land Trust (JMLT) to provide expanded public access and wildlife-orientated recreation amenities as part of a future project phase. The amenities described below are what JMLT plans to construct a next project phase. These amenities are not within the scope of this grant application.

Table 10. Summary of Future Phase Public Access Amenities

Amenity	Number or Length	Status
Interpretive Panels / Kiosk	6 planned	To be constructed by John Muir Land Trust as part of a future phase of the overall Lower Walnut Creek Habitat Restoration Project.
Trails	2.5 miles (1 mile ADA compliant)	
Overlook Viewpoints	3 planned, including bird watching stations	
Restroom	1 planned	
Kayak Launch	1 planned	
Gravel Parking Lot and Staging Area	1 planned, with room for 20 cars and 1 school bus	

Once the proposed public access features are constructed and open to the public, the restored North Reach of Lower Walnut Creek (aka Pacheco Marsh) will become a premiere destination for wildlife-compatible recreation and educational programming about marsh ecosystems and human efforts to reverse the effects of past human impact and restore critical wetlands to their natural state. The future project will feature educational kiosks and displays that tell these stories at the entrance to the site. Signage and displays along pathways will engage visitors as they walk the property and experience different sections of the ecosystem. JMLT estimates that the site will attract over 15,000 visitors annually to birdwatch, hike, kayak, experience nature and learn about the restored wetland ecosystems. Figure 4 in Attachment 1 shows a visualization of one of the proposed view points to be constructed by the JMLT. As part of the future project phase, JMLT will reach out to local schools to facilitate field trips and guided tours by local experts. Volunteer opportunities will involve the public in the care and maintenance of the property. As successfully done on other properties, JMLT will engage students to help develop tours of Pacheco Marsh that

are enabled via mobile app and smart phones (using the [Vizzit platform](#)). These tours will be available to all visitors and will allow for self-guided exploration that teaches the lessons of Pacheco Marsh and the importance of the marsh ecosystem. Beyond the educational kiosks and mobile apps, the overall public access plan for project includes 2.5 miles of finished trails featuring numerous wildlife viewing platforms, including a seasonally available bird watching blind (See Figure 5 in Attachment 1).

(13) Other factors

Table 11. Other Project Benefits/Values

Factor	Description
1. Sea Level Rise Resilience and Adaptation	The project is specifically designed to be resilient and adaptable to the long-term effects of sea level rise, to ensure continuing coastal wetlands benefits. Creation of “sustainable benefits that consider future environmental changes such as sea level rise and sedimentation,” is an explicit project objective.
2. Strategic Location	The project is located between two large parcels that are owned and managed by the California Department of Fish and Wildlife: Peyton Marsh and Point Edith Wildlife Area . Both of these marshes currently provide good wetland habitat, but their habitat values are expected to decrease through the conversion of high-quality wetlands into mudflats and open water due to increasing tides and the lack of sufficient sediment supply needed to keep pace with sea level rise. The Lower Walnut Creek Restoration project was specifically designed to capture sediment, provide long-lasting sustainable benefits, and provide critical alternative habitats for species in an area adjacent to these two existing parcels.

This project has a number of other factors that make it unique and valuable. First, the project is specifically designed to be resilient and adaptable to the long-term effects of sea level rise and has been designed to ensure continued coastal wetlands benefits. Early in planning, the Project coordinated with regional baylands experts to develop strategies for improving long-term resilience of the lower Walnut Creek landscape to support sustained ecosystem services and wildlife habitat under changing future conditions. This planning occurred primarily via the Flood Control 2.0 project, funded by the US EPA and led by scientists from the San Francisco Estuary Institute in partnership with the District. As such, the design features gradual slopes with a number of ecotones that allow upward migration of habitats to counter the effects of sea level rise.

Second, the project is located between two large parcels owned and managed by the California Department of Fish and Wildlife: Peyton Marsh and Point Edith Wildlife Area (see Figure 6 in Attachment 1). Both of these marshes currently provide good wetland habitat, but their habitat values are expected to decrease as insufficient sediment supply and rising sea levels convert the existing high-quality wetlands into mudflats and open water. The Lower Walnut Creek Restoration project was specifically designed to capture sediment and ensure that it falls within the restored wetlands to provide for continued accretion, providing long-lasting sustainable benefits, and provide critical alternative habitats for species in an area adjacent to these two existing parcels.

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Contra Costa County Flood Control & Water Conservation District

Brian M. Balbas,
ex officio Chief Engineer
Allison Knapp,
Deputy Chief Engineer

June 20, 2019

Ms. Margaret Everson
Principal Deputy Director
U.S. Fish and Wildlife Service
1849 C Street
Washington, D.C. 20240

Our File: 4003B-115-25-04

Dear Deputy Director Everson:

I am writing to express the Contra Costa County Flood Control and Water Conservation District's strong support of the State Coastal Conservancy's NCWC grant request for the Lower Walnut Creek Restoration Project. Lower Walnut Creek will provide critical habitat for fish and wildlife, and provide multiple additional benefits to the community, including carbon sequestration, recreation, and water quality improvements.

The Flood Control District also pledges to commit \$245,000 of local funds as match toward the North Reach of the project, which is the subject of the NCWC grant request.

The Flood Control District is pleased to again partner with the State Coastal Conservancy and others to implement needed restoration on Lower Walnut Creek.

Should you have any questions, please contact me at (925) 313-2390.

Sincerely,

A handwritten signature in blue ink that reads "Tim Jensen".

Tim Jensen
Assistant Chief Engineer
Flood Control

PD:pd

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w cc\support letter - fcd.docx

Lower Walnut Creek Habitat Restoration Project, North Reach - Project Letters



Gavin Newsom, Governor
NATURAL RESOURCES AGENCY
DEPARTMENT OF FISH AND WILDLIFE
WILDLIFE CONSERVATION BOARD
Mailing Address: PO BOX 944209
Sacramento, California 94244-2090
www.wcb.ca.gov
(916) 445-8448
Fax (916) 323-0280

Ms. Margaret Everson
Principal Deputy Director
U.S. Fish and Wildlife Service
1849 C Street
Washington, D.C. 20240

Support Letter for Lower Walnut Creek Restoration Project
Contra Costa County, CA

Dear Ms. Everson:

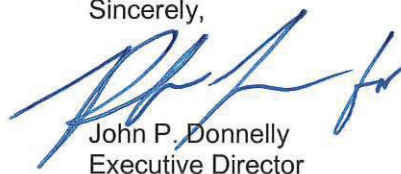
The Wildlife Conservation Board (WCB) is a separate and independent California State Board with authority and funding to carry out acquisition, development and restoration programs for wildlife conservation. The primary responsibilities of the WCB are to select, authorize and allocate funds for wildlife-related restoration, conservation and protection projects and development of wildlife-oriented public access facilities.

The Contra Costa County Flood Control and Water Conservation District has presented a proposal to the WCB requesting \$1,250,000 in funding to assist with the restoration of up to 400 acres of coastal wetlands and adjacent habitats at the mouth of Walnut Creek and its tributary, Pacheco Creek, in Contra Costa County, California. The project would enhance and restore estuarine wetlands and associated wetland-upland transitional habitats that have suffered large historic losses, eliminate expensive and environmentally destructive flood-related dredging, and remedy limited public access. The project has been designed to provide sustainable benefits in consideration of future environmental changes, particularly sea level rise. The project will enhance the over-all resilience of wetland habitats within the project area by providing space for tidal marsh migration with rising sea levels, increasing tidal connectivity, reconnecting sediment flow pathways to promote healthy marsh accretion, and reducing the fragmentation of existing wetlands habitats in the region.

Although actual funding cannot be assured until the grant request is presented and approved by the WCB, based on a preliminary evaluation of the proposal the WCB is very supportive of the effort and is looking to help fund the implementation portions. At this time, the WCB is working towards presenting the proposal to our Board for approval at the meeting scheduled for November 21, 2019. If approved, the intended use of the funds would be for implementation activities along the South and North reaches of the project. Also, \$240,000 of this funding could be used as non-federal matching funds towards the State Coastal Conservancy's National Coastal Wetland Conservation (NCWC) grant.

If you have any questions, please contact Scott McFarlin, Restoration and Development Supervisor, at 916-323-2281.

Sincerely,



John P. Donnelly
Executive Director



Ms. Margaret Everson
Principal Deputy Director
U.S. Fish and Wildlife Service
1849 C Street
Washington, D.C. 20240

June 21, 2019

Dear Deputy Director Everson:

I am writing to express John Muir Land Trust's support of the State Coastal Conservancy's NCWC grant request for the Lower Walnut Creek Restoration Project. Lower Walnut Creek will provide critical habitat for fish and wildlife, and provide multiple additional benefits to the community, including carbon sequestration, recreation, and water quality improvements.

John Muir Land Trust (JMLT) has been a long-standing partner in the Lower Walnut Creek Restoration Project and was instrumental in securing the right of way for the North Reach / Pacheco Marsh in 2002. JMLT looks forward to providing wildlife-compatible public access and education at Pacheco Marsh as well as providing long term stewardship of the site as part of our other holdings in the region.

Founded in 1989, JMLT has grown from humble roots to become one of the leading forces in conservation in Northern California. With more than 3,100 acres under stewardship, and supported by a generous community, JMLT has permanently preserved many beautiful places in the East Bay. Our fourteen special properties provide recreation, watershed protection, habitat for threatened wildlife, and scenic views for all to enjoy.

JMLT is also pleased to be a financial supporter of the Lower Walnut Creek Restoration project, with a \$500 cash contribution, and \$4,500 in in-kind volunteer labor for a total contribution of \$5,000. This funding could be used as match towards the State Coastal Conservancy's grant.

I respectfully encourage you to support this important project for the restoration of valuable wetland habitat.

Sincerely,

A blue ink signature of Linus Eukel, written in a cursive style.

Linus Eukel
Executive Director

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Donor Database Associate

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Krista Vossekui
Director of Philanthropy

P.O. Box 31
Martinez CA 94553
925-228-5460
jmlt.org



June 25, 2019

Ms. Margaret Everson
Principal Deputy Director
U.S. Fish and Wildlife Service
1849 C Street
Washington, D.C. 20240

RE: LOWER WALNUT CREEK RESTORATION PROJECT PROPOSITION 1 GRANT FUNDING

Dear Deputy Director Everson:

The California Department of Fish and Wildlife (CDFW) would like to confirm our partnership in the Lower Walnut Creek Restoration Project as evidenced by our \$537,457 Proposition 1 (Prop 1) planning grant, which is currently partially funding the project's design and environmental permitting work. We understand that the State Coastal Conservancy is applying for a \$1,000,000 National Coastal Wetlands Conservation grant and \$10,000 of CDFW's Prop 1 grant funds to the project are considered pre-award match funds.

If you have any questions, please contact Ms. Erin Aquino-Carhart, Grant Manager, at (916) 445-1287 or Erin.Aquino-Carhart@wildlife.ca.gov; or Ms. Vicki Lake, Prop 1 Environmental Program Manager, at (916) 445-4289 or Vicki.Lake@wildlife.ca.gov.

Sincerely,

Matt Wells
Acting Branch Chief
Watershed Restoration Grants Branch

List of figures in Attachment 1:

Description	Status
Key Map (statewide location)	Figure 1
Location Map (local)	Figure 2
Restoration Plan (middle and South reach greyed out)	Figure 3
Design Plans	65% plan subset
Visualization from viewpoint	Figure 4
JMLT Public access plan (draft)	Figure 5
Connectivity between Project and adjacent wetlands	Figure 6
Photos of North Reach	Photos 1-5

Attachment 2: Draft Monitoring and Adaptive Management Plan for Lower Walnut Creek

Lower Walnut Creek Restoration Project



Figure 2.



SOURCE: Digital Globe, 2017

Lower Walnut Creek Restoration . D170378

Figure 2
Location Map

Figure 3.



Lower Walnut Creek Restoration . D170378.00

Figure 3
Project Variant (Expanded North Reach) Restoration Plan

Excerpt from 65% design document



ORIGINAL DRAWING SIZE: ANSI D 22" X 34"; FOR REDUCED ENGLISH PLANS ORIGINAL SCALE IS IN INCHES

Figure 4.

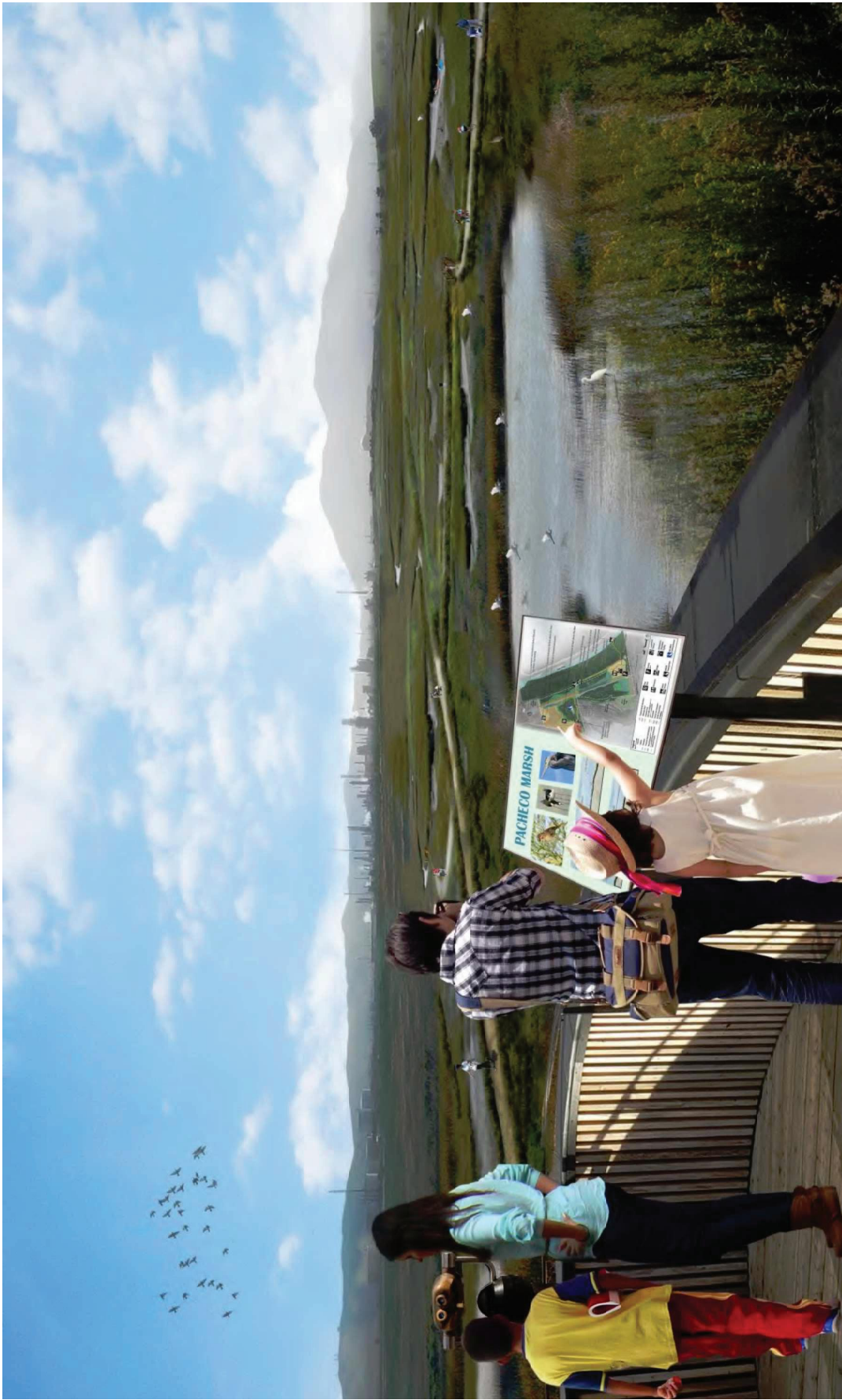
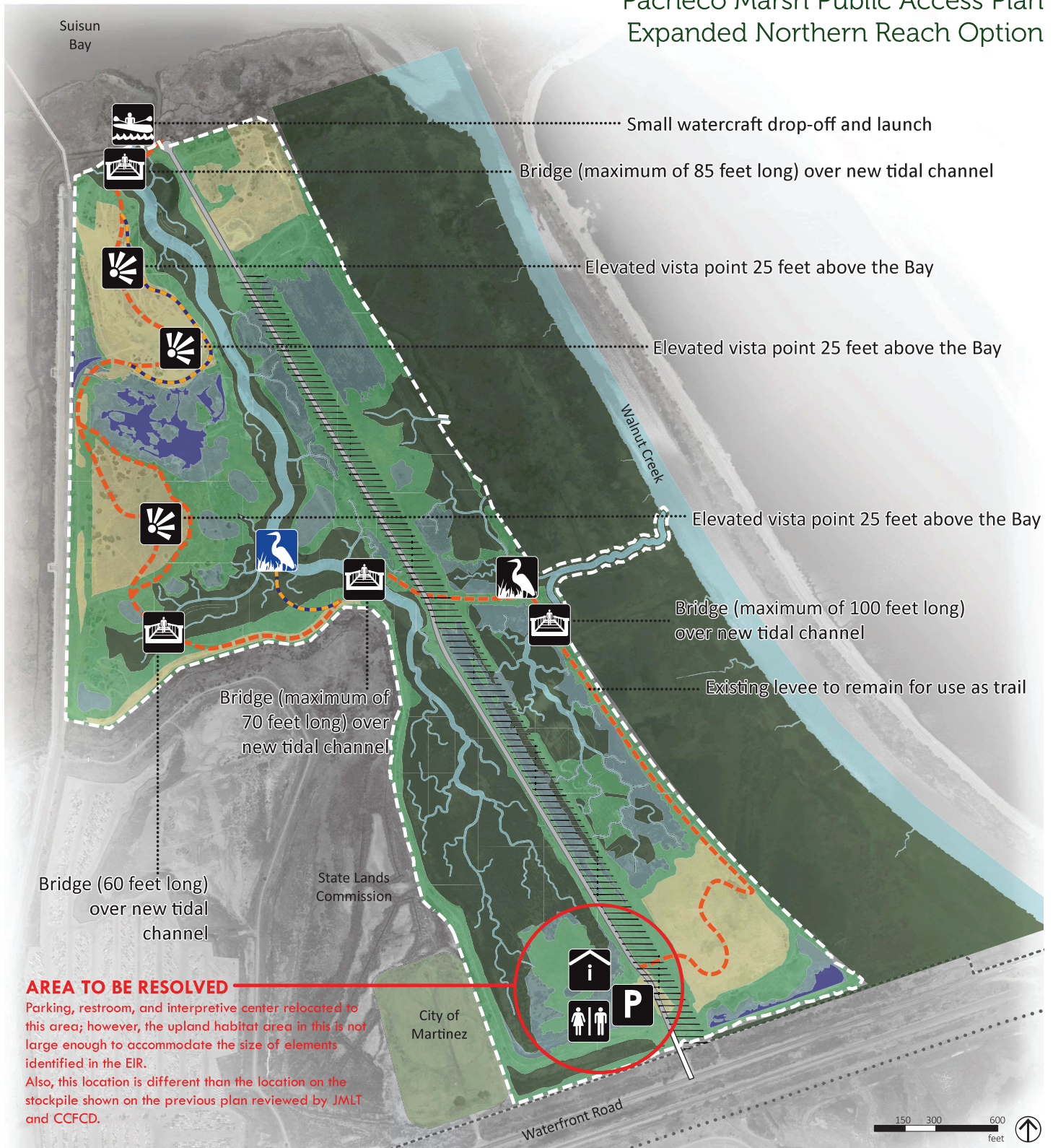


Figure 5

Pacheco Marsh Public Access Plan
Expanded Northern Reach Option

150 300 600 feet

Legend

Habitat Areas

- Channel
- Upland
- Transition
- Seasonal Wetland
- Tidal Wetland
- Seasonal Pond

- Pacheco Marsh Boundary
- Vehicular Road
- Unpaved Trail (No Public Vehicle Access)
- Limited Access Trail
- Boardwalk
- Central San Easement
- CCCSO Access Road
- Oil Pipeline



Vista Point



Parking Area



Interpretive Feature



Restrooms



Bridge



Interpretive /Education Facility



Water Access



Wildlife Viewing Point



Bird Blind (Limited Access)

Figure 6.



SOURCES: ESA, 2017; GoogleEarth, 2017; SFEI, 2015.

Note: Restoration plan has been slightly modified since the version shown here.

Lower Walnut Creek Restoration Project

Figure 6

Improved Connectivity

Attachment 1. Lower Walnut Creek Habitat Restoration Project, North Reach - Figures and Photos



Site Photo 1. North Reach Brackish tidal marsh looking north along Walnut Creek.

Attachment 1. Lower Walnut Creek Habitat Restoration Project, North Reach - Figures and Photos



Site Photo 2. North Reach looking north to Bay. Fill piles and infrastructure from former sand processing, in foreground. Tracks are from illegal dirt bike usage. Upland dominated by non-native vegetation.



Site Photo3. North Reach Upland in Northwest part of site. Upland on dredged material fill. Dominated by invasive, non-native vegetation.



Site Photo 4. Near center of North Reach, looking north. Diked wetlands on left and right of road.

Attachment 1. Lower Walnut Creek Habitat Restoration Project, North Reach - Figures and Photos



Photo 5. Aerial Image of Pacheco Marsh

Monitoring and Adaptive Management Plan

Lower Walnut Creek Restoration Project

DRAFT

Prepared by:
Environmental Science Associates

For:
Contra Costa County Flood Control District

December 2018

INTRODUCTION

Purpose of this Plan

[NOTE TO READER - Phase 2, design, permitting, and environmental compliance, of the Lower Walnut Creek Restoration Project is currently in progress. Development of Monitoring and Adaptive Management Plan (MAMP) is part of the Phase 2 work and will be completed during the design phase for the project and submitted to the resources agencies as part of the permitting process. A preliminary version of the MAMP has been prepared to meet the requirements of the CDFW grant.]

This Monitoring and Adaptive Management Plan (MAMP) for the Lower Walnut Creek Restoration Project (Project) describes monitoring actions that will be conducted to evaluate progress toward desired outcomes and ongoing and long-term management actions to ensure sustainable outcomes. Monitoring will serve multiple purposes:

- Assess physical conditions to verify project was constructed as designed and meets permit requirements (compliance monitoring)
- Measure physical outputs and ecological outcomes to track progress towards project objectives (effectiveness monitoring)
- Inform corrective actions if success criteria are not met. The results will be used to reduce uncertainties and improve management and future planning (adaptive management).
- Meet regulatory requirements for evaluating and documenting performance. This plan conforms with the requirements of the U.S. Army Corps of Engineers (USACE) Final Compensatory Mitigation and Monitoring Guidelines for the South Pacific Division (USACE, 2015).

In addition to monitoring and management actions, the MMP identifies project success criteria, responsible parties for execution of this plan and reporting requirements. Monitoring and maintenance specific to levee performance for flood protection will follow existing Contract Costa County Flood Control District (District) guidance.

Project Summary

The Lower Walnut Creek Restoration Project (Project), led by the Contra Costa County Flood Control District (District), will restore and enhance coastal wetlands and adjacent habitats at the mouth of Walnut Creek and its tributary Pacheco Creek, improving habitat quality, diversity, and connectivity along four miles of creek channel, up to 400 acres in total. The project is located along the southern shoreline of Suisun Bay. The Project is needed to enhance and restore estuarine wetlands and associated wetland-upland transitional habitats that have suffered large historic losses, eliminate expensive and environmentally destructive flood-related dredging, and remedy

limited public access. The project has been designed to provide sustainable benefits in consideration of future environmental changes, particularly sea level rise. The Project will enhance the over-all resilience of wetland habitats within the Project area by providing space for tidal marsh migration with rising sea levels, increasing tidal connectivity, reconnecting sediment flow pathways to promote healthy marsh accretion, and reducing the fragmentation of existing wetlands habitats in the region.

The restoration approach capitalizes on large areas of supratidal elevation lands and existing (degraded) landscape features to restore tidal marsh intergraded with a matrix of lowland terrestrial ecotone habitats. Regional ecosystem goals (Goals Project 2016) call for restoration of this type of habitat matrix and note that opportunities for its creation are rare around San Francisco Bay's mostly-developed shoreline. These habitats will provide diversity and enhanced ecosystem functions under present day conditions and sustainably evolve with sea-level rise. The connectivity of wetland and lowland terrestrial habitats is important to support contemporary ecosystem functions, including wildlife habitat and biogeochemical functions such as nutrient exchange. In addition, by restoring the conditions that support sustained wetland functions, the Project will enhance the site as a carbon sink, incorporating greenhouse gas mitigation and climate change adaptation with flood and habitat management and restoration. Restoration will be accomplished by breaching and lowering levees and berms to reintroduce the tides to diked former baylands, constructing new setback levees for flood protection, and grading filled areas to create new tidal channels, tidal wetland, and lowland terrestrial areas. The project includes a pre-construction program of invasive plant species control and onsite propagation of native plant material for restoration implementation. The project anticipates gradual estuarine transgression, and is designed to provide high ecological value and function through the 21st century. Additional information about the project is available at www.lowerwalnutcreek.org.

Project Goals and Objectives

The District developed Project goals and objectives, which were refined with input from the community-based planning process.

The Project goal is to:

Restore and enhance wetlands and associated habitats in Lower Walnut Creek and to provide sustainable flood management, while allowing opportunities for public access and recreation.

Additional information on the District's vision for a restored Lower Walnut Creek can be found in the "Resilient Landscape Vision for Lower Walnut Creek" report (SFEI, 2017).

Project objectives are to:

1. *Restore wetlands to improve ecological function and habitat quantity, quality, and connectivity (including upland transition zones) in the Lower Walnut Creek area for native, resident plant and animal species including special status species.*

Special status species known to occur in the area include the salt marsh harvest mouse, California black rail, Ridgway's rail, and Mason's lilaeopsis.

2. *Maintain appropriate levels of flood protection along Lower Walnut and Pacheco creeks, as warranted by the land use.*

This includes protecting the services provided by existing infrastructure (e.g., power lines, railroads, water lines) and maintaining access to infrastructure and adjacent private property. Open space areas may not require maintenance or improvement of flood protection levels.

3. *Allow for future public access, education, and recreational opportunities.*

The District is committed to developing a project that is compatible with regional goals for public access through the Project area, such as a trail segment connecting two regionally-significant trails – the Ironhorse and Bay trails. The District’s charter, however, limits the ability of the District to directly fund the creation and maintenance of public access and recreation facilities.

While the District is not in a position to directly implement public access and recreational facilities, the District will provide opportunities for partners such as the East Bay Regional Parks District (EBRPD) and the John Muir Land Trust to pursue future public access and recreation projects within the Lower Walnut Creek Project area.

4. *Create sustainable benefits that consider future environmental changes such as sea level rise and sedimentation.*

A guiding principle in planning the Lower Walnut Creek Restoration Project is to design a system that works with nature, not against it. This means anticipating changes associated with estuarine and fluvial sediment deposition and increases in flooding anticipated to result from future sea level rise, and designing a system that is resilient to these changes without expensive and environmentally disruptive management actions.

The District is committed to developing a project that will be resilient to future sea level rise through the year 2050, and adaptable to anticipated changes through 2100. For planning purposes, the Project has adopted a sea level rise projection of 2 feet by 2050 and considers a range of sea level rise extending up to 5 feet by 2100. These values are consistent with the upper range of projected sea level rise indicated in the National Research Council’s 2012 report “Sea level Rise for the Coasts of California, Oregon and Washington” (NRC, 2012) and BCDC’s Adapting to Rising Tides regional sea level rise planning program (AECOM 2016).

Plan Implementation Strategy

The Plan implementation strategy relies on the following concepts to guide the implementation and development of the site:

1. Utilize natural processes for habitat establishment, as possible.
2. Utilize best available science to manage the site.
3. Practice adaptive management of the site utilizing input from monitoring data in conjunction with adaptive review of restoration goals and objectives.
4. Review monitoring reports annually to identify any additional management actions needed to promote achievement of restoration goals and objectives.

5. To the extent practicable, minimize effects that would lead to improved conditions for nonnative invasive species such as perennial pepperweed (*Lepidium latifolium*), and stinkwort (*Dittrichia graveolens*), or non-native predators of special status wildlife species.

Responsible Parties

The Project site is owned by the Contra Costa Flood Control and Water Conservation District. After construction is complete, the District will retain responsibility for all management and maintenance activities described in this plan, including reporting.

- Executing the management, monitoring, maintenance, and reporting responsibilities as described in this Plan, including data collection, storage, and transmittal.
- Performing general inspections to ensure restored habitat values are protected and maintained.
- Analyzing portions of the monitoring data resulting from the monitoring activities and implementing any remedial or adaptive management actions as required by regulatory permit conditions.
- Filing reports (annual or as required by regulatory permit and grant conditions) describing the status and evolution of the restored wetland habitats, general plant and tidal area health, presence and abundance of invasive flora and fauna, hydrologic conditions, wildlife utilization, and other management, maintenance, monitoring and reporting activities that have a bearing on successfully meeting regulatory permit requirements.
- Maintaining a file on the Project detailing management, maintenance, monitoring, and reporting activities, correspondence, and determinations.

Qualified Personnel

The District shall retain professional biologists, botanists, restoration ecologists, or other specialists (“Qualified Personnel”) as necessary to conduct tasks and monitoring as described in this Plan. Duties of the Qualified Personnel may include, but are not limited to:

- Monitoring and maintaining habitat function
- Monitoring and erosion and slope stability
- Identifying and evaluating the presence of invasive species and developing management recommendations
- Conducting surveys that are required by this Plan
- Evaluating site conditions and recommending remedial actions and or adaptive management actions to the District
- Assisting in the review or planning of any additional restoration actions following initial construction
- Preparing annual reports

SUCCESS CRITERIA

The success criteria identified below will provide a basis for determining the need for remedial (corrective) measures and adaptive management. Variable environmental conditions beyond the control of the project, such as weather patterns, trespassers, and vandalism, may contribute to one or more of the success criteria not being attained, but will not necessarily imply that the restoration has failed. Rather, the entire set of monitoring results will provide a basis for discussion with regulatory agencies as to whether remedial actions are warranted. Despite failure to attain one or more specific success criteria, monitoring results may suggest that the restoration areas are developing properly, overall performance goals are being met, and that no remedial intervention would be warranted. Most importantly the success criteria are intended to be used and interpreted based on professional judgment of the monitoring biologists as well as regulatory agency staff.

The success criteria by which the Project will be evaluated are described below.

Hydrology

Within one-year post-breach, full tidal inundation will be achieved across the site, with tide range comparable to natural marshes in Suisun Bay. Once achieved, the site is expected to maintain full tidal inundation long-term. Fully tidal channels within the restoration area are expected during water level monitoring in Years 1, 2, 4, and 10.

Geomorphology

The network of branching 1st, 2nd and 3rd order channels will maintain channel densities (total channel length) and cross-sectional geometry to fall within the range of natural and restoring reference tidal wetlands within San Francisco Estuary.

Vegetation and Habitats

Desired native plant species will populate the restoration site through planting and natural recruitment. The complex of tidal marsh (intertidal marsh, low tidal marsh, high tidal marsh and, marsh ponds), lowland terrestrial (sandy alkali playa flats, lowland grassland, and seasonal wetlands) and upland will represent a diversity of native species.

Vegetation Establishment

Within five years the marsh plain is expected to develop a nearly continuous fringe of native brackish marsh plants along the wetland margins, with intermittent patches of the same species scattered throughout the interior of the site. In the lowland terrestrial zone, the sandy alkali playa flats will support native alkali vernal pool flora and a diversity of other native annual and perennial species, the lowland grasslands will support a mix of ruderal and native lowland perennial grassland species, and the seasonal wetlands will support native seasonal wetland plants.

Total cover by this vegetation is expected to progressively increase during the first five-year period. The performance criterion for vegetation establishment is average cover of native and naturalized species in restored wetlands (based on interpretation of UAS aerial imagery) as follows:

- As-built: <5% cover
- Year 1: 4% cover
- Year 2: 7% cover
- Year 4: 15% cover
- Year 10: 50% cover

Percent cover and/or species richness criteria for lowland grassland and upland grassland and scrub habitats will be determined in consultation with the permitting agencies.

Invasive Plants

In the lowland terrestrial and upland habitat there is a potential for rapid colonization by naturalized ruderal plants, some of which are acceptable with respect to project goals (e.g. most non-native grasses and forbs), some of which are not (e.g. highly invasive grasses, forbs, shrubs, and trees). Control of High or Moderate rated invasive and non-naturalized plants will be implemented.

Highly invasive species, such as perennial pepperweed and stinkwort, will be monitored on a quarterly basis throughout the 10-year monitoring period. When new populations of highly invasive species are encountered they will be controlled as soon as feasible and within four weeks. However, weed control efforts in highly sensitive habitats may be delayed due to other restrictions, such as during nesting season, or may not occur where accessing infestations would result in significant damage to endangered species habitats.

Wetlands

A re-delineation of jurisdictional wetlands will be performed five years following construction to verify that the target wetland acreage has been attained. If the target wetland acreage has not been attained, the District will discuss the site function and conditions and determine if remedial actions should be taken.

Flood Protection

Appropriate levels of flood protection will be provided by the project, including continued access to existing utility infrastructure.

Public Access

Adequate accommodation space will be included in as-built conditions to allow future implementation of public access, education, and recreational elements.

Sustainable Benefits

Transitional ecotone and upland habitats will be established to provide high tide refugia for sensitive species and increase resilience to sea level rise. In addition, flood protection elements will be constructed to accommodate future raising for sea-level rise.

MONITORING

Pre-Project Conditions

Pre-project conditions are documented in the permit applications, and establish the acreage of each wetland and upland vegetation type prior to project construction.

In addition, low-level aerial photography using an Unmanned Aircraft System (UAS, or drone) will be acquired prior to construction to provide a visual document of pre-project existing conditions. Interpretation of the aerial imagery will provide a baseline estimate of the vegetated and unvegetated area against which subsequent monitoring data will be compared. A rapid assessment method will also be used to assess the conditions of the wetland and aquatic habitats.

As-Built Conditions

UAS-acquired aerial photography will be acquired immediately following completion of construction to document the as-built conditions. Interpretation of the aerial imagery will provide a baseline estimate of the vegetated and unvegetated area against which subsequent monitoring data will be compared. The baseline imagery also informs an assessment of the rate of change within the restored area, and the effectiveness of restoration and management actions. The location, orientation, monitoring methods, and any other site-specific information will be recorded in the field and documented in the annual monitoring reports to ensure that monitoring methods are implemented consistently from year to year. A rapid assessment method will also be used to assess the conditions of the wetland and aquatic habitats.

Monitoring

Table 1 provides a summary of the monitoring activities planned for the project site. The monitoring schedule described is adaptable based upon implementation of adaptive management measures.

Hydrology

Measurements of tidal water elevations within the Lower Walnut Creek Restoration Project will be made to assess the restoration of the hydrologic functions of the Project and to document the depth and duration of tidal inundation over the marshplain surface, which will effect vegetation establishment.

Water levels will be measured and recorded at two locations within each Reach using continuous water level recorders. The exact locations of gauges will be determined in the field, with consideration given to access for downloading data and protection from vandalism. Hydrology monitoring will take place during monitoring years 1, 2, 4, and 10 and sensors shall be deployed between April and October.

TABLE 1
SUMMARY OF MONITORING SCHEDULE

Category	Aspect	Location	Monitoring Parameter	Time of Year	Monitoring Years
Hydrology	Water Levels	Install pressure transducer: • Representative channel network in each Reach • Representative marsh pond (North Reach)	Water level	Deployed April - October	Years 1, 2, 4, and 10
	Salinity	Install salinity gauge: • Representative marsh pond (North Reach)	Water salinity	Deployed April - October	Years 1, 2, 4, and 10
Geomorphology	Channel Development – Planform	• Entire site	Channel length	Late summer	Pre-construction, As-built, Year 1, 2, 4, and 10
	Channel Development – Cross-Sections	Cross Sections: • Type 1, Type 2, and Type 3 Channels and adjacent marshplain	Elevation	Annual, in Summer	Year 1, 2, 4, and 10
Vegetation	Vegetation Succession	• Entire site	Vegetative Cover	Late summer	Pre-construction, As-built, Year 1, 2, 4, and 10
	Weed Survey	• Entire site	Invasive Plants	Late spring and/or Late summer	Year 1, 2, 3, 4, 6, 8, 10
Wetlands	Photo-Documentation	• Entire site	Site Development	Late summer	Year 1, 2, 3, 4, 6, 8, 10
	Wetland Extent	• Entire Site	USACE Jurisdictional Wetlands	Any season	Year 5
Flood Protection	Levee	• South Reach	Length of levee	Any season	As-built
	Floodplain Inundation	• Entire Site	Water depth and duration	Wet season	To be determined
Public Access	Levee	• South Reach	Length of levee	Any season	As-built
	Accommodation space	• South Reach	Area	Any season	As-built
Sustainable Benefits	Accommodation space	• North Reach	Length and area	Any season	As-built
	Habitat Resilience	• Entire Site	Area	Any season	As-built
	Levee	• South Reach	Length	Any season	As-built

Geomorphology

Tidal Wetland Development – Planform

Aerial photographs will be taken of the site at a scale that can distinguish the development of the channel networks, and the distribution of marsh and mudflat areas. During monitoring years 1, 2, 4, and 10 aerial photographs will be taken and changes in wetland layout will be compared to the previous aerial photographs. Free satellite photos will also be used when possible. Newly-formed channels and significant changes to the channel layout will be noted in each monitoring year. Aerial photographs will be taken in the late summer and during a tide no greater than +2.0 feet MLLW so that channels are clearly visible and marsh/mudflat areas can be viewed. Mapping will be performed at a minimum scale of 1:2400. The images will be obtained in a digital rectified format to allow use in a GIS system.

At years 1, 2, 4, and 10, UAS imagery will be used to establish contours the surface of the site and provide a spatial baseline for site development, habitat evolution and of settlement of site features. Aerial photographs taken to evaluate channel development and marsh/mudflat layout will also support the vegetation succession monitoring.

Tidal Wetland Development – Cross-Sectional

The cross-sectional geometry of the marsh plain will be monitored using ground-surveyed transects and augmented with aerial photographs (described above). Transects will be at key locations across slough channels, mudflat, and marsh. All transects will be surveyed following construction to provide baseline data on the channel and marsh elevations prior to tidal inundation. Transect starting and ending points will be permanently marked in the field to facilitate reoccupation in subsequent monitoring years.

Transect data will indicate whether or not marsh/mudflat areas are receiving sedimentation at the expected rates. Access within the site is expected to be difficult initially due to the soft ground surface and the need to minimize disturbance to the site. Transect elevations will be surveyed during high tides by boat if it is not possible to accomplish the surveys on foot. Transects will be resurveyed at years 1, 2, 4, and 10.

Vegetation

Vegetation Succession

Aerial photographs (UAS imagery discussed above) will be used to monitor vegetation succession with limited ground-truthing. A map of the colonizing and expanding patches of native and non-native vegetation will be produced from the analysis of the aerial images. False color infra-red photography will aid in the identification of plant species that have become established throughout the site. Aerial image interpretation to determine vegetation types and cover will be completed every year a UAS image is completed (pre-construction, as-built, and Years 1, 2, 4, and 10).

Weed Survey

Locations of perennial pepperweed (*Lepidium latifolium*), stinkwort (*Dittrichia graveolens*) and other highly invasive plants that negatively affect tidal marsh and transition zones will be recorded. Non-native and non-naturalized species that are rated High or Moderate according to the California Invasive Plant Council's

California Invasive Plant Inventory, Online Database (Cal-IPC 2017) will be recorded and recommended for treatment or other management actions, with an emphasis on controlling weeds that threaten the ability to meet performance criteria specified in the regulatory permits¹. A list of invasive species targeted for management will be developed and updated during each monitoring cycle. Stands of target invasive plants using GPS will be mapped to monitor invasive plant colonization and establishment at the site.

For the first two years mapping will occur in late spring and late summer to ensure all invasive plants species at the site are captured. After two years, it may be decided that only annual mapping is necessary, or depending on what invasive species are present the biennial monitoring may continue to be required. Weed surveys and mapping will occur in Years 1, 2, 3, 4, 6, 8, and 10, unless it is determined after four years that the monitoring should continue annually in order to inform annual maintenance and invasive plant control work at the site. Invasive weed and treatment recommendations are in the Maintenance section below. Although the weed survey will cover upland areas, only areas surveyed within jurisdictional wetlands will be required to be included in the annual monitoring reports.

Photo-Documentation

Ten permanent photo-documentation stations will be established at the site pre-construction. Photographs taken during monitoring years at these locations will provide further evidence of vegetation succession and evolution of the marsh, transition, and upland areas throughout the site. Photopoints would be located in areas with a good vantage of the site, representative of site conditions, good distribution around the site, and that can be located in subsequent years. The location of photopoints will be recorded with a GPS and the direction (aspect) and other relevant relocation information will be recorded. A map of photopoint locations and exposure directions as well as a photo appendix with all photos will be included in each monitoring report.

Wetlands

A re-delineation of jurisdictional wetlands will be performed five years following construction. The delineation may revisit any data points that have not been altered by construction and are accessible, and will also rely on new data points to identify wetland boundaries. Only the minimum number of sample points necessary to establish the extent of jurisdictional wetlands will be employed. Results of the re-delineation will be summarized in a wetland delineation technical memorandum with maps and data sheets, and will be provided to the USACE. A rapid assessment method will also be used to assess the conditions of the wetland and aquatic habitats.

Flood Protection

The length and height of levee constructed will be surveyed and reported as part of the project as-built construction plans.

The depth and duration of floodplain inundation and observations of levee performance for flood protection will follow existing Contract Costa County Flood Control District (District) guidance.

¹ Naturalized weeds that are part of the surrounding landscape and do not present an impediment to meeting the performance criteria will not be included in the weed survey. Examples include many non-native annual grasses.

Public Access

The length of levee and area of public access accommodation space will be surveyed and reported as part of the project as-built construction plans.

Sustainable Benefits

The area of transitional ecotone and uplands habitats will be surveyed and reported as part of the project as-built plans. This data will be used in coordination with data collected under vegetation succession and wetland extent to monitor site evolution.

The length and height of levee constructed will be surveyed and reported as part of the project as-built construction plans.

REPORTING

Annual Monitoring Reports

Annual monitoring reports shall be submitted to USACE, RWQCB, CDFW, and BCDC, by January 31 of the following year. Monitoring years include Year 1, 2, 3, 4, 6, 8, and 10. Annual reports will include, at the minimum, the following information:

- Summary description of the monitoring methods, including data collection and analysis;
- An overview of the restoration effort, including a general discussion of site conditions, changes in site conditions since the previous report, and quantitative and qualitative comparisons of vegetation and channel stability between previous monitoring years;
- Analysis of success in relation to success criteria;
- Discussion of maintenance actions undertaken that are directly relevant to restoration of wetlands;
- Color photographs of the revegetation areas taken from the photo-monitoring point locations; and
- A discussion of any corrective measures needed or undertaken (including weed control, replanting or reseeding, regrading for tidal circulation, or erosion control measures).
- The five-year wetland delineation will be provided with the year 6 monitoring report.

Wetland restoration data will also be uploaded to the EcoAtlas Project Tracker and applicable species data reported to the California Natural Diversity Database.

MAINTENANCE AND LONG-TERM MANANAGMENT

The overall goal of maintenance and management of the site is to promote the long-term trajectory of the site in providing functions and services associated with the restored habitats. The approach to adaptive management of the project will be to conduct regular site visits and monitor selected characteristics to determine the stability of the site and ongoing trends in physical and biological processes. Unexpected trends in the biological or morphological characteristics of the site will require examination to determine if they are compromising the goals and objectives of the site. Further details on long-term and adaptive management strategies will be developed in association with the development and finalization of the project design.

The Project has been designed to minimize the need for active operations and ongoing maintenance. There are no operable facilities within the proposed Project area. The District will conduct maintenance of the project site, consisting of trash collection, security, trail inspections and maintenance as needed. Vegetation maintenance will be focused on restricting the spread of target invasive exotic species and may include mechanical treatment (mowing, manual pull, mechanical scrape) and/or herbicide application, as determined by the qualified biologist in response to particular site conditions.

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- US Army Corps of Engineers. 2015. Final Compensatory Mitigation and Monitoring Guidelines for the South Pacific Division.