CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

REVISED PROJECT APPLICATION FORM

Name of Project: San Dieguito River Invasive Plant Removal and Restoration

Project Applicant: San Dieguito River Park Joint Powers Authority

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REQUIRED INFORMATION

Applications that do not contain a discussion regarding each of the following items will not be considered for inclusion. If the item is included in a detailed supplemental report, please include the report and indicate where the information is located.

ADDITIONAL INFORMATION

Please provide additional information that addresses any of the items on the Application Checklist if it applies to your project. This information will be used for project ranking on the SEP/ECA List. Responses can be provided on separate/additional paper or, if the item is included in a detailed supplemental report, please include the report and indicate where the information is located.

Please see responses on attached sheets.

ATTACHMENT: REQUIRED AND ADDITIONAL INFORMATION
San Dieguito River Invasive Species Removal and Restoration
SEP/ECA List Proposed Project

REQUIRED INFORMATION:

Problem Statement:

Invasive plant species persist throughout the riparian corridor of the San Dieguito River that flows through San Pasqual Valley and into Lake Hodges, a Drinking Water Reservoir serving parts of San Diego (Figure 1). San Pasqual Valley is underlain by the San Pasqual Groundwater Basin and is immediately upstream of Hodges Reservoir. Invasive plants include tamarisk (*Tamarix ramosissima*) and eucalyptus that crowd out native plants, use excessive amounts of water, and contribute to reduce water quality. In cooperation with other entities and partners, focused efforts have been made to reduce the number of invasive species in the San Pasqual Valley recognized as an ongoing problem that requires sustained effort. Although the San Dieguito River has benefited from previous non-native plant removal and treatment projects including herbicide treatment of perennial pepperweed (*Lepidium latifolium)* and *Arundo donax*, other non-native species continue to encroach jeopardizing the success of these treatment efforts.

Work Plan

San Pasqual Valley is within the 7,405-acre San Pasqual Valley Weed Management Area (WMA). The Work Plan for this proposal implements weed control and treatment in accordance with the San Pasqual Valley Integrated Weed Management Plan (IWMP), which was developed by the City of San Diego Public Utilities Department as an adaptive, comprehensive plan that locates, identifies, quantifies, prioritizes, and provides recommendations for invasive weed species management within the San Pasqual Valley WMA. The IWMP estimated a total of 523 acres of non-native species in the WMA with the primary species being tamarisk (82%) and eucalyptus (8%).

The focus of this project is to eliminate/reduce the two most invasive and prevalent species in the WMA riparian corridor. The Work Plan will be refined when the timing and amount of SEP funding is known. The work area is divided into two main river reaches: Interstate 15 upstream of Lake Hodges to Ysabel Creek Road, and from Ysabel Creek Road to the end of City ownership at the east end of San Pasqual Valley. The invasive species and restoration work under this project would be conducted through the following tasks.

Task 1: Mapping/Scope Refinement. Identify priority reaches of riparian corridor for herbicide treatment, biomass removal and restoration. Update priority mapping. GIS mapping will utilize information produced in 2012 for the IWMP and updated in 2015 for certain species. Depending on the amount of funds available through the SEP program, priority areas will be quantified and mapped and verified in the field. Deliverables: Map and quantity (by acre) of priority areas for treatment and restoration.

Task 2: Invasive Species Treatment and Removal: This task will be tailored depending on the funding amount and timing. Conduct treatment methods as outlined in the IWMP including herbicide application and biomass removal (where appropriate). Work will consist of cutting down eucalyptus and palm trees (to stumps) and treating stumps with herbicide to prevent regrowth. Some large individuals will be drilled, injected with herbicide and left standing as snags. Smaller trees will be removed. Insured local habitat restoration companies and/or professional tree services will do the bulk of the restoration work. Crews from California Conservation Corp and Urban Corp supervised by JPA Park Rangers may also be utilized as appropriate. All herbicide treatments will be done by trained and certified herbicidists.

All treatment and biomass removal will be done following the measures specified in the IWMP and existing regulatory permits (see "Permitting Requirements" section below). An herbicide such as Garlon4 will be used to treat cut eucalyptus stumps to prevent regrowth. Palms will be cut below the green line close to the ground, which will kill the tree without the need for chemical treatment. Trees to be killed and left in place will be drilled and treated with Garlon4. Re-sprouts and seedlings may be sprayed with glyphosate (e.g. "Roundup"). If standing water is present, a water safe herbicide (e.g. "Aquamaster" or "Rodeo") will be used in the same manner. No impacts to wildlife are anticipated due to the seasonal restrictions and manner of herbicide application. Deliverables: Digital maps and photo documentation of work areas.

Task 3: Restoration. Large bare areas would be restored and/or enhanced with native restoration consistent with recommendations in the IWMP. Planting should be timed from fall to early spring to take advantage of seasonal rainfall. Seed mix and container plants will be utilized in restoration areas as identified in the IWMP including willow poles and mule fat. Supplemental watering may be needed, but will be done by water truck and only for two or three cycles. The goal is to assist native plantings in becoming established enough to survive through the summer and fall of the first year. Deliverables: Digital maps and photo documentation of restoration areas.

Task 4: Maintenance. Each area where invasive plants have been controlled requires monitoring to determine the need for follow-up treatment. The timing of monitoring will depend on the species treated, time of year, and treatment method. Plants treated in the

growth season should be checked 1 to 2 months after treatment to determine effectiveness and look for new growth. Plants treated in the fall months won't generally need to be checked until the following spring when growth begins. If plants are treated in late summer or early fall, however, they should be checked within a month or so to determine effectiveness and look for new growth that should be treated.

The project includes one year of maintenance of newly planted restoration areas.

Task 5: Reporting. The JPA's Streambed permit requires that an annual report of activities be submitted. A report will be prepared and GIS maps showing treated areas and species by acres removed, treated, and re-treated; disposal specifics; and restoration details. GIS maps/files and photos from designated photo viewpoints will also be included in the report. Deliverables: Reports and photo documentation.

Proposed General Timeline

Milestone/Task	Start	End
Task 1: Mapping/Scope Refine	SEP Funding approval	6 weeks
Task 2: Treatment/Removal	Completion of Task 1	12-24 months
Task 3: Restoration	During/after Task 2	12-24 months
Task 4: Maintenance	Completion of Task 3	12 months
Task 5: Reporting	Completion of Task 3/4	8 weeks

Estimated Budget

The budget for this project will be influenced by the site conditions present when SEP funding is known. Once the amount of funding is provided, priority areas will be identified per Task 1 which will influence the final budget. In addition, quotes from contractors based on specific site areas and conditions will be obtained in Task 1 which will determine how many acres of invasive species treatment can be accomplished. This budget represents treatment and removal of eucalyptus and tamarisk within the highest priority areas of the IWMP area. The areas would be prioritized and the budget would be refined when the amount and timing of SEP funding is known.

Estimated Budget for IWMP priority work areas:

Task	Estimated Cost
Task 1: Mapping/Scope refinement	$7,640
Task 2: Treatment/Removal	$166,840
Task 3: Restoration (20 acres)	$79,340
Task 4: Maintenance (watering one year)	$22,680
Task 5: Reporting	$4,600
TOTAL	$281,100

Discuss all permitting requirements, including CEQA, and their status.

All required permits have already been obtained by the JPA and are in place for this work. The San Dieguito River Park JPA certified a CEQA Mitigated Negative Declaration in 2009 for the "*San Dieguito Watershed Invasive Species Control Program*", which covers invasive plant species treatment and removal throughout the watershed in accordance with the measures outlined in the MND. In addition, the JPA holds active permits from the U.S. Fish and Wildlife Service and the California Department of Fish & Wildlife (expires 2019, with the option for one extension) for this work. These permits and approvals have been successfully used for the treatment and removal of eucalyptus downstream of Lake Hodges Dam and for arundo removal in San Pasqual Valley.

Watershed affected:

San Dieguito

Describe if this project can be a basis for additional funding from other sources.

This project could be a basis for additional funding from other sources to expand the work area further downstream or to extend maintenance and monitoring. The JPA and its partners have secured funding from multiple sources to treat invasive species in the watershed and are active participants in the San Pasqual WMA working with area stakeholders and funding sources on other potential sources of funds.

Monitoring, success criteria, and other tools to track long-term success.

The JPA is required to monitor and report all invasive species projects in the watershed that are conducted under their approved permits on an annual basis to the U.S. Fish and Wildlife Service and California Department of Fish & Wildlife. Reporting under the JPA's "*San Dieguito Watershed Invasive Species Control Program*" has occurred for the years 2009 through 2016 and will continue as long as the program is active.

Success and tracking occur through GIS mapping associated with funding received to conduct ongoing invasive treatments. GIS is used to map existing infestations and treatment areas by year. Success is monitored in accordance with the City's IWMP criteria by field investigations and photo documentation.

Description of how the project is resilient to climate change.

The project is resilient to climate change by improving the ability of the river to absorb floodwaters and to better recover after major flooding. Once the native plants and trees are established the riparian system would contain a diversity of tall woody native trees and a native shrub understory that will respond better to flooding and better withstand other stressors (drought, new pests) that may come with climate change.

Applicant's ability/authority to receive and distribute funds.

The San Dieguito River Park JPA (project applicant) is a special purpose governmental agency in existence since 1989 with an approved JEPA (Joint Exercise of Powers Agreement) that provides the authority to the JPA Board of Directors to receive and distribute funds for the next 50 years. The JPA has received and distributed several million dollars over the past 25 years for other projects within the JPA's jurisdiction.

Is the project to conduct work that is required by any entity/agency?

No, this project is not required by any other entity or agency and there are no mitigation sites within the project area.

ADDITIONAL INFORMATION:

The following narrative addresses the Additional Information requested in the Application Checklist, as applicable. The narrative also identifies where the proposed project meets the Project Attributes listed in the checklist (attributes 1-12).

Eligibility Requirements:

The project promotes preservation and restoration of aquatic ecosystems in the San Diego Region (priority #3) through implementation of the objectives listed in RWQCB San Diego Region Resolution R9-2015-0041. The project implements the recovery of streams, wetlands and riparian systems in accordance with the San Dieguito WQIP by removing harmful invasive plants like eucalyptus and tamarisk within the riparian system that rob water and nutrients from native plants on which threatened and endangered species rely for breeding and food. The project would continue implementation of the San Pasqual IWMP to remove the species

that are most threatening (eucalyptus, pepperweed, and tamarisk) as well as control relatively small areas of invasive plant species before they can spread and become widespread.

The project implements and furthers the recovery of streams, wetlands, and riparian systems (priority #4) by focusing on riparian habitat for endangered species such as the arroyo toad and least Bells' vireo that are most threatened by the invasion of non-native species. The San Dieguito River through San Pasqual Valley is a Cornerstone Land preserve area of the MSCP. Weed species, and particularly those in wetland and riparian areas such as giant reed and tamarisk, are known "water hogs" that once established within a creek or floodplain make substantially less water available to the remaining native vegetation. The more water that these species uptake and transpire results in less water for downstream habitats and groundwater recharge. The removal of invasive species in the San Dieguito Watershed is a collaborative effort among many stakeholders that work together to preserve and restore the river functions including the City of San Diego, San Dieguito River Park JPA, San Dieguito River Valley Conservancy, funding agencies, and other non-profits.

The project furthers a strategy for achieving a sustainable local water supply (priority #6) through the improvement of water quality. San Pasqual Valley is underlain by the San Pasqual Groundwater Basin and is immediately upstream of Hodges Reservoir. The project furthers the watershed management goals of the San Dieguito Watershed Management Area as guided by the San Dieguito River Water Quality Improvement Plan. The project improves water quality and protection of water resources in cooperation with other entities and partners.

Applicant Attributes:

1. Does the applicant have an established record of project completion with the Water Board?

The San Dieguito River Park JPA successfully completed a series of Urban Runoff Treatment Ponds at the San Dieguito Lagoon with funding from the Water Board. The Water Board funded construction and monitoring which the JPA continues today with help from Coastkeeper and River Park volunteers. The JPA designed and constructed the ponds to treat stormwater coming directly into the Lagoon from a stormwater outlet that conveys urban runoff from a 300-acre sub-watershed. Project construction was completed in 2007.

2. Does the applicant have a record of project completion with other awarding agencies?

The JPA has a strong record of completing projects where funding was awarded by agencies including the California Natural Resources Agency, Natural Resources Conservation Service, the Prop 50 IRWM program, Coastal Conservancy, SANDAG, and Caltrans. These projects include weed control, habitat restoration, educational facilities and programs, trail construction, and

water quality improvement. Examples include the Del Dios Gorge Riparian Restoration Project funded in 2009-2014 by the California Natural Resources Agency's River Parkways program and the NRCS (through the San Dieguito River Valley Conservancy). The project successfully removed hundreds of eucalyptus trees and saplings and restored riparian forest along a one-mile reach of San Dieguito River downstream of Lake Hodges. Because of the density of eucalyptus and difficult terrain, the trees were removed using helicopters and other large equipment from access points along Del Dios Highway.

3. Does the applicant demonstrate a commitment to continue the water quality/restoration effort into the future, beyond the elements which are sought for funding?

The JPA has an ongoing and excellent relationship with its member agencies including the City of San Diego to further its goals of protecting watershed resources through conservation and restoration. The JPA has a well-established 25-year history of water quality/restoration throughout the San Dieguito River Park and is a recognized land steward with an ongoing commitment to the River Valley. The JPA works with its partners on all aspects of open space management, protection, and environmental education all beyond the scope of this project. The JPA term was recently extended for another 50 years that will ensure continued commitment to the health of the San Dieguito River Valley into the future beyond this one project.

4. Does the applicant have the institutional stability and capacity to complete the project including the ability to accomplish the work and provide the products and reports expected?

The San Dieguito River Park JPA was established as an independent, local government agency in June 1989 by the County of San Diego and the Cities of Del Mar, Escondido, Poway, San Diego and Solana Beach to establish, operate, and maintain the San Dieguito River Park. The JPA agreement was updated in 2015 and extended for another 50 years showing the commitment of its member agencies to this regional river park. The JPA has full-time professional staff including a Principal Planner and several park rangers that provide the capacity to implement and complete a variety of projects. The JPA will continue to work with its member agencies to restore habitat and further the goals of protecting water quality in the San Pasqual Valley. The JPA staff has the stability and capability to accomplish this work and conduct monitoring and reporting as required by the JPA's invasive species removal permits.

Project Attributes

1. Does the project directly contribute to improvements of water quality objectives and/or beneficial uses?

The primary and overarching objective for the City's management of land in San Pasqual Valley is the protection of water resources. The project directly contributes to improvements to water quality objectives and beneficial uses by addressing a primary threat to water quality. As stated in the San Dieguito WQIP, stream channel and habitat restoration projects would be implemented in the watershed to improve water quality.

2. Does the project propose measureable environmental outcomes?

The project will provide measureable outcomes based on acreage treated and areas enhanced/restored by geographic location.

3. Does the project demonstrate sustained longevity of environmental outcomes (e.g., conservation, maintenance endowments easements, monitoring)?

The project is a continuation of several years of invasive treatment and removal within the San Dieguito Watershed. Mapping and monitoring of the past five years of invasive species control provides a database of known problem areas where continued removal, control and revegetation is necessary to sustain weed control and native plant re-establishment. A strong record of continued surveillance and identification of new threats is producing a strategy of longevity in protecting water resources in the San Pasqual Valley.

4. Is the project part of a larger vetted, adopted, or established plans with support from multiple and diverse partners?

The project is part of the continued implementation of the City of San Diego's San Pasqual IWMP and the San Dieguito River Park Concept Plan, which are supported by the stakeholders in San Pasqual Valley including the San Dieguito River Park, SDRV Conservancy, Zoological-Global/Institute for Conservation Research, and San Diego Monitoring and Management Program.

5. Does the project improve conditions for a 303(d) limited segment or preserve conditions in a high quality water body?

Yes, by removing invasive plant species that do not effectively filter urban and agricultural runoff pollutants and replacing them with native plants that improve the health of the wetland system, the project will improve water quality conditions for San Dieguito River and Hodges Reservoir, both listed as impaired on the 303(d) list. The project would also benefit the listed "High Quality Water Body" of Santa Ysabel Creek below Witch Creek.

6. Does the project improve a designated priority listed in a Water Quality Improvement Plan?

The Highest Priority designated in the WQIP for the San Dieguito Watershed is impairment of water due to high bacteria levels. Enhancement and restoration of the stream channel as it flows into the Hodges Reservoir can improve this condition.

7. Does the project improve conditions of a key beneficial use category in a key area?

The project would improve conditions for two key beneficial use categories: a Drinking Water Supply Reservoir (Hodges) and "Stream Systems with habitat of special importance used by a special status species" (LBV, Arroyo Toad, southwestern willow flycatcher) and that is afforded special protection for wildlife and habitat (riparian system) and designated as a core biological area in the MSCP.

8. Does the project address the source of the problem at/near the source of the problem?

Yes, the project directly removes the source of the problem.

9. Does the project address problems to sensitive/vulnerable/rare places/waters/uses?

Yes, the project addresses problems to a sensitive riparian system with beneficial uses including MUN (drinking water source) and REC-2.

10. Can the project be used for leverage for other funding/actions/benefits?

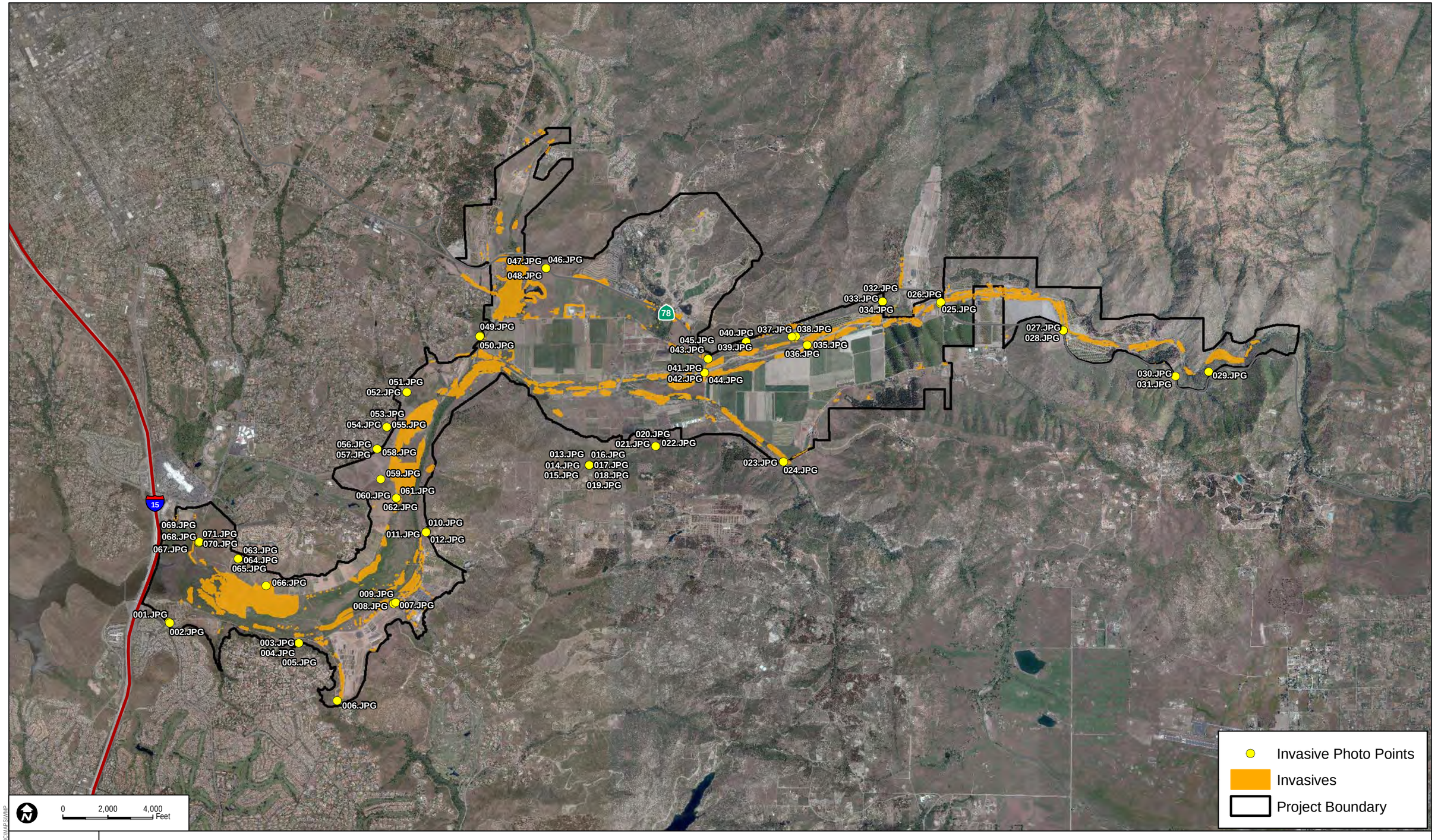
Yes, based on our experience with using other sources of funding for this work in the past, this project as the potential to be used to leverage other funding sources and implement water quality objectives in San Pasqual Valley.

11. Does the project provide a cost-effective means of attaining water quality goals?

Yes, it is more cost-effective to do enhancement by removing invasive trees and plants to allow natives to grow and to restore by adding native plants to existing native dominated habitats than it is to create native habitat from scratch. The project brings together resources and methods that have already been vetted and used successfully in other parts of the Watershed so that long-term experience and success provides a cost effective means for attaining water quality goals. The project also builds on other programs and implements approved water quality plans.

12. Does the project integrate outreach and education to targeted audiences?

The project integrates existing public outreach through Park Rangers, staff, and volunteers providing interpretation using various programs such as SDRV Conservancy's Watershed Explorers Program, Citizen Scientists, public outreach at local and regional community fairs and events, all of which are consistently occurring on an ongoing basis.



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SOURCE: CDFG NAIP 2010, City of San Diego 2011

FIGURE 1

Photo Points Map

San Pasqual Valley Weed Management Plan

Appendix B

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