

## Species and Habitat Recovery Grant Application

Grant Application Form and required supplementary materials (hereafter referred to as “application”) cannot exceed 12 pages.

Applicant Name: Los Peñasquitos Lagoon Foundation (LPLF)

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Name of Property: Los Peñasquitos Lagoon (LPL)

General Location: N. Torrey Pines Road, part of the Torrey Pines State Natural Reserve

Jurisdiction: City of San Diego

Total Acres: 565 acres

Estimated Acres Requiring Management: 268 acres

Owner(s) of Property:<sup>1</sup> California State Parks (CSP) & City of San Diego - letters attached

Land manager(s) of property (include name[s]): Los Peñasquitos Lagoon Foundation (Mike Hastings = contact) and CA State Parks (Darren Smith = contact)

### Brief project summary that includes your primary goal and objectives. (200-word maximum)

The project will initiate containment and eradication of *Iris pseudacorus* within Los Peñasquitos Lagoon (LPL) and riparian corridor that extends into Los Peñasquitos Canyon Preserve (LPCP). Additionally, the project seeks to improve understanding of *I. pseudacorus* to better inform management decisions on local and regional scales through coordination/collaboration with Christine Whitcraft’s team from California State University, Long Beach (CSULB) who have been studying *I. pseudacorus* ecology, phenology, distribution, and impacts to habitat at LPL and LPCP since 2017. This will be achieved through the following:

1. Conduct literature review in coordination with CSULB scientists and other regional experts.
2. Perform site inspections to characterize and delineate extent of *I. pseudacorus* infestation.
3. Collaborate with CSP and CSULB scientists to develop a phased containment and eradication plan that considers approaches and methods used in other watersheds.
4. Initiate containment and eradication plan for *I. pseudacorus* within LPL and LPCP.
5. Minimize areas of brackish waters in LPL through inlet maintenance.
6. Collaborate with CSP and CSULB scientists to develop and implement a monitoring and maintenance program to track project success, support applied science, and ensure long-term success.
7. Summarize and share lessons learned and recommendations for effective management of *I. pseudacorus*.

Quantify expected results (add bullets as necessary)

- Development of an annotated bibliography for *I. pseudacorus* that includes research conducted in other regions (e.g., San Francisco Bay area), as well as performed in Los Peñasquitos Lagoon (LPL) and the riparian corridor that extends into Los Peñasquitos Canyon Preserve (LPCP).
- Summary report of findings from the literature review for *I. pseudacorus* to supplement the annotated bibliography to support academic research, applied science and management of Conserved Lands.
- Updated maps and GIS shapefiles to document and delineate the overall extent of *I. pseudacorus* infestation in LPL and the riparian corridor that extends into LPCP beyond the occurrences studied by CSULB.

- Development of a phased, comprehensive containment and eradication plan for *I. pseudacorus* in coordination with CSULB to improve understanding of this highly invasive species through applied science and adaptive management to help guide containment and eradication efforts on Conserved Lands across habitat types (marine, brackish, freshwater).
- Development of a monitoring and maintenance plan for *I. pseudacorus* for LPL and the riparian corridor that extends into LPCP.
- Support containment and eradication of *I. pseudacorus* through successful inlet maintenance to prevent prolonged inundation of the marsh plain by brackish waters due to daily inputs of nuisance freshwater flows entering LPL from its watershed
- Complete phase 1 of containment and eradication of occurrences of *I. pseudacorus* identified and studied by CSULB at LPL and within the riparian corridor that extends into LPCP.
- Five years of data from qualitative and quantitative monitoring efforts.
- Development of a summary report and scientific presentations of “lessons learned and knowledge gained” with regard to *I. pseudacorus* to provide guidance to researchers and land managers needing to develop and implement containment and eradication strategies for *I. pseudacorus* on local and regional scales.

**Brief description of dedicated staff and/or consultants/contractors that would work on the Project. (200-word maximum)**

Christine Whitcraft, Lead Professor/Scientist (CSULB). Since 2017, Christine and her team from CSULB have been conducting field research to assess ecology, phenology and impacts of *I. pseudacorus* on surrounding plant and invertebrate communities in LPL and its watershed, along with its capacity to impact marshes in a fresh, brackish, and marine habitats. Christine will help guide project planning, implementation, and monitoring.

Darren Smith, Project Oversight. Darren is a Senior Environmental Scientist at California State Parks and liaison to the San Diego Coast District as their Natural Resources and Planning Manager. Darren has an extensive background in restoration, protection, and maintenance of natural resources on State lands. Darren will provide oversight to ensure project success and long-term maintenance.

Shirley Innecken, Restoration Ecologist. Shirley has worked as a lead ecologist for the San Elijo Lagoon Conservancy and biologist for AECOM, RECON and the California Department of Water Resources. She has led several high-profile restoration projects in North San Diego County, including recent containment and eradication of *I. pseudacorus* along Reidy Creek in Escondido. Shirley currently works as a Project Manager and Restoration Ecologist at SWCA Environmental Consultants, and will serve as project lead for the planning, implementation and monitoring of project success.

## Funding Needs Summary

Please indicate how much funding is being requested from SANDAG and any matching funding proposed.

Budget Item	Requested Funding Amount	Description
Personnel Expenses Staff	\$105,500.00	Includes staff time for non-administrative work on the project
Personnel Administrative Expenses	\$38,500.00	Includes all staff time to administer the contract
Consultant/Contractor Expenses	\$54,000.00	Includes all costs for consultant/contractor services
Other Direct Expenses	\$3,650.00	Includes all equipment, supplies, mileage, etc.
<b>Total</b>	<b>\$201,650</b>	

*\*if applicable*

Are there matching fund available?  Yes  No

If yes, how are the matching funds assured? (100-word maximum)

\$40,000 in match is assured through in-kind services performed through CSULB Biological Sciences Department that will assist in mapping, monitoring, and products developed for the grant.

\$7,500 in match is assured through in-kind services provided by CSP who will perform a CEQA determination, provide Right of Entry permits, assist with Native American consultation and support eradication, monitoring and maintenance efforts conducted within the Lagoon.

\$150,000 in match is assured through in-kind services provided by LPLF's annual inlet maintenance program.

Please see attached letters.

## Project Application

### Project Purpose

Address the following in the application:

1. ***Describe the proposed management activity(ies) and how it relates to the Management Strategic Plan (MSP) for Conserved Lands in Western San Diego County. Is there current management occurring or has past management occurred on the property (please describe)? If the proposed management activity is based on the results from past field inspections of the species occurrence, describe the conditions and management needs identified and whether or not the data has been provided to the San Diego Management and Monitoring Program. If implementing fire management actions, describe the management technique being used and whether a fire plan currently exists.***

The proposed management activities include planning, phased implementation, and educational strategies to effectively address occurrences of *Iris pseudacorus* within LPL (MU 7) and portions of LPCP (MU 6) and foster an applied science approach to improve understanding of this highly invasive species through collaboration with scientists from CSULB. Planning strategies will involve review of current literature and approaches that have been successfully applied within nearby watersheds that

include the Escondido Creek Watershed. Field inspections will be conducted to better understand the context of each known occurrence of *I. pseudacorus* (e.g., hydrology, surrounding vegetation communities, biomass, etc.) and characterize the extent of infestation (e.g., distribution and density) within LPL and a riparian corridor that extends into LPCP (See **Figure 2**). Site descriptions and existing maps will be updated as needed using sub-meter GIS to delineate each known occurrence and to identify new ones in areas not investigated by CSULB. Planning strategies will be developed in collaboration with staff from CSP, scientists from CSULB and other experts studying *I. pseudacorus* to gain a better understanding of this highly invasive species and to improve the effectiveness of implementation strategies while minimizing potential impacts, such as unintended dispersal of rhizome or seeds that could lead to colonization of new areas. Using a phased approach, implementation strategies will consist of containment and eradication of known occurrences of *I. pseudacorus* identified and studied by CSULB. Additional occurrences of *I. pseudacorus* identified and delineated through field inspections and mapping will be prioritized for later phases to be pursued in subsequent EMP grant cycles or through other grant opportunities. Methods for containment and eradication will include applications of herbicide approved for use in aquatic environments followed by removal dead biomass. Removal of rhizomes will be considered to improve containment and eradication efforts on a case-by-case basis and in coordination with CSP and CSULB to ensure that this effort does not lead to colonization of *I. pseudacorus* in other areas of the lagoon and/or impact cultural resources through ground disturbance. Removal of *I. pseudacorus* will also be timed to remove plants before seeds drop to help contain this method of spread. Guided by the planning strategies and data collected by CSULB, implementation of the current and later phases of containment and eradication will follow an adaptive approach with “lessons learned” being integrated into the project’s educational strategies. Educational strategies will involve collaboration with CSULB scientists on their project, *Ecology and Impacts of Invasive Yellow Flag Iris in the Los Peñasquitos Lagoon Estuary*, to better understand ecology, growth and spread of *I. pseudacorus* under current conditions as well as emerging conditions influenced by climate change and projected sea-level rise. Initiated in 2017, CSULB’s ongoing project was designed to assess threats and impacts of *I. pseudacorus* on surrounding plant and invertebrate communities in LPL and its watershed, along with the capacity of *I. pseudacorus* to impact marshes in a range of habitats (fresh, brackish, marine). Currently, the project aims to examine and assess the reproductive success of *I. pseudacorus* through rhizomes and seeds, which can easily be transported by water due to their buoyancy and resiliency to higher salinity levels. Results from the CSULB study will be incorporated into a “lessons learned” summary and scientific presentations to help better inform and guide *I. pseudacorus* research, as well as containment and removal efforts in other coastal watersheds. Lessons learned will be shared via scientific presentations and management documents and meetings to interested land managers and scientists (e.g., Restore America’s Estuaries).

The proposed management activities support the MSP’s established Goals and Objectives for Threats (ALTHYD, CLICHN, INVPLA, and URBDEV), Vegetation\* (SALMAR), and Preserve System (PRESYS). The project also supports the Invasive Plant Strategic Plan (IPSP) by developing and implementing a phased approach that is informed and comprehensive in nature for the containment and eradication of this high-priority invasive species to protect Conserved Lands in Western San Diego County. Improving the understanding of *I. pseudacorus* and how to effectively manage it on both a local and regional scale also supports the IPSP and its ability to provide guidance to land managers throughout the State. Finally, the project will also be used to inform Capital Improvement Projects (CIPs) in areas that contain *I. pseudacorus* or contribute to its establishment in adjacent areas. CIPs currently in design include the managed retreat of the North Beach Parking Lot and floodway improvements in Sorrento Valley.

\* The project most likely would support Freshwater Marsh Goals and Objectives, which are not yet listed on the MSP Portal.



**Figure 2. Project Location Los Peñasquitos Lagoon  
Los Peñasquitos Lagoon Yellow Flag Iris Containment  
and Eradication Project  
Torrey Pines State Natural Reserve**

LPLF is proposing a phased approach to the containment and eradication of *I. pseudacorus* at LPL and LPCP due to aggressive nature of this highly invasive plant and its ability to recover from herbicide treatments and colonize new areas through seed and rhizome dispersal. The proposed project will be the initial phase and is expected to last 5 years to allow for multiple treatments and explore different approaches for containment and eradication with consideration to opportunities and constraints at each occurrence following guidance from CSULB scientist, who will oversee and study these efforts, and CSP staff.

CSP has attempted to manage the *I. pseudacorus* occurrence within LPL located near the North Beach Parking Lot through herbicide treatments that were applied during three consecutive months in 2018. However, recent field investigations indicate that this occurrence has returned and requires additional management efforts that exceed the capacity of CSP's invasive species management program. The proposed project will provide a phased, systematic approach to eradicate the occurrence near the North Beach Parking Lot combined with containment and eradication of known occurrences located in the upper marsh and a key riparian corridor. The occurrences of *I. pseudacorus* identified and studied by CSULB scientists only represent a small percentage of *I. pseudacorus* populations within the proposed project area since their research focused on observing this invasive plant in different salinity

ranges rather than locating and delineating the entire extend of infestation and developing management strategies for containment and eradication. Data from CSP and CSULB's efforts have not yet been provided to the San Diego Management and Monitoring Program.

- 2. Which MSP species and their habitats will benefit from the proposed management activity? Which specific MSP objective(s) and action(s) will be implemented? Name the specific MSP species occurrence(s) to benefit from the management activity, if applicable.** The following MSP species and their habitats will benefit:

**Light-footed Ridgway's Rail (LFRR [SO])**. Restoring and enhancing salt marsh (SALMAR) and transitional habitats to improve and expand foraging and refugium habitat for LFRR aligns with the MSP goal to support the creation of resilient and self-sustaining populations over the long-term at LPL in and within the region and supports current captive rearing and release efforts for LFRR (RALOBS-1) at LPL and related monitoring efforts (RALOBS-2) for MU 7. Since access to LPL is restricted due to its status as a State Preserve, management activities such as fencing and signage (RALOBS-3) are not practical.

**Least Bell's Vireo (LBV [SO])**. Enhancement of the riparian corridor connecting LPL to LPCP through removal of *I. pseudacorus* to support LBV by expanding areas of potential nesting and foraging habitat (VIRBEL-3) by facilitating the re-establishment of native riparian vegetation (e.g., *Baccharis salicifolia*) to improve opportunities for LBV recruitment. While LBV is present in the riparian corridor that extends from LPL into LPCP, nesting pairs have not been observed during monitoring efforts for this listed species.

**Belding's Savannah Sparrow (BSS [VF])**. Restoring and enhancing salt marsh (SALMAR) through invasive species management will support existing nesting territories and potentially create new ones within and adjacent to the proposed project site by expanding areas of high salt marsh, as well as improving habitat for foraging and refugium in MU 7. While there are no current management objectives in the MSP for BSS, the proposed management activities will support the implementation of monitoring (PASSAN-1) and habitat and threat assessments efforts (PASSAN-2), especially near the North Beach Parking Lot and upper lagoon.

**Wandering Skipper (WS), VF**. Removal of *I. pseudacorus* in salt marsh (SALMAR) and transitional areas near the North Beach Parking Lot to allow natural recruitment of *Distichlis spicata* (salt grass) to provide additional breeding habitat for WS and support the further development and implementation of the long-term WS Monitoring Plan (PANERR-1) in MU 7.

- 3. To be eligible for funding, the proposed project must be within the MSP area. In which Management Unit is the project located? (Attach a map)** The project is located within MU 7 (LPL) and MU 6 (LPCP). Please see attached map.

- 4. Describe the stressors and/or threats to the MSP species and their habitats in the project area that will be addressed through implementation of this project application.** The following stressors/threats to MSP species and their habitats will be addressed through the implementation of the proposed project:

**Altered Hydrology (ALTHYD)**. The proposed project will address ALTHYD through annual inlet maintenance to restore and maintain tidal connectivity within lagoon channels and reduce periods of inundation from storm events and nuisance flows of freshwater that enter LPL on a daily basis. During extended inlet closures, water levels rise above channel banks and inundate the marsh plain with brackish waters, facilitating the colonization and establishment of invasive species that displace of native halophytes due to reduced salinity levels. Conducting inlet maintenance will support the proposed project by effectively limiting the ability of *I. pseudacorus* to colonize adjacent areas and to reduce total biomass by limiting periods of inundation and reducing the extent and reach of brackish waters within the LPL. In addition, the project will address ALTHYD through removing *I. pseudacorus* from natural drainages and channels where it occludes flows due to its concentrated biomass and reduces soil moisture due to its ability to uptake water at rates higher than native plant species. Lastly, ALTHYD will be addressed

through a complimentary project that will redesign the North Beach Parking Lot and relocate its storm water facilities to redirect storm runoff away from the occurrence of *I. pseudacorus* that currently resides below an existing storm water outfall in the area adjacent to this parking lot.

**Climate Change (CLICHN).** The proposed project will help make LPL more resilient to CLICHN through restoring and maintaining tidal connectivity through mechanized inlet maintenance and invasive management that focuses on initiating containment and eradication of *I. pseudacorus*, a highly invasive plant that can impair ecologic integrity of wetland systems and drainages, and laying out needs, strategies and timing of later phases. The proposed project's applied research component (Education Strategy) will help to inform land managers and scientists about the ecology, growth and spread of *I. pseudacorus* within the context of CLICHN that includes projected sea-level rise and storm events that may occur with more frequency and intensity.

**Invasive Plants (INVPLA).** The proposed project will address INVPLA through the development and implementation of a phased containment and eradication plan for occurrences of *I. pseudacorus*. This supports the IPSP which has identifies *I. pseudacorus* as a Management Level 2, High Priority invasive species with eradication as a goal. Long-term success will be addressed through the phasing of source control efforts to contain and eradicate upstream occurrences of *I. pseudacorus* within a riparian corridor that extends into LPCP and subsequent phases designed to contain and eradicate occurrences outside of the scope of this project. The project's Education Component developed in collaboration scientists from CSULB will support the IPSP through the collection and sharing of data sets generated by the project's monitoring program and "lessons learned" during project implementation to support adaptive management approaches for containment and eradication of occurrences of *I. pseudacorus* within coastal watersheds. INVPLA will also be addressed proactively by the project's ability to inform design and implementation of capital improvement projects to reduce the ability of *I. pseudacorus* to become established through re-introduction or modified hydrology that creates environments conducive to its growth. Capital improvement projects currently in design within and adjacent to LPL include: re-design and managed retreat of the North Beach Parking Lot; riparian enhancements and floodway management improvements currently in design for Sorrento Creek and its confluence with Los Peñasquitos Creek; and periodic channel maintenance conducted by the City of San Diego within Sorrento Valley flood channel that removes existing vegetation prior to sediment removal efforts.

The proposed project will also support the IPSP through the removal of stands of *Coraderia selloana* located adjacent to occurrences of *I. pseudacorus*. *C. selloana* is identified as a Management Level 3, High Priority invasive species in the ISPS. Removal of *C. selloana* will be needed to access areas within the riparian corridor that contain occurrences of *I. pseudacorus*.

**Urban Development (URBDEV).** Urban development within LPL and its watershed has resulted in the Lagoon and its floodplain becoming a managed system that requires assistance to address modified hydrology, protection and enhancement of existing native habitats, management of invasive species, and recovery of native species and habitats that have been historically present but lost over the past decades. The proposed project will address URBDEV through annual inlet maintenance, as well as initiating the phased containment and eradication of occurrences of *I. pseudacorus* to support the resiliency of MSP species and other natives that depend on salt marsh, freshwater marsh, and riparian habitats. The project will also improve the understanding of urban edge effects and related impacts on Conserved Lands and provide guidance to land managers through the project's Education Component.

5. ***Describe the management techniques proposed, including whether they have been previously used successfully and where. Are there any negative effects to MSP and other sensitive species and their habitats that could result from the proposed management action?*** Following field inspections of *I. pseudacorus* occurrences, a phased containment and eradication plan will be developed and implemented in collaboration with CSP and CSULB scientists with consideration to approaches and

methods used in other coastal watersheds, as well as opportunities and constraints that may exist at each location within LPL and LPCP. Herbicide treatments will be administered followed by removal of dead biomass and, potentially, rhizomes. Efforts will be taken to avoid broadcasting of seeds and/or rhizomes beyond the area of treatment to prevent re-establishment or colonization of *I. pseudacorus* in adjacent areas or downstream. The proposed management actions may cause temporary impacts related to the staging and removal of dead biomass and minor excavation to retrieve rhizomes. However, temporary impacts will be offset through the enhancement of native habitats that support MSP species. Avian monitoring will coincide with containment and eradication efforts to avoid impacts to listed species and potential disturbances during nesting season. Cultural monitoring will be performed during ground disturbance efforts pursuant to Native American Consultation requirements.

6. **What strategic approach will be used to ensure the successful, long-term outcome of the proposed project (e.g. upstream exotic removal prior to downstream, future on-going maintenance)? Which adjacent conserved lands will not be included and why?** Long-term success will be ensured through strategic, phased approaches that include: identification and characterization of the extent of infestation by *I. pseudacorus*; upstream source control efforts within a riparian corridor that extends from LPL into LPCP; annual inlet maintenance funded in perpetuity through an endowment; and the project's educational strategies developed in collaboration CSULB that will be used to develop and support the use of applied science to inform and guide adaptive management approaches for containment and eradication of occurrences of *I. pseudacorus* within coastal watersheds. In addition, results from the project's implementation and educational strategies will help inform design and implementation of capital improvement projects near LPL to prevent colonization and establishment of *I. pseudacorus* due to the unintentional dispersal of rhizomes and seeds and/or hydrologic modifications that create environments conducive to *I. pseudacorus* colonization and establishment.
7. **What are the goals and objectives for the proposed project? What criteria/metrics will be used to measure success? If applicable, what quantitative monitoring data will be collected to evaluate success? Who will be collecting the monitoring data and what are their qualifications?**

**Project Goal:** The project will contain and eradicate *I. pseudacorus* through the development and implementation of a phased approach to comprehensively address infestation of this highly invasive species within LPL and the riparian corridor that extends into LPCP. Additionally, the project seeks to improve understanding of *I. pseudacorus* to the support academic research and applied science needed to inform adaptive management on both a local and regional scale. This will occur through coordination and collaboration with Christine Whitcraft's team from CSLUB who have been studying *I. pseudacorus* ecology, phenology, distribution, and impacts to habitat at LPL and LPCP since 2017.

**Project Objectives:**

1. Conduct literature review in coordination with CSULB scientists.
2. Perform site inspections to characterize and delineate *I. pseudacorus* occurrences and the extent of its infestation within LPL and LPCP.
3. Collaborate with CSP and CSULB scientist to develop a phased containment and eradication plan that considers approaches and methods used in other coastal watersheds.
4. Initiate (Phase 1) containment and eradication plan for *I. pseudacorus* within LPL and LPCP.
5. Minimize areas of brackish waters in LPL through inlet maintenance.
6. Collaborate with CSP staff and CSULB scientists to develop and implement a monitoring and maintenance program to track project success, support applied science, and ensure long-term success.
7. Summarize and share lessons learned and recommendations for effective management of *I. pseudacorus* through scientific presentations, management documents, and meetings with scientists and land managers.

**Criteria/Metrics for Success:**

Success metrics will include percent of plant population successfully removed on an annual basis as well as minimal damage to surrounding native plant communities, as measured through percent cover.

**Monitoring & Data Collection:**

Data on plant cover will be collected through landscape scale imagery analysis and percent cover/individual counts on a smaller scale. These data can be compared immediately pre- and post-treatment of *I. pseudacorus* and to prior data collected from 2017 onwards by CSULB.

Dr. Christine Whitcraft (CSULB) has over 20 years of experience and a publication record as a wetlands biologist and has extensive experience restoring and monitoring large-scale wetland restoration projects in southern CA with a specific focus on invasive species. The CSULB team will include various graduate and undergraduate students who are trained in wetland ecology. Specifically, Anita Arenas (2<sup>nd</sup> year M.S. student) will be assisting with field work. Anita is an ecologist with 8 years of experience as a wetland ecologist and 2 years as an environmental ecologist. Her knowledge includes ecological restoration, biological monitoring, bird surveys, bird identification, monitoring sensitive bird species, invertebrate identification, fish seining and identification, mitigation management projects, maintaining wetlands and wetland research in Southern California.

- 8. *How will the applicant manage the data collected? What software will be used to house the data? Who will be responsible for compiling and transferring the data to SANDAG? Who will be preparing the required quarterly, final, and all other reports?***

During the course of the proposed work, the PIs and associated students will generate a large amount of data on plant phenology, population locations, associated invertebrate and fish communities, sediment, and abiotic parameters of the sites being studied. In addition, the participants in the grant will generate data on the costs of eradication and monitoring. All in-field data sheets will be photographed, scanned into pdfs, and the data from the field sheets will be entered in Excel or similar data curation software. All photos will be labeled with date and location as well as other needed metadata. Excel files will be converted to flat-file text formats (i.e., comma-separated value .csv files) for archiving. The data discussed above will be stored electronically in four secure locations: 1) the hard drive of the PIs' primary computers, 2) the hard drive of the graduate students' primary computers, 3) an external hard drive stored in the PIs' laboratory (as a backup) and 4) on a remote online backup plan (e.g., Google Drive, One Drive, or Crash Plan). These data may be accessed by collaborators, students, and property owners via a virtual private network (VPN). The data collected in this grant can be stored indefinitely in each of these four locations and can be archived further as space is needed.

- 9. *Has the proposed project received TransNet Environmental Mitigation Program (EMP) funds previously? If so, what was accomplished with the funds and why are additional funds being requested?*** No
- 10. *Is the proposed activity being done on land that was previously set aside as mitigation? If yes, please elaborate.*** No
- 11. *Does the proposed project provide a co-benefit to CBO Network Communities and foster social equity? Please describe. Additional Points can be awarded if this is relevant to the project and is appropriately described to meet the qualifications listed in the call for projects.*** Yes, the project will provide a co-benefit to CBO Network Communities and foster social equity through the use of Urban Corps to assist in invasive species management and removal dead plant biomass from the project site. Should the proposed project receive funding, LPLF will reach out to the San Diego office of Urban Corps to request their availability.

### Scope of Work by Task

Please break down the application into discrete tasks and include a task name, description of each task, quantifiable expected results, and discrete deliverables for each task.

*Note: make sure to list tasks for quarterly reporting on the status of the grant project and a final report on the outcome of the grant project. You may add or subtract rows as needed.*

#### Exhibit A – Proposed Project Scope of Work

Task No.	Task Name	Task Description	Quantifiable Results/Deliverables
1.	Project & Fiscal Management	Management and coordination of project activities, contracting, scheduling and invoicing.	Invoices, Sub-Contractor Procurement, Contract(s)
2.	CEQA & Permits	Secure CEQA and Right of Entry (ROE) Permits.	CEQA Determination & ROE Permits
3.	Cultural Records Search, Consultation & Monitoring	Conduct cultural records search and Native American Consultation. Conduct cultural monitoring as determined by Native American Consultation and Landowner policy.	Records Search Results; Documentation of Native American Consultation; Cultural Monitoring Sign-In Sheet
4.	Literature Review	Conduct literature review and site inspections in collaboration with CSP and CSULB project partners.	Annotated Bibliography with summary of results from literature review
5.	Site Inspections & Mapping	Conduct site inspections and delineate the extent of <i>I. pseudacorus</i> at LPL and LPCP.	Site characterizations and maps with delineations of <i>I. pseudacorus</i> occurrences in LPL and LPCP (Tech Memo)
6.	Containment and Eradication Plan	Collaborate with CSP and CSULB to develop a phased containment and eradication plan <i>I. pseudacorus</i> .	Containment and Eradication Plan
7.	Invasives Removal	Initiate containment and eradication of <i>I. pseudacorus</i> . (Phase 1).	Summary of actions taken and photo-documentation (Tech Memo)
8.	Lagoon Inlet Maintenance	Conduct annual inlet maintenance during the spring to ensure tidal connectivity and minimize the extent of inundation of brackish waters in LPL.	Project Summary Report
9.	Monitoring	Collaborate with CSP, CSULB scientists and LPLF's biological monitoring team to develop and implement a monitoring and maintenance plan to track project progress and success, as well as maintain project benefits through the long term.	Monitoring Plan & Reports
10.	Geographic Information Systems	Develop and manage GIS for mapping and data storage.	Maps in GIS format
11.	Quarterly Reporting	Prepare and submit quarterly reports on the status of the project.	Quarterly Reports
12.	Final Reporting	Prepare and submit a Final Report on the outcome of the project.	Final Report

Budget by Task

Exhibit B – Proposed Project Budget

Task No.	Task Name	Year 1 Grant Request	Year 1 Matching Funds	Year 2 Grant Request	Year 2 Matching Funds	Year 3 Grant Request	Year 3 Matching Funds	Year 4 Grant Request	Year 4 Matching Funds	Year 5 Grant Request	Year 5 Matching Funds	Total Grant Request	Total Matching Funds	Total Projects Cost
1	Project & Fiscal Management	\$9,000	\$0	\$7,500	\$0	\$7,500	\$0	\$8,000	\$0	\$6,500	\$0	\$38,500	\$0	\$38,500
2	CEQA & Permits	\$0	\$2,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,500	\$2,500
3	Cultural Records Search, Consultation & Monitoring	\$1,000	\$500	\$2,000	\$0	\$2,000	\$0	\$0	\$0	\$0	\$0	\$5,000	\$500	\$5,500
4	Literature Review	\$750	\$500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$750	\$500	\$1,250
5	Site Inspections & Mapping	\$5,000	\$2,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000	\$2,500	\$7,500
6	Containment & Eradication Plan	\$3,000	\$4,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,000	\$4,500	\$7,500
7	Invasives Removal	\$6,000	\$500	\$22,000	\$1,000	\$17,000	\$1,000	\$9,000	\$0	\$0	\$0	\$54,000	\$2,500	\$56,500
8	Lagoon Inlet Maintenance	\$0	\$30,000	\$0	\$30,000	\$0	\$30,000	\$0	\$30,000	\$0	\$30,000	\$0	\$150,000	\$150,000
9	Monitoring	\$3,500	\$2,000	\$13,200	\$7,500	\$13,200	\$7,500	\$13,200	\$7,500	\$13,200	\$7,500	\$56,300	\$32,000	\$88,300
10	Geographic Information Systems	\$1,100	\$0	\$1,100	\$0	\$1,100	\$0	\$1,100	\$0	\$1,100	\$0	\$5,500	\$0	\$5,500
11	Quarterly Reporting	\$5,760	\$0	\$5,760	\$0	\$5,760	\$0	\$5,760	\$0	\$5,760	\$0	\$28,800	\$0	\$28,800
12	Final Report	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,800	\$2,500	\$4,800	\$2,500	\$7,300
<b>Subtotal</b>		<b>\$35,110</b>	<b>\$43,000</b>	<b>\$51,560</b>	<b>\$38,500</b>	<b>\$46,560</b>	<b>\$38,500</b>	<b>\$37,060</b>	<b>\$37,500</b>	<b>\$31,360</b>	<b>\$40,000</b>	<b>\$201,650</b>	<b>\$197,500</b>	<b>\$399,150</b>
<b>Total</b>			<b>\$78,110</b>		<b>\$90,060</b>		<b>\$85,060</b>		<b>\$74,560</b>		<b>\$71,360</b>			
<b>Percentage</b>			<b>55%</b>		<b>43%</b>		<b>45%</b>		<b>50%</b>		<b>56%</b>		<b>98%</b>	

## Project Schedule

Please include start and end dates relative to the anticipated Notice to Proceed (assumes fall 2022) for each task described in the Scope of Work (Section B above). Please list tasks for quarterly reporting on the status of the grant project and a final report on the outcome of the grant project. You may add or subtract rows as needed.

**Exhibit C – Proposed Project Schedule (Assumes fall 2022 Notice to Proceed [NTP])**

Task No.	Task Name	Proposed Start Date <sup>1</sup>	Months Needed to Complete Task	Task End Date
1.	Project & Fiscal Management	At NTP	60 Months	11/2/2027
2.	CEQA & Permits	1 Month from NTP	2 Months	1/2/2023
3.	Cultural Records Search, Consultation & Monitoring	1 Months from NTP	1 Month	12/1/2022
4.	Literature Review	1 Months from NTP	1 Month	12/1/2022
5.	Site Inspections & Mapping	1 Months from NTP	3 Months	3/1/2023
6.	Containment and Eradication Plan	4 Months from NTP	3 Months	5/1/2023
7.	Invasives Removal (Phase 1)	8 Months from NTP	56 Months	8/3/2027
8.	Lagoon Inlet Maintenance	6 Months from NTP	3 Months (per openings) <sup>2</sup>	6/30/2027
9.	Monitoring	3 Months from NTP	57 Months	9/1/2027
10.	Geographic Information	3 Months from NTP	57 Months	9/1/2027
11.	Quarterly Reporting	2 Months from NTP	1 Month (per report)	9/1/2027
12.	Final Reporting	57 Months from NTP	2 Months	10/2/2027

<sup>1</sup> Assumes start date of November 1, 2022.

<sup>2</sup> Includes time needed to prepare and finalize summary reporting.

***Please explain why and how much additional time would be needed in the event of any delays due to NTP being provided beyond fall 2022 and/or unexpected weather conditions such as drought that could occur during the proposed project implementation.*** The project was developed into phases since containment and eradication of *I. pseudacorus* in LPL and LPCP will most likely take additional years beyond the life of this grant to completely eradicate this highly invasive and resilient species. The proposed project would constitute the initial phase and is designed to be a 5-year project. Delays in issuing the NTP may result potential delays in treatment and removal to avoid broadcasting of seeds.

**Notice Regarding Prevailing Wages**

California law requires that public works projects pay prevailing wages for workers.

Applicant acknowledges that any work that qualifies as a "public work" within the meaning of California Labor Code Section 1720 shall cause Applicant and its subcontractors to comply with the provisions of California Labor Code Sections 1775 et seq, which includes the payment of prevailing wages to all workers performing prevailing wage work.

Yes  No

Applicant acknowledges that if Applicant or its subcontractors will engage in the performance of a public work as defined by California Labor Code Sections 1720 et seq. and will utilize persons who are not employees of a public entity, registration and payment of an annual registration fee to the California Department of Industrial Relations (DIR) shall be required of each entity performing the work. This requirement applies to anyone affected by the public works statutes found in the California Labor Code, including but not limited to landscapers, fencers, surveyors, soil testers, dredgers, heavy equipment operators, and inspectors.

Yes  No

Applicant acknowledges that if Applicant will award any subcontracts for the performance of a public work:

Applicant shall notify SANDAG 30 calendar days prior to the award of each subcontract so SANDAG can create a Project Registration Form (aka PWC-100 form) for each subcontract using the DIR online database. Applicant will provide to SANDAG the name, DIR registration number, and contractor's license numbers of each subcontractor so SANDAG can verify, prior to Applicant's award of the subcontract for a public work, that the selected subcontractor is currently licensed and registered with the DIR. If SANDAG finds that the selected subcontractor is not licensed and registered with the DIR, SANDAG will promptly notify Applicant and Applicant will not be permitted to award the subcontract to the selected subcontractor.

Yes  No

Applicant shall notify SANDAG ten business days prior to the subcontractor performing the prevailing wage work so SANDAG can prepare for labor compliance monitoring.

Yes  No

If there are any changes to a subcontractor or lower-tier subcontractor, Applicant will advise SANDAG of these changes as soon as those changes are known to the Applicant.

Yes  No

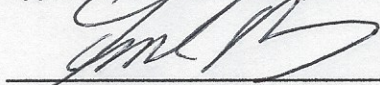
### Required Statements from Applicant

- | Yes                                 | No                       |   |
|-------------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | The applicant has read and understands the Sample Grant Agreement (Agreement) and Invoice Template (Attachment 4).  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | If the Board of Directors approves the proposed project application, the applicant agrees to sign and return the Agreement to SANDAG, without exceptions or amendments, within 45 days of receipt.  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | The applicant agrees to comply with SANDAG's Board Policy No. 035, Competitive Grant Program Procedures, which outlines "Use-it-or-lose-it" project milestone and completion deadlines. Board Policy No. 035 is included in the Agreement, and also is on SANDAG's website at:<br><a href="http://sandag.org/organization/about/pubs/policy_035.pdf">sandag.org/organization/about/pubs/policy_035.pdf</a>  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | The applicant understands that 10% of all invoiced amounts will be retained until the completion of the proposed project.   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | The applicant understands that for proposed projects with matching funds, retention will be withheld beyond the 10% retention for each invoice submittal that does not meet the proportionate matching funds requirement. These additional matching funds will not be released until proportionate matching funds are reached for the project to-date.  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | The applicant understands that all invoices must be accompanied by written, documented support of the charges for requested reimbursement of grant funds and payment will not be made by SANDAG until all documents are satisfactorily submitted.   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | The applicant understands that invoices and reports must be submitted on a quarterly basis within three weeks after each period close covering January 1 to March 31; April 1 to June 30; July 1 to September 30; and October 1 to December 31.   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | The applicant understands that the EMP quarterly report template (to be sent to the grantee after NTP is issued and can be found at <a href="http://sandag.org/index.asp?classid=17&amp;projectid=447&amp;fuseaction=projects.detail">sandag.org/index.asp?classid=17&amp;projectid=447&amp;fuseaction=projects.detail</a> ) must be used to document quarterly progress and that invoices with errors will be returned to the grantee for correction prior to being processed by SANDAG staff.   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | The applicant understands that the final invoice must be accompanied by written, documented support of the charges for requested reimbursement of grant funds; a final report (prepared in accordance with the final report template to be sent to grantee after NTP is issued and can be found at <a href="http://sandag.org/index.asp?classid=17&amp;projectid=447&amp;fuseaction=projects.detail">sandag.org/index.asp?classid=17&amp;projectid=447&amp;fuseaction=projects.detail</a> ); and all outstanding deliverables in order to receive final payment and have retained funds released. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | The applicant understands that to be considered eligible for funding, a resolution complying with the requirements of Board Policy No. 035, Section 4.1, must be submitted to SANDAG at least <i>two weeks</i> prior to the recommendation by the Regional Planning Committee of the list of prioritized project applications. SANDAG will provide applicants with advance notice of the Regional Planning Committee's anticipated meeting date.  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | The applicant agrees to submit all project data/information to SANDAG and to upload data and reports to a project page created by the applicant on the SDMMMP web portal in a format consistent with regional management databases.   |

I have the authorization to submit this application (Grant Application and required supplementary materials) on behalf of my organization.

Frank Belock, LPLF Vice-Chair

Applicant Name and Title (print or type)



Applicant Signature

1-27-22

Date



Figure 1. Project Location  
 Los Peñasquitos Lagoon Yellow Flag Iris  
 Containment and Eradication Project  
 Torrey Pines State Natural Reserve



Figure 2. Project Location Los Peñasquitos Lagoon  
 Los Peñasquitos Lagoon Yellow Flag Iris Containment  
 and Eradication Project  
 Torrey Pines State Natural Reserve



Map of Project Vicinity (Figure 1) and Project Location (Figure 2). California State Parks 2022.