

Request for a Proposal
The Bolsa Chica Lowlands Restoration Project: Sustainability Alternatives Study
January 2019

Introduction

The Bolsa Chica Land Trust (BCLT) has applied for and been selected to receive a CDFW - 2017 Prop. 1 Watershed Restoration & Delta Water Quality and Ecosystem Restoration grant to complete the Bolsa Chica Lowlands Restoration Project: Sustainability Alternatives Study (Study). The total funding available is \$282,480. To support this study effort, the BCLT is soliciting a consultant or consultant team to undertake the preparation of this Study under the oversight and active involvement of the representatives from the state and federal agencies with management guidance of the Bolsa Chica Lowlands Restoration Project oversight committee.

The Bolsa Chica Lowlands Restoration Project (BCLRP) is the largest coastal wetland restoration project ever completed in California. A complex history of human development and natural resource extraction led to severe degradation of a once highly productive system of saltwater and freshwater marshes that comprised roughly 2,300 acres in the Bolsa Chica Lowlands. In 1996, the State Lands Commission (Commission) along with seven other state and federal agencies – the California Department of Fish and Wildlife (CDFW), State Coastal Conservancy (SCC), U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), U.S. Environmental Protection Agency (USEPA), California Natural Resources Agency (CNRA) and the U.S. Army Corps of Engineers (USACE)– partnered through an Interagency Agreement in an unprecedented collaboration to restore and preserve a large area of the Bolsa Chica Lowlands. In 2004, a large-scale restoration of this coastal wetlands area began, funded in large part through mitigation credits for the expansion of the Los Angeles and Long Beach Ports. Completed in 2006, the BCLRP resulted in: a) removal and clean-up of oil production facilities; b) restoration of full tidal influence through a new inlet and tidal basin excavation; c) creation and enhancement of intertidal wetlands; d) creation of nesting and feeding areas for threatened and endangered birds; e) the creation or rehabilitation of approximately 600 acres of marine and wetland habitat; f) non-tidal wetlands preservation; and g) construction of a Pacific Coast Highway bridge and an oil services bridge across the new inlet. Subsequent to project completion, the oversight committee and a number of volunteers restored eelgrass habitat to the full tidal basin in the summer of 2007 to further increase the functions of the wetland complex beyond those originally planned.

Ten years of post-monitoring data demonstrates a significant increase in habitat quality as a direct result of the BCLRP. The site supports 23 endangered and special status species including a variety of vegetative, invertebrate, fish, and avian species. The wetlands represent a critical stop for migrating shorebirds, seabirds, and waterfowl on the Pacific Flyway. Nearly 160 avian species and 65 fish species occur at the site. Vegetation, benthic community, water quality, and tidal monitoring indicators revealed positive results with respect to restoration goals. The system has also developed considerable supplemental subtidal value with as much as 167 acres of eelgrass having been developed within the full tidal basin following the 2007 eelgrass restoration project.

Despite the success of habitat restoration at the site, project's original design and management protocols require ongoing and financially unsustainable maintenance actions at the site to ensure the retention of connectivity with the ocean. Tidal activity and sedimentation accumulation rates require frequent dredging of high volumes of sand to keep the inlet and basin clear. If the ocean inlet closes, the loss of tidal connection will prevent the wetlands from draining, and prompt failure of the system will

follow through habitat loss, fish die-off, and eventual release of any carbon in the form of methane, which is counterproductive to the carbon sequestering values of wetlands. Higher climate change-related projections of sea-level rise, compared with the projections used in the early 2000s project design, and increased frequency of intense storm events also pose a risk to the long-term viability of this coastal wetland area. Moreover, if the wetlands cannot drain and water levels rise, flood risks will increase for the adjacent low-lying residential areas and the active on-site oil field operator. Flooding of on-site oil operations would risk toxic exposure to the ecological communities at BCLRP and the human communities surrounding the site, further degrading habitat impacted by the loss of tidal influence. Addressing these concerns and ensuring the long-term sustainability of this wetland system calls for revisiting the design and engineering considerations of the site based on present operational knowledge and costs of operation. Consideration of current climate science will assist in identifying means of building climate resilience and operational efficiencies into the wetland complex.

The BCLRP site encompasses roughly 950 acres, approximately 600 of which have been restored. Approximately 350 more acres of the site may be restored once oil production at the site ceases. Management requirements for the site based on existing site design are unsustainable because they are cost-prohibitive and do not account for future climate change impacts. Now is an optimal moment to reconsider the original design and management objectives for the site based on a decade of monitoring and management data, current project function, and climate change future scenarios.

Purpose

The Bolsa Chica Land Trust (BCLT) is working in partnership with the BCLRP oversight committee to develop the Bolsa Chica Lowland Restoration Project: Sustainability Alternatives Study (Study). The purpose of this study is to re-evaluate the entire 950-acre restoration site, analyze ecological function and physical parameters, and incorporate scientific and engineering innovation to create a climate change resilient restoration enhancement plan that reduces the need for ongoing maintenance. BCLT and the oversight committee aim to enhance biological significance of these coastal wetlands with a design that works with the natural tendencies of the site.

Study Objectives

The identified objectives for this study are outlined below. The available resources for completion of this Study are limited to that derived from Proposition 1 funding. As such, not all of the objectives are anticipated to be equally addressable within the available funding. However, all of the objectives must be addressed to the extent funding is available. In some cases, the means by which some of the elements are addressed may be through the detailed articulation of a subsequent course of action including anticipated costs and outcome of the actions, as well as how the outcome of these actions would contribute to the overall objectives. The overall objective is to provide a preferred design alternative to current conditions that will minimize maintenance costs and maximize tidal exchange at the mouth of Bolsa Chica wetlands, while reducing project related flood risk.

The identified goals include:

- 1) Develop a conceptual model explaining the interactions of the significant components of the overall system infrastructure and wetland processes;
- 2) Evaluate potential future conditions and how those processes may affect future wetland function;
- 3) Identify potential alternatives to existing project design and management practices that, if implemented, will reduce costs of operation and long-term management, sustain wetland processes that support the mitigation credit values, and increase sustainability;

- 4) Conduct a risk analysis of wetland processes to adjacent neighborhoods and oil operations under current and projected future conditions;
- 5) Provide recommendations based on study analysis; and,
- 6) Prioritized action steps recommended to implement each design alternative, considering gross-estimated costs, identified in the Study.

Study Description

To achieve the objectives of the Bolsa Chica Lowlands Restoration Project: Sustainability Alternatives Study, the Bolsa Chica Land Trust and the BCLRP oversight committee developed a scope of work with the following components:

- 1) Conceptual understanding of the wetland system's overall infrastructure and processes that affect the sustainability of the site under current and projected future conditions – BCLT and the BCLRP oversight committee identified the need for an overall project system analysis of the BCLRP to guide enhanced restoration efforts and develop long-term sustainability alternatives for the Project site. The goal is to perform an analysis with a system-wide approach including but not limited to hydrology, engineering and infrastructure, erosion and berm stability (including consideration of project berm survey data), tidal inlet management, and associated risks to the adjacent neighborhood and on-site oil operator. This component will create comprehensive baseline documentation for the entire system which includes inlet dredging history, existing management practice records, existing project permits, engineering performance and repairs, performance standards for the whole system, consolidated monitoring data for groundwater, tidal elevations, flood/ebb shoal surveys, water quality, beach monitoring and ecological performance. This baseline information will inform subsequent objectives for the Study. The oversight committee has accumulated most of this data and will share the accumulated data, as-built plans and design basis report with the selected consultant. The role of the consultant will be to review the assembled data, organize the data into a format suitable to support the subsequent evaluation and planning phases of work, and identify and collect any data that has not been collected or made available that would be beneficial to the subsequent tasks. Should the consultant have available any additional data that would support or facilitate the work effort that may be beyond that which is provided by the oversight committee, the consultant should note this material and how it will benefit the overall Study needs.
- 2) Understanding of processes that affect the function of the wetlands under current and projected future conditions – Baseline data compiled through this study will help to identify and analyze the processes that influence the site's function under current operational conditions. This component will be expanded to include a consideration of the original design function and the anticipated function of the system under future conditions based on climate change projections and other relevant scientific data. Specifically, the system function under future conditions will contemplate two sea level rise (SLR) prediction time steps to be developed in conjunction with the BCLT and the oversight committee. Evaluating existing and future conditions will support development of success criteria for long-term management solutions that achieve enhanced habitat function, reduced long-term maintenance costs, and improved sustainability. Analysis will include hydrology and geomorphic conditions, engineering, biology/habitat, management costs assessments, and prior mitigation credit commitments in order to propose ecosystem enhancements that achieve equilibrium and minimize maintenance costs.

- 3) Development of sustainability alternatives to reduce long-term wetland preservation management costs and increase sustainability – This study will identify a suite of possible design and engineering alternatives and evaluate these against the specific set of success criteria developed through the analysis carried out in #2. An element of this task will be the participation in and presentation of alternatives and ideas at a value engineering type workshop to include outside experts in engineering, hydrology, biology, and related fields as well as the oversight committee and BCLT. The workshop will be held over 3 days at Bolsa Chica and is to be facilitated in order to evaluate ideas, raise new ideas, and add or subtract from relevant considerations in the alternatives considered. The timing of the workshop should be late enough in the concept development to have alternatives to consider, but early enough for meaningful input into direction and analysis of alternatives. Concept analysis includes evaluation and/or modeling feasibility, effect, and sustainability against current and future conditions and performance objectives. This component will add analyses of a carbon budget estimating carbon sequestered by each alternative and impact of SLR, using two-time step SLR models for each alternative. A roadmap for implementing a preferred alternative will be provided that includes an analysis of permitting needs, technical analyses using hydraulic modeling, and a cost estimate for design, environmental documentation, implementation, and maintenance of the alternatives. The level of alternative development and supporting analysis will be contingent on available funding. It is anticipated that alternatives will be presented by short descriptions, conceptual drawings and details, modeling results, and matrices of information supporting an assessment of the merits of each. In conjunction with the BCLT and the oversight committee, the preferred alternative or parts of multiple alternatives will be prepared at a sufficient level of detail to support further review and evaluation. Beyond the present Study, future action may require a greater level of Study detail, including for potential future CEQA review.
- 4) Risk analysis of wetland processes to adjacent neighborhoods and oil operations under current and projected future condition – Future modifications to this restoration site must incorporate measures designed to prevent wetland processes from imposing negative impacts to non-wetland land uses within and around the BCLRP. BCLT and the BCLRP oversight committee are concerned about flooding threats from increased groundwater pressure and the difficulty in moving water out of the system after a large storm event. Specifically, the system as designed was not engineered for current SLR and climate change scenarios and the BCLT and oversight committee would like to have a risk analyses performed to assist in identifying what measures may be required within the wetlands in preparation for climate change predictions. Further, the BCLT and BCLRP oversight committee would like to have existing risks examined and recommendations made to ameliorate these risks.
- 5) Identification of alternatives to existing project design and management practices - The Study will provide recommended modifications of existing design and/or management practices based on Study baseline data and sustainability alternatives analysis. The recommendations will be presented along with underpinning support including benefits and costs associated with each, including consideration of the reduction in costs of current operations.
- 6) Prioritized action steps to implement recommended sustainability alternatives identified in the Study – The Study will call out needed prioritization of actions to accomplish the sustainability alternative identified for the project. Several factors drive the prioritization process including,

environmental review, permitting needs, permitting timelines, overall implementation cost and phasing for large-scale actions. The Study will provide a roadmap for identifying and potentially implementing a preferred alternative to be recommended by the BCLT and the BCLRP oversight committee.

Request for a Proposal

The Bolsa Chica Land Trust is requesting proposals from firms that can successfully carry out the Sustainability Alternatives Study as described above. The selected firm will be required to: 1) attend a kick-off meeting to finalize Study objectives, scope of work, schedule, milestones, and future meeting dates; 2) Review and summarize baseline conditions to inform sustainability alternatives; 3) Develop a long-term sustainable management program based on a comprehensive system-wide analysis of the BCLRP. The program will employ a holistic approach to demonstrate how the various features of this system function together, evaluate the feasibility of various alternatives, and enable informed management of the BCLRP; 4) Attend a value engineering workshop with independent engineering firms and biologists conducted to generate additional ideas and solutions to existing issues; 5) Prepare an initial draft Study for review by BCLT and the BCLRP oversight committee; and, 6) Review and incorporate comments on the initial draft and prepare the final Study for submission to BCLT and BCLRP public agency partners. It is expected that at least five meetings with partners and stakeholders will be required during the process to develop the Study.

The proposal shall include the following information:

- 1) The qualifications of the proposed project team. Include both firm experience and MOST specifically the qualifications of the lead civil engineers, hydrologists and coastal engineers, geotechnical engineers, and scientists that will lead the effort. As this is a preliminary study effort, expertise and experience are critically important.
- 2) The proposed approach to completion of the work. Include discussion of any issues, insights, or considerations that will assist in differentiating the Study team from other competing teams.
- 3) The schedule for completing the work and how and where in the schedule, input and participation is expected from the BCLT and the oversight committee.
- 4) The deliverables proposed for the work effort.
- 5) The proposed budget with a detailed task breakdown by hours, staffing, rates, and budget allotment. For key personnel, it is expected that individuals will be identified and hours shown within the proposal. Note that the funding for the work requires that the selected consultant allocate funds across the tasks in a manner that provides the greatest value to the BCLRP. The distribution of funding to tasks will be considered along with the proposed approach to determine the best benefit to the BCLRP. Following selection of the consultant, it is anticipated that the scope and budget may be further negotiated.

The proposal shall not exceed 30 written pages excluding resumes of key personnel, any required forms, and a detailed cost proposal. All questions should be submitted via email to Kim@BCLandTrust.org by February 15, 2019. Proposals shall be sent via email and hard copy to:

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Applicants may be contacted for additional information during the proposal review period, March 2 - 29, 2019. The consultant will be chosen by or on April 1, 2019.

RFP Deadline: March 1, 2019