

**San Diego Association of Governments
Ocean Beach Estuary Enhancement Project
The San Diego River Park Foundation (SDRPF)
Final Report
Project Period: 05/18/2023 - 06/30/2026
Submission Date: 09/30/2026
SANDAG Contract Number: S1125510**

Executive Summary

The Ocean Beach Estuary Enhancement Project is a partnership between The San Diego River Park Foundation (SDRPF, lead applicant) and project partners: The San Diego Bird Alliance (SDBA) and the City of San Diego (Natural Resources Division and Shoreline Park Rangers).

The project's overarching goal is to reduce threats to species in the San Diego River estuary, including SO and SL species, and to implement access control improvements and an education and community engagement strategy to allow human recreational use to coexist with high-quality habitat. The San Diego River estuary contains biologically valuable salt marsh and coastal dune habitats, which are increasingly rare in the region. SO and SL species that have known occurrences there include:

- Salt marsh bird's-beak (*Chloropyron maritimum ssp. maritimum*) – SL
- Nuttall's acmispon (*Acmispon prostratus*) – SO
- Western snowy plover (*Charadrius nivosus nivosus*) – SL
- Light-footed Ridgway's rail (*Rallus longirostris levipes*) – SO
- California least tern (*Sternula antillarum browni*) – SO

The project utilized management actions to minimize threats and encourage human recreation including:

- Improved access control along footpaths: existing post and rope fencing was decades old and in poor condition with some sections missing entirely. This project supported the installation of 2,262 linear feet of new and replacement fencing that combined new post and rope fencing with sand fencing with wooden slats, making the fence a more effective barrier. In addition, project partners, the San Diego Bird Alliance, secured additional funding match to add additional fencing, bringing the total linear feet of the new access control fencing to 4,381 linear feet. This improved fencing served to reduce threats such as trampling of plants and valuable habitat, trash and illegal use in the habitat area. Access control also included installation of more than 28 signs to direct visitors to designated trails and block access to habitat.
- Managed invasive weeds and planted native species to encourage pollinators. In total, this project organized at least 84 work parties for volunteers, completing ongoing invasive removal and restoration to control 2.6 acres of invasive plants, and restore 2.04 acres of salt marsh, coastal dune and coastal sage scrub. In addition, volunteers planted 240 one-gallon native plants, 120 rose pot size plants, and spread 10 pounds of native seed.

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- Increasing community awareness about the area through community engagement and investment with hands-on, meaningful volunteer projects, docent-led programs, and outreach. To this end:
 - SDRPF hosted outreach at 39 community events through this project.
 - SDRPF implemented a strategic marketing effort through social media and community flyering on a quarterly basis.
 - SDRPF hosted 22 educational field trip experiences to serve 812 total youth (7 of which served 240 students from schools immediately nearby the project site).
 - Project partner, the San Diego Bird Alliance, hosted 130 docent events at the project sites.
 - Installed 12 small interpretive signs and one large interpretive panel.
- Grew a robust stewardship program through volunteerism, engaging at least 1,768 volunteers in 4766.5 hours of service to augment limited staff capacity for maintenance of habitat and improvements.

Overall, this project was a significant success and achieved restoration goals of removing invasive plant species and reducing threats of trampling plants and flushing birds and wildlife by increasing physical access control. The community was largely receptive to the project, both on site and in community meetings and presentations. However, with thousands of visitors a day to the project area, we did see some vandalism and illegal use, including damage to the fencing, encampments in the habitat area, unauthorized vehicle access, and theft of some plants during the project. Our project design to include engaging community volunteers, two nonprofit organizations and the City Ranger staff helped maintain an ongoing presence at the site to deter these uses and also promptly respond to damage.

The project implementation was delayed by an unexpectedly long review of the permits for invasive removal and fencing install and replacement, even with the City as an active partner. Future projects should consider this history in determining timelines for future restoration.

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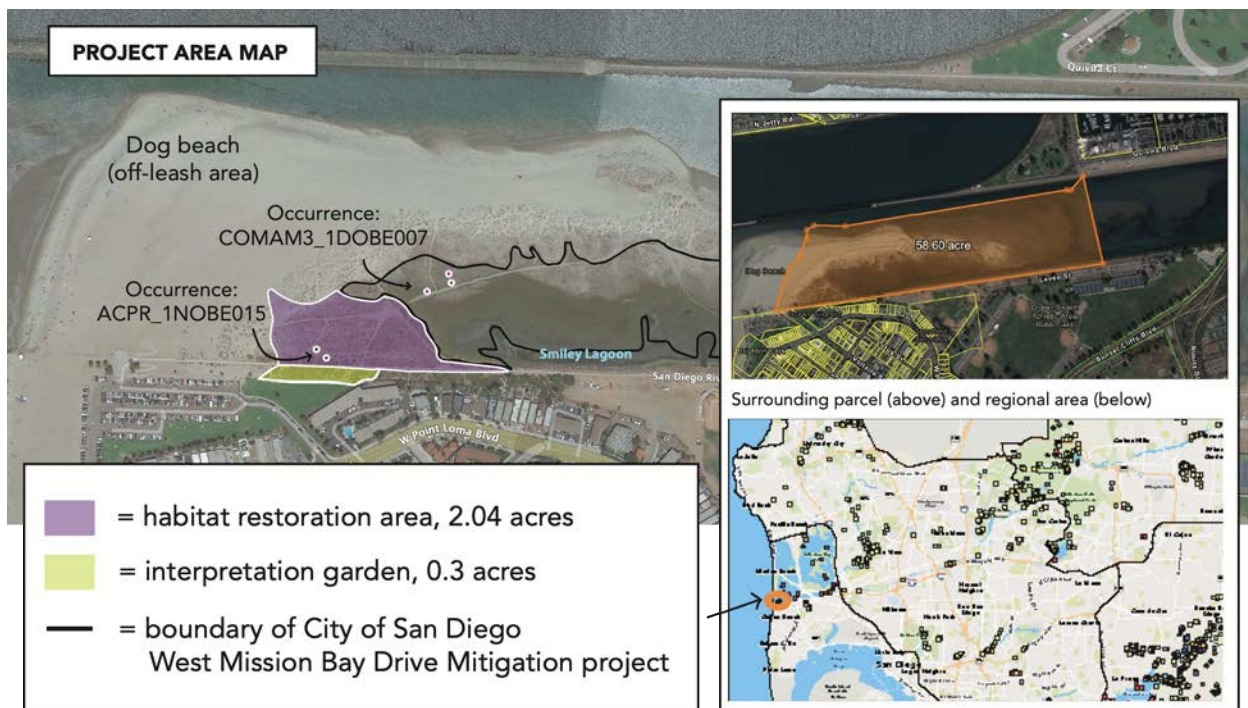
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Project Background

Project Setting

The Ocean Beach Estuary Enhancement Project focused on a portion of habitat at the San Diego River Mouth, at the west end of Voltaire Street northeast of Dog Beach Parking Lot, in Ocean Beach. The project area includes 2.04 acres of habitat targeted for restoration, as well as a 0.3-acre adjacent landscaped area featuring a native plant interpretive garden (see Figure 1). The site is bounded by the San Diego River Trail and bike path to the south, the off-leash dog beach to the north and west, and by Smiley Lagoon to the southeast.

Figure 1. Project Area Map



Need for Project and Relevance to MSP Roadmap

Invasive Removal: The MSP Framework Rare Plant Management Plan identifies that for this occurrence of Salt marsh bird's-beak, removal of nonnative forbs is a high priority (pg. 192), and that removal of nonnative grasses is a medium priority for this occurrence of Nuttall's acmispon (pg. 150). This project focused on removal using methods advised in the document, including hand-pulling of *Limonium spp.* in at least a 3-foot buffer around known Salt marsh bird's-beak occurrences, as well as hand-pulling of other nonnative forbs and grasses such as ice plant and garland chrysanthemum in mid-winter through spring, depending on species.

Access Control Fencing: Fencing is recommended by the MSP to create a physical barrier to prevent unauthorized access to habitat areas, while still permitting recreational access, such as pedestrian use of designated trails and wildlife observation. Fencing also helps to clarify authorized trails, helping to facilitate and increase efficacy of existing enforcement options by City Rangers.

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The F-RPMP identifies that for this occurrence of Salt marsh bird's beak, addressing unauthorized trails is a medium priority. Trampling has been identified as a low priority, but the threat has been observed to be increasing over time (pg. 177). Dumping/trash has also been identified as a low priority for salt marsh bird's-beak (pg. 177) and a medium priority for Nuttall's acmispon (pg. 150). Addressing damage resulting from uncontrolled dog use of the habitat is identified as a high priority. All the species of the coastal sage scrub, coastal dune, and salt marsh habitats at the River Mouth will similarly benefit from reducing these disturbances.

Finally, the MSP management actions specifically identify fencing and signage as a BMP to protect occurrences of Light-footed Ridgway's rail. For Western snowy plover and California least tern, the MSP species profiles list human disturbance as a major threat and recognize that loss of habitat and protection of existing habitat are critical management concerns. All of the project partners have witnessed and routinely receive reports of off-leash dogs flushing birds in the project area, which can be prevented or lessened by access control improvements and outreach efforts.

Annual Monitoring: Biologists from project partner, City of San Diego, were already monitoring Salt marsh bird's beak at the proposed project area consistent with MSP goals, but the project also trained expert volunteers and SDRPF staff to increase capacity for monitoring. Annual, GIS-based monitoring for Nuttall's acmispon was included in this project to monitor impacts of management actions, consistent with the MSP objectives. Increasing monitoring and knowledge of monitoring protocols also allows for early detection of invasive species in areas where they do not currently occur to allow land managers to act, a benefit listed in the F-RPMP.

Monitoring of Light-footed Ridgway's rail has been ongoing in the San Diego River estuary, but this project improved the annual surveys' geographic range, confirming anecdotal reports that the rails are using this salt marsh habitat. Similarly, increasing monitoring for Western snowy plover and California least terns was included in MSP management goals. In this project area, these species have been seen often, but are likely not using the habitat fully due to human disturbance at critical times of the year. As part of this project, The San Diego Bird Alliance worked with volunteers, the City, and the organizations currently overseeing monitoring through their Tern Watch program to continue and increase monitoring to provide managers with accurate data.

Project Location and Site Description

The project is located in Management Unit 1. The coordinates for the project location are 32.755071, -117.249100. The project site is owned and managed by the City of San Diego and contains biologically valuable salt marsh and coastal dune habitats.

Methods and Approach

Invasive Removal: Invasive removal techniques used focused on hand-pulling without use of herbicide. In this highly visible area, past herbicide use has been negatively received by community members, and this funding permitted program partners to engage community volunteers in the more labor-intensive effort of hand-pulling without being cost-prohibitive. To avoid disturbance of salt marsh bird's-beak, Nuttall's acmispon or other native plants, all project volunteers received training from experienced staff or expert volunteers. Before invasive removal efforts began, project

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partners consulted with the Coastal Commission and determined the need for first a Site Development Permit from the City of San Diego, which was evaluated and accepted by the Coastal Commission, and determined that an additional Coastal Development Permit would not be required.

Access Control: Project partners engaged Urban Corps and community volunteers to remove damaged access control and install new access control fencing. Temporary ground disturbance at the footings was anticipated for replacement posts, but this was limited to existing compacted trails, and did not occur in the looser soils of habitat areas. The City of San Diego consulted with the Coastal Commission on behalf of the project to ensure environmental compliance.

The project team anticipated that access control may be received by some community members negatively, which is why strategic community and stakeholder engagement component was an essential component of the project methodology, and we believe critical to the long-term success of the project. The docent program and community volunteer events included in this project emphasized the importance and value of these habitats and species. Based on presentations and approvals of the project components by Ocean Beach community groups prior to the start of the project, we believed that a large majority of community members were amenable to the project when given information about the need and scope limited to high-value habitat areas.

Community Engagement and Education

Volunteer events can serve to do more than just get work done. In order to inspire behavioral change, increase public buy-in, leverage support of stakeholder groups, and engage the community in this highly visible restoration site, this project included a series of engagement activities including:

- site tours with project partners
- attending community events
- hosting education and outreach activities onsite
- designing and installing signage
- youth education

Both SDRPF and SDBA conducted targeted outreach to maintain relationships and share information with key neighborhood groups including the Ocean Beach Town Council, the Ocean Beach Planning Board, neighborhood business associations and other community groups.

Native Planting and Encouragement of Pollinators: This project also included planting of native pollinator plants suitable for attracting and sustaining native pollinators. City staff have consulted a native bee expert willing to advise on appropriate plant selection. Plants were strategically installed in disturbed upland areas north of the San Diego River Trail, and to close unauthorized footpaths. This project is highly visible because of the adjacent popular amenities, including the River Trail, Dog Beach and Ocean Beach, so these plantings not only provide an attractive buffer to the project, but also serve to educate visitors about the importance of protecting pollinators. Restoration of native plants improves the habitat value to wildlife, including many bird species, with phoebes, larks, warblers and a variety of sparrows, including possibly Belding's Savannah sparrow, benefitting from the project. Plantings occurred when seasonally favorable, and received temporary hand-watering by volunteers to get established. Most planting areas required

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removal of nonnative chrysanthemum, sweet clover, sea rocket, Bermuda grass, and other non-native species to create room. These planted areas were weeded throughout the project to increase success.

Project Goals

Project goals included:

- **Improve habitat for Nuttall's acmispson and salt marsh bird's-beak by reducing coverage of invasive plants where co-occurring with rare species to less than 20%**

This goal was achieved through more than 84 work parties at the project site, engaging volunteers in hand-pulling of weeds through regular events for nearly 2 years. At the time of the completion of the project, all known invasive plants had been removed from the project site, with our final survey showing 0% cover.

- **Maintain and improve over 3,800 feet of access control fencing, including 1,000+ feet of new fence**

In total, this project supported installation of 2,262 liner feet of fencing and with additional funding match secured by the San Diego Bird Alliance, we maintained and improved 4,381 linear feet of access control fencing, exceeding our objective.

- **Host at least 800 community members annually in over 2,400 hours in meaningful volunteer service**

In total, we engaged at least 1,768 volunteers in 4766.5 hours of service, valued at over \$200,000 in volunteer labor. We did not meet our objective for this project, but we had originally defined this objective based on our expectation, after consultation with the City of San Diego and the Coastal Commission, that we would have our permits secured to begin work during the first quarter after receiving our Notice to Proceed on May 18, 2023. However, there were unanticipated delays both from the Coastal Commission and from within the City of San Diego's Development Services, and we did not receive the permissions to proceed with the volunteer work parties until September 2024, losing nearly 16 months of time when we expected to be logging more volunteer hours. Given that the timeline was compressed, we are pleased that we were able to use the first year to build momentum and interest in the project so that we could hit the ground running with community engagement and still meet the restoration and in-kind match targets, while engaging at least 1,768 community members.

- **Engage 10,000+ community members per year, in tours, presentations and outreach to raise awareness about project, clarify goals, and prevent opposition to any perceived loss of access to popular areas**

We exceeded this objective by hosting outreach at 39 community events throughout this project, during which we interacted with an average of 150 people per tabling event or about 5,850 in-person interactions. Project partner, the San Diego Bird Alliance, also held 130 docent trail-side tabling events at the project site, facilitating an average of 40 interactions per event, or about 5,200 in-person interactions. In addition, SDRPF implemented a strategic marketing effort including flyerling on a quarterly basis and social media posts at least quarterly reaching more than 12,000 people each year (for example, this post

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(<https://www.instagram.com/reel/DV2ldCFiSsv/?stkn=MTYxNnB3d3pqdW94aA==> on March 13, 2026 reached 2,135 people on Instagram and 1,213 people on Facebook, and this one on January 7, 2026, <https://www.instagram.com/p/DTOUjl0CCfk/?stkn=MWVzbDdkbnhybXMyOQ==> reached 3,484 on Instagram and 1,277 people on Facebook). Both the San Diego River Park Foundation and San Diego Bird Alliance included project updates, volunteer appeals and impact stories in newsletters throughout the project period, reaching tens of thousands more.

- **Host science-based field trips to mentor local school children from the surrounding community (which is identified as a disadvantaged community).**
We met this objective. The San Diego River Park Foundation education team hosted 22 educational field trip experiences at the project site, serving 812 total youth, and connecting them with information about the ecological importance of this project and ways that humans can enjoy these special habitats responsibly. Of these field trips, 7 served 240 students from schools immediately nearby the project site, while others served local students from the broader region.
- **Create docent program to share information about the biologically valuable park and set expectations for responsible pet use of the area**
We met this objective. In addition to training docents and volunteer leaders to provide site-based tours during project restoration events, the San Diego Bird Alliance hosted 130 docent events at the project site, including launching the Bark Ranger program, so that pets and their owners can take a pledge to stay on trail, not disturb wildlife, and remove pet waste when enjoying the nearby Dog Beach.
- **Complete annual rare plant and bird surveys, and increase capacity by training expert volunteers**
This objective was met, as SDRPF staff, SDBA staff and volunteers were trained by and participated in annual rare plant monitoring in 2023-2026 seasons during the project, and data was uploaded by the City of San Diego to SDMMP. These additional trained surveyors helped increase capacity of the Natural Resources team to ensure quality and timely surveys. In addition, SDBA staff and volunteers conducted ongoing tern and rail watching during the project, providing data to City Natural Resources staff to inform future management.
- **Install large permanent interpretive sign at entrance to the project area from the Regional San Diego River Trail, small interpretive signs within the dunes and adjacent areas, and signs that clarify the conservation status, value and benefit of the park**
This objective was exceeded, with 12 small interpretive signs and one large interpretive panel installed at the project site, in addition to other friendly signs encouraging proper trail use and staying out of habitat.

Work Performed by Task

Task 1- Invasive Removal and Habitat Restoration

Budget: \$67,527.01 (from grant agreement)

Spent: \$67,527.01

Match for Task: \$163,656.85

The Notice to Proceed (NTP) for this project was received on May 18, 2023.

In order to be prepared to start work on this project, we expected that the invasive removal, fencing and some signage would require a consultation with the California Coastal Commission for a Coastal Development Permit. The City of San Diego (as the landowner) was the lead for permitting for this project, and has significant experience with navigating environmental compliance. The permit packet was submitted to the Coastal Commission on July 1, 2022 (prior to our grant agreement and NTP). The Coastal Commission reviewed the permit packet and environmental compliance that the City staff prepared for this project and determined that this project first needs a Site Development Permit from the City of San Diego. The City submitted the Site Development Permit packet on August 2, 2022, also prior to NTP in order to be ready for this project.

Work for this task was planned to begin in the first quarter after receiving the Notice to Proceed (NTP) from SANDAG. However, the permit review process took substantially longer than expected. The Site Development Permit was received in Q1 of 2024, and we received the approval from the Coastal Commission to begin work in mid-September 2024.

While we were awaiting approval to begin work in the habitat area, we mobilized small groups of volunteers for trainings, planning, and to do limited invasive removal work along the existing footpaths and the River Trail as allowed by the City's existing maintenance obligations. This allowed us to build momentum with community volunteers to be able to hit the ground running.

Volunteer work parties ramped up significantly in 2024 following this approval, with events happening approximately 3 times per month, utilizing both smaller teams with more training and supervision for working in areas with more sensitive species, and larger groups of volunteers focused on areas with more substantial coverage of invasive, non-native weeds. Approximately 60 invasive removal events were organized during the project period, which allowed us to meet our project targets for invasive removal, despite the compressed timeline.

Non-native weeds targeted by this project included: crown daisy (*Glebionis coronaria*), sea rocket (*Cakile maritima*), curly dock (*Rumex crispus*), white sweet clover (*Melilotus albus*), small melilot (*Melilotus indicus*), sickle grass (*Parapholis incurva*), Russian thistle (*Salsola tragus*), devil's thorn (*Tribulus terrestris*), kikuyu grass (*Cenchrus clandestinus*), European sea lavender (*Limonium duriusculum*). Over 2.6 acres of these invasive plants were removed on an ongoing basis, from the restoration area, the trail margins and surrounding area. Many photos were previously submitted in progress reports, and a few are included again here.

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Staff continue to share the lessons learned from this project and continue to look for future opportunities by participating in regional collaborations like through SDMMP and the San Diego Conservation Planning Hub, which recently hosted a Nature-based Solutions (NbS) Training entitled Dune Conservation for Resilient Communities.

Photo 1.1. Volunteers weeding in the trail margins in 2023 while awaiting permission to work in the habitat areas



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Photo 1.2-1.3. Before and after removal of invasive crown daisy along the trail in Q2 2024



Photo 1.4. Volunteers removing invasive crown daisy



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Photo 1.5. Volunteers removing invasive European sea lavender in 2025



Photo 1.6. Volunteers removing invasive sea rocket in 2025



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In addition to invasive removal, volunteers were coordinated to plant California native plants and spread native seed in the portions of the project site with bare ground, especially areas that had been previously disturbed by illegal use or had high concentrations of invasives removed. As plants grow in, they will help to close the unauthorized and closed footpaths, and improve habitat.

Photo 1.7. Volunteers watering newly planted native plants



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In total, 360 native plants were planted and 10 pounds of native seed were spread in the project area. Planting events were organized by all three project partners, and hosted by SDRPF, SDBA, and City of San Diego Shoreline Rangers. Plants were watered by hand over the next several work parties to help new plantings establish. Plant lists were reviewed and approved by City of San Diego biologists, and the plant list is included in Table 1.1.

Table 1.1. Plant List (Deliverable)

Common Name	Botanical Name	One gallon	Rose pots	Seed (lbs.)
Alkali heath	<i>Frankenia salina</i>	10		
Estuary seablite	<i>Suaeda esteroa</i>	10		
Seablite	<i>Suaeda taxifolia</i>	5		
Glasswort	<i>Salicornia pacifica</i>	5		
Pickleweed	<i>Arthrocnemum subterminale</i>	10		
Salt Grass	<i>Distichlis spicata</i>	5		
Shore grass	<i>Distichlis littoralis</i>	10		
Saltwort	<i>Batis maritima</i>	10		
Spiny rush	<i>Juncus acutus</i>	5		
Marsh jaumea	<i>Jaumea carnosa</i>	10		
California sea lavender	<i>Limonium californicum</i>	10		
Seascale	<i>Atriplex leucophylla</i>	24		2
Lemonade berry	<i>Rhus integrifolia</i>	10		
San Diego sunflower	<i>Bahiopsis laciniata</i>	14		
Seacliff buckwheat	<i>Eriogonum parvifolium</i>	14		
California brittlebush	<i>Encelia californica</i>	14		
Chaparral mallow	<i>Malacothamnus fasciculatus</i>	10		
Deerweed	<i>Acmispon glaber</i>	8		
San Diego marshelder	<i>Iva hayesiana</i>	14		
Marsh fleabane	<i>Pluchea odorata</i>	14		
California aster	<i>Corethrogyne filaginifolia</i>	20		
Chaparral yucca	<i>Hesperoyucca whipplei</i>	6		
Coast woolly-heads	<i>Nemacaulis denudata</i>		120	
Shaw's agave	<i>Agave shawii</i>	2		
Beach evening primrose	<i>Camissoniopsis cheiranthifolia</i>			4
Silver burr ragweed	<i>Ambrosia chamissonis</i>			4
Total		240	120	10

Photo-monitoring was conducted regularly throughout the project period after work began, and the Photo-monitoring Report is attached as Appendix 1.

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Task 1 was completed within budget. Because the bulk of the match was expected to be secured in the form of in-kind volunteer labor (value of volunteer time calculated based on estimates from <https://independentsector.org/research/value-of-volunteer-time/>), the match in this task was lower than expected. We expected to secure \$190,739.37 in match, but our match for this task totaled \$163,656.85. We met with SANDAG staff before the conclusion of the grant to discuss this and since we exceeded the match for the project overall, we are hopeful this will be acceptable. Our total combined proposed match for the project was \$268,838.19, and ultimately, the total match secured for all tasks was \$342,923.85, which is 127.56% of our goal. Task 1 match was secured in the form of volunteer time, in-kind time by City of San Diego staff, and donated dumpsters for the disposal of trash and green waste by the City of San Diego.

This project removed hundreds of cubic yards of biomass from the project area and surrounding habitat, however this area will require continued maintenance to effectively control invasive plant species. New windblown and water-carried invasive plant material will continue to be an issue, as well as plants accidentally carried in by human and pet visitors to the site. In addition, these non-native plants have been previously established for decades, and there is likely still some amount of viable seedbank on site. While all germinated invasive plants were effectively removed, surveys and invasive control should continue in the future, especially after winter rains, to document and plan for removal of newly germinated non-native plants. Thanks to this project, we have built a community of volunteers interested in continuing this work at a comparatively low cost and plan to seek funding to support continued work parties to do so.

Task 2-Access Control

Budget: \$20,316.59 (from grant agreement)

Spent: \$20,316.59

Match for Task: \$113,405.07

As described in the section above for Task 1, this project experienced a delay in receiving approvals to begin. However, work was able to proceed in 2024.

Photos 2.1. Fencing installation by Urban Corps at the project site in Q4 2024



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Photo 2.2. Fencing installation in Q4 2024



The San Diego Bird Alliance secured a grant from the Dorrance Family Foundation that provided \$100,922 to fund the first portion of the fencing work, including removal of old, dilapidated posts, and installation of posts, rope and sand fencing in the eastern portion of the project site.

During subsequent 2025 work parties, additional sand fencing was installed in the western portions of the project area by SDRPF staff and volunteers. City Rangers assisted with providing metal posts for the riprap adjacent to the bike path. A map of the fencing installation and replacements is included as Figure 2.1.

During the rest of the project, regular volunteer work parties surveyed the condition of the sand fencing and the posts. As needed, volunteers organized repairs. During the project, one of the 4x4 posts needed to be replaced. Most repairs were to sand fencing, and involved cutting out damaged sections and re-wiring in new slats. These repairs were frequent to start, but damage slowed somewhat over time. Despite the slowed vandalism, this fencing will likely need regular maintenance. Volunteers were trained to complete repair to increase capacity for staying on top of these repairs beyond the life of the grant, but additional sand fencing should be a part of future maintenance plans and budget.

Photos were submitted throughout the grant period with progress reports, but a selection is re-submitted here.

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Photo 2.3. Sand fencing being added to the new post and rope fencing in the western portion of the project site



Photo 2.4. Metal poles in the rip rap to connect new fencing to the River Trail, prior to the addition of sand fencing slats to complete the fence



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Photo 2.5-2.7. Volunteers repairing a portion of the wood slat fence and example of damage



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Figure 2.1. Map of access control fencing (Deliverable)



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Table 2.1. Fencing maintenance log (Deliverable)

Date	Day of week	Notes
7/9/2024	Tuesday	surveyed and repaired fencing as needed
8/13/2024	Tuesday	surveyed and repaired fencing as needed
9/10/2024	Tuesday	surveyed and repaired fencing as needed
11/12/2024	Tuesday	surveyed and repaired fencing as needed
1/14/2025	Tuesday	surveyed and repaired fencing as needed
2/11/2025	Tuesday	surveyed and repaired fencing as needed
3/11/2025	Tuesday	surveyed and repaired fencing as needed
4/8/2025	Tuesday	surveyed and repaired fencing as needed
4/22/2025	Tuesday	surveyed and repaired fencing as needed
5/13/2025	Tuesday	surveyed and repaired fencing as needed
5/27/2025	Tuesday	surveyed and repaired fencing as needed
6/10/2025	Tuesday	surveyed and repaired fencing as needed
6/24/2025	Tuesday	surveyed and repaired fencing as needed
7/8/2025	Tuesday	surveyed and repaired fencing as needed
7/22/2025	Tuesday	surveyed and repaired fencing as needed
8/5/2025	Tuesday	surveyed and repaired fencing as needed
8/12/2025	Tuesday	surveyed and repaired fencing as needed
8/26/2025	Tuesday	surveyed and repaired fencing as needed
9/9/2025	Tuesday	surveyed and repaired fencing as needed
9/23/2025	Tuesday	surveyed and repaired fencing as needed
10/14/2025	Tuesday	surveyed and repaired fencing as needed
10/28/2025	Tuesday	surveyed and repaired fencing as needed
11/11/2025	Tuesday	surveyed and repaired fencing as needed
11/25/2025	Tuesday	surveyed and repaired fencing as needed
12/9/2025	Tuesday	surveyed and repaired fencing as needed
12/30/2025	Tuesday	surveyed and repaired fencing as needed
1/13/2026	Tuesday	surveyed and repaired fencing as needed
1/27/2026	Tuesday	surveyed and repaired fencing as needed
2/10/2026	Tuesday	surveyed and repaired fencing as needed
2/24/2026	Tuesday	surveyed and repaired fencing as needed

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3/10/2026	Tuesday	surveyed and repaired fencing as needed
3/17/2026	Tuesday	surveyed and repaired fencing as needed
3/24/2026	Tuesday	surveyed and repaired fencing as needed
3/31/2026	Tuesday	surveyed and repaired fencing as needed
4/7/2026	Tuesday	surveyed and repaired fencing as needed
4/14/2026	Tuesday	surveyed and repaired fencing as needed
4/21/2026	Tuesday	surveyed and repaired fencing as needed
4/28/2026	Tuesday	surveyed and repaired fencing as needed
5/5/2026	Tuesday	surveyed and repaired fencing as needed
5/12/2026	Tuesday	surveyed and repaired fencing as needed
5/19/2026	Tuesday	surveyed and repaired fencing as needed
5/26/2026	Tuesday	surveyed and repaired fencing as needed
6/2/2026	Tuesday	surveyed and repaired fencing as needed
6/9/2026	Tuesday	surveyed and repaired fencing as needed
6/23/2026	Tuesday	surveyed and repaired fencing as needed

In addition, we utilized signage as part of our access control strategy. Because a main goal was to encourage voluntary compliance by community members, we incorporated friendlier messaging in the signs. For example, we utilized charismatic photos of animals and “Wildlife Only Beyond This Point” language, instead of “stay out.” Similarly, the San Diego Bird Alliance used signs that featured drawings and messages by local children to help inspire trail users to be good stewards in the project area. Examples of these signs are included in Figure 2.2, and the set is attached in Appendix 2.

We completed this task within budget, with additional funding from the grant secured by the San Diego Bird Alliance. This additional funding was mentioned in our proposal, because at the time of writing the proposal, it was anticipated that these fence installation funds would be spent before the Notice To Proceed and therefore would not be eligible as match for the TransNet grant. Due to changes in the timeline, this work was completed during the project instead and therefore is being included in the match, even though this is in excess of our required match for this task. Additional match was secured in the form of in-kind time from the City of San Diego staff and in-kind volunteer labor.

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Figure 2.2. Examples of friendly regulatory signs



Task 3-Community Engagement, Education and Outreach

Budget: \$87,407.13 (from grant agreement)

Spent: \$87,407.13

Match for Task: \$35,166.13

Outreach efforts began immediately with the Notice To Proceed. The goal of this task was to inspire behavioral change, increase public buy-in, leverage support of stakeholder groups, and engage the community in this highly visible restoration site. In short, this restoration area has high potential for disturbance by bad actors and people who unknowingly cause harm to the habitat through lack of awareness. We hoped to reduce the chances of disturbance through education, interpretation and community engagement to inspire people to make minor adjustments to their use of the area to allow these habitats to recover.

The project area is a destination both for immediate neighbors and people from across the region. Not only the habitat areas, but the adjacent beach, the off-leash dog area, the River Trail, and the OB business district are all draws, bringing millions of unique visitors every year. Our target audience for education was all visitors to the area, particularly dog owners who might be inclined to allow their dogs off leash in the

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habitat. Our target audience for volunteer engagement was people who considered themselves “regulars” in Ocean Beach, who either live, work, or regularly play nearby.

We designed an outreach strategy geared toward including the community in the restoration and alleviating fears that the restoration project would limit their enjoyment of the area. Starting at the beginning of the project, we planned a combination of outreach and community engagement activities to reach our different target audiences:

- Approximately monthly outreach presence to talk to community members and visitors. This included setting up a booth and table near the Dog Beach parking lot at the project site, as well as having a presence at community gatherings like the Farmer's Markets. These booths had both general information about the value of the habitat, efforts underway to protect it and how to get involved. In total, we hosted 39 outreach tables during this project facilitating approximately 5,850 conversations with members of the public.
- San Diego Bird Alliance began hosting a weekly docent table along the footpath in the habitat area to talk to visitors and do community outreach, including a Bark Ranger program, encouraging dogs and their owners to take a stewardship pledge. In total, they hosted 130 docent events during this project, facilitating approximately 5,200 in-person interactions. The Bark Ranger program brochure is included with this report as Appendix 3.

Photos 3.1-3.2. San Diego Bird Alliance Docent Table and Bark Ranger



- The San Diego Bird Alliance and San Diego River Park Foundation also did presentations and offered walking tours to community groups in Ocean Beach, Point Loma and Mission Bay about the need, strategy and scope of the project. These presentations helped to reach community leaders and head off any objections to the project by involving the community early.

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- The City Park Rangers were a regular presence on the site, conducting opportunistic outreach to community members, and providing reminders about regulations.
- In addition, SDRPF implemented a strategic marketing effort including flyering on a quarterly basis and social media posts at least quarterly. This enabled us to reach conservatively 36,000 people each year. For example, the two recent posts during the grant period were:
 - January 7 reaching 3,484 on Instagram and 1,277 people on Facebook (<https://www.instagram.com/p/DTOUjl0CCfk/?stkn=MWVzbDdkbnhybXMyOQ==>)
 - March 13 reaching 2,135 people on Instagram and 1,213 people on Facebook (<https://www.instagram.com/reel/DV2IdCFiSsv/?stkn=MTYxNnB3d3pgdW94aA==>)
- To reach children specifically, The San Diego River Park Foundation education team hosted 22 educational field trip experiences at the project site, serving 812 total youth, and connecting them with information about the ecological importance of this project and ways that humans can enjoy these special habitats responsibly. Seven of these field trips specifically served 240 students from schools immediately nearby the project site, while others served local students from the broader region.

Photo 3.3. Youth Field Trip Orientation



- In addition, we created signage for the project area to provide interpretation and education to all visitors. Project partners met as a group and with knowledgeable experts and other stakeholders to develop interpretive messages suited for the San Diego River Estuary and prioritized relevant messages for this site. It is our hope that future signs at other parts of the estuary can utilize this planning to comprehensively tell the more stories about the history, cultural significance and ecological value of the area. Examples of these signs are included with this report as Figure 4.1. and the set is attached as Appendix 4.

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- We also updated our online presence related to this project site, <https://sandiegoriver.org/rivermouth/>, which is linked by QR code from many of the flyers and project signage, so as to provide an easy pathway to engagement.

Combined, these efforts allowed us to meet our targets for this project within budget. Our match was secured in the form of in-kind volunteer labor assisting with community outreach, working as docents, flyering, graphic design, and other outreach activities.

The San Diego River estuary is the most visited section of the entire San Diego River, and therefore very vulnerable to anthropogenic disturbance. We found that in general, the public was amenable to the messaging about protecting the habitat areas and appreciated the efforts to do so in a way that still allowed public access, nature exploration and recreational use of adjacent areas. However, maintenance of these educational amenities will be an ongoing need, and would benefit from continued, inclusive outreach efforts.

Photo 3.4. SDRPF leading a public tour in the project area during the 30x30 conference



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Figure 4.1. Examples of Interpretive Signs

San Diego River Mouth
SPECIES HIGHLIGHT

SALT MARSH BIRD'S BEAK

Cordylanthus maritimus ssp. *maritimus*



Did you know?

Salt marsh bird's beak is an endangered, annual plant native to coastal salt marshes from Southern California to Baja California. It is hemiparasitic, which means that this plant can both photosynthesize its own nutrients and also can siphon water and nutrients from nearby plants through special root structures.

This rare plant is very vulnerable to trampling and habitat loss. We can protect it by removing invasive plants and not stepping in areas where it grows.

Status: **EN**
Endangered

Bloom Period: 
Early summer

Learn More 

Join us in protecting this special place!
Visit www.sandiegoriver.org/rivermouth to learn how!

The City of **SAN DIEGO**


SANDAG

San Diego River Mouth
SPECIES HIGHLIGHT

SALT MARSH MOTH

Estigmene acrea



Watch for:
adult moths like this
and caterpillars like this!



Photos by: Natalie Berhardt

Did you know?

This moth can be found all around coastal San Diego county, not just in the marsh, even though that's where its name comes from. The large, hairy caterpillars are numerous in spring, often seen munching on plants or even travelling across paths. The adult moth is beautifully colored in white with black spots but is not seen as often as the caterpillars.

Caterpillars and moths are incredibly important as a food source for birds. So having a lot of them around also helps support our flying friends.

Status: **LC**
Least Concern

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The City of **SAN DIEGO**


SANDAG

San Diego River Mouth
SPECIES HIGHLIGHT

RIDGWAY'S RAIL

Rallus obsoletus spp. *levipes*



Photo by: Arnau Pou

Did you know?

The light-footed Ridgway's rail is a federally- and state-endangered bird that depends on healthy coastal wetlands to survive. It relies on dense tidal salt marshes dominated by pickleweed and cordgrass for nesting, shelter, and feeding.

Because most of Mission Bay's historic wetlands have been lost, habitat protection and restoration of these special areas is essential for the rail's survival. Healthy wetlands also improve water quality, reduce flooding, and support countless other native species.

Status: **EN**
Endangered

Diet: 
Invertebrates

Size: 
14-15 inches

Wingspan: 
19 inches

Learn More 

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The City of **SAN DIEGO**


SANDAG

San Diego River Mouth
SPECIES HIGHLIGHT

WESTERN SNOWY PLOVER

Anarhynchus nivosus spp. *nivosus*



Photo by: Arnau Pou

Did you know?

These small shorebirds forage for tiny invertebrates along the sand and mudflats. Females lay clutches of three eggs in shallow scrapes in the sand. Once chicks hatch, the males take over chick-rearing duties, freeing females to find a new mate and lay another clutch.

Western snowy plovers are federally listed as Threatened. Staying on trails and keeping pets leashed make it possible for them to thrive so we can appreciate them from a safe distance.

Status: **Th**
Threatened

Diet: 
Invertebrates

Size: 
6-7 inches

Wingspan: 
17 inches

Learn More 

Join us in protecting this special place!
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The City of **SAN DIEGO**


SANDAG

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Task 4-Monitoring

Budget: \$29,875.31 (from grant agreement)

Spent: \$29,875.31

Match for Task: \$26,947.86

Monitoring for this project began immediately after Notice to Proceed was received in May 2023. Monitoring efforts for this project were organized in the following ways:

Rare Plant Surveys: We were able to complete rare plant surveys all 4 seasons that occurred during the project period, as the NTP was received in time to do Salt marsh bird's beak surveys in 2023. These surveys were led by City of San Diego Natural Resource Division staff, who set the appropriate timing for the surveys, trained and supervised the team. San Diego River Park Foundation and San Diego Bird Alliance staff, as well as interns and community volunteers, participated in these rare plant surveys, increasing capacity for these surveys and allowing for all three rare plants (Salt marsh bird's beak, Nuttall's acmispon, and Coast woolly-heads) to be surveyed during the project. The City of San Diego staff processed the results of these surveys and uploaded to SDMMMP

(https://sdmmp.com/view_project.php?sdid=SDID_sarah.mccutcheon@aecom.com_57cf0196dff76#data-files-tab). Surveys were conducted in 2023, 2024, 2025 and 2026 during the project period. Photos are included as Photo 4.1.-4.5.

Photo 4.1. Volunteer Counting individual plants during rare plant surveys



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Photo 4.2. Volunteer counting Coast woolly-heads during rare plant monitoring



Photo 4.3. City biologist sets up rare plant monitoring area for Salt marsh bird's beak



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Photo 4.4-4.5. Survey groups including City staff, SDRPF staff and SDBA staff, plus volunteers and interns



Tern Watch and Rail Watch: San Diego Bird Alliance organized regular surveys during this project to document rare birds in and around the project area. On February 9 and March 26, 2024, SDBA staff and volunteers conducted surveys during the King Tide to document Light-footed Ridgway's rails in the estuary, documenting 4 rails. On March 26, in partnership with Dick Zembal (UCSD Natural Reserve System), they surveyed and documents 13 pairs and 5 males in the estuary upstream of the project area. These surveys were also conducted in March 2025 (9 pairs and 5 singles documented) and in fall 2025 (no rails documented, but a Belding's savannah sparrow was documented). In addition, docents led weekly rail and tern watching from the project area during 2024-2025.

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Photo 4.6. Light-footed Ridgway's rail in Smiley Lagoon photographed in fall 2024, an area now protected by access control between these birds and dog beach



Photo Monitoring: Photo monitoring was conducted approximately quarterly starting Q3 2024 when we received approvals to begin with invasive removal and fencing. We established 16 photo points to capture changes in the habitat with the project. This report is included as Appendix 1.

Bio Blitz: These events provided excellent opportunities for community scientists to learn about and participate in documenting the site's incredible biodiversity using iNaturalist. During the project, we organized 7 BioBlitz events, as well as encouraged use of iNaturalist at additional tours and work parties. We created a Project on iNaturalist entitled "San Diego River Estuary" (<https://www.inaturalist.org/projects/san-diego-river-estuary>) for collecting these observations, which has collected more than 17,000 observations to date, and identified 778 species of plants, animals, birds, invertebrates, and fungi. These observations were exported on Oct. 1, 2026 and will be uploaded along with this report as Appendix 5.

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Photo 4.7. Bioblitz Volunteers in early 2024



Task 5-Administration

Budget: \$28,021.08 (from grant agreement)

Spent: \$28,021.08

Match for Task: \$3,747.94

Project administration for this grant started immediately and each quarter, included preparing and submitting invoices and progress reports by collecting documentation from staff and program partners, including match and expenses. Staff also completed other reporting and administrative tasks related to this contract, including Subcontractor Agreement for project partner San Diego Bird Alliance, DIR and labor compliance documentation, and maintained our Project Page.

The task also included working through the environmental compliance, including communication between program partners, site visits, communication with the Coastal Commission and City of San Diego Development Services and other department staff, and preparing documents to submit the permit packet. Once approved, this task also included ensuring ongoing compliance.

Throughout the duration of the grant, staff continued to organize meetings with the City of San Diego and San Diego Birding Alliance at least monthly about project activities, metrics and timelines. Staff also corresponded with SANDAG as needed regarding the project. Staff also tracked project deliverables, budget expenditures, and made adjustments to budget projections as needed.

Staff also reached out to SANDAG staff to extend the project end date to June

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30, 2026. This resulted from discovering an inconsistency in the grant agreement that indicated two different end dates. In consultation with project partners, we decided to request an extension to the end of the quarter to ensure sufficient time for reporting.

Photographs & Figures

Photographs have been included throughout the document, but have been previously uploaded along with progress reports and will not be uploaded again.

Conclusions

Overall, this project was a success and significantly achieved our specified goals. MSP species that occur in environments that are also popular recreation and tourist destinations often face serious threats of disturbance, as habitat preservation and heavy human use can be incompatible uses. At the San Diego River Mouth, it is believed that millions of visitors annually come to this area, and the adjacent off-leash dog beach presents even higher potential for disturbance of birds and wildlife and trampling of habitat with off leash dogs entering protected areas. However, the dog beach and other recreational uses are beloved elements to many community members and visitors, so restoration projects that seek to limit access without significant efforts to gain public support are unlikely to be successful.

This project sought to better protect the increasingly limited habitat for rare birds like the Light-footed Ridgway's rail, California least tern, and the Western snowy plover from flushing events or capture by off leash dogs by replacing and extending the existing (and easily bypassed) post and rope fence with a combination fence featuring post and rope with wooden slat sand fence. This created a more substantial physical access barrier while also making for an attractive and inviting trail, and providing structure for the adjacent coastal dunes. This access control also served to limit trampling by focusing impacts on existing footpaths, allowing people and pets to walk to the beach or view the habitats on designated paths.

Funding from SANDAG not only allowed the restoration work to occur, but allowed the San Diego River Park Foundation, San Diego Bird Alliance, and the City of San Diego to develop an outreach and community engagement effort to win public support through presentations, tabling, education events, public tours, inviting lots of questions from the public, and reducing any alarm about the scope of the project and alleviating concerns from the public about losing access. The public was given time and opportunity to understand the need to support these threatened species to coexist with other uses of the limited space, and project partners were largely successful at receiving public support for these efforts.

In addition, addressing weeds in the project area provided opportunities for thousands of people to invest in the project, fostering a sense of stewardship and an opportunity for education. Volunteers filled dozens of dumpsters with invasive biomass during this project, creating space and reducing competition for resources so native species can thrive. Not only did this increase the habitat value, this also visually transformed the site and improved the aesthetic value of the area. We continued to document occurrences

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of the Light-footed Ridgway's rail, Salt marsh bird's beak, Nuttall's acmispon, and Coast wooly-heads at the project site, as well as hundreds more species.

The fencing and signage made it clearer to the public where the pathways are and that the habitat areas were restricted. However, there continued to be people cutting through the habitat on unauthorized footpaths, sometimes damaging the access control. Even with the new fences, we observed off-leash dogs bypassing the access control to flush birds and rabbits inside the habitat areas. Partners from the Shoreline Rangers and SDPD told us that the enhanced access control and signage did make it easier for them to talk to members of the public about staying on trails and respecting wildlife, and in some cases to issue citations for violations.

However, there continues to be a lack of clarity about where the boundary of the off-leash area is. There are currently no signs or physical barriers to indicate a transition from the off-leash dog beach to an area where leashes are required, and there are conflicting boundaries in different City documents, making it difficult to enforce leashing pets in the habitat areas. This issue was discussed at length by project partners, but requires some additional advocacy and community involvement to resolve. Clarifying these boundaries should be a priority for future advocacy.

Because of the project's location in such a highly trafficked area, ongoing maintenance is going to be important to protect the condition of the access control barriers against vandalism and deterioration. Budgeting for maintenance and additional rolls of fencing and supplies to repair the fencing should be a part of future grant applications or operational budgets.

We also anticipate that while we certainly reduced the seedbank of invasive, non-native weeds during the massive invasive removal effort, there will certainly be continued germination of seed and introduction of new weeds in this area in the future. Ongoing maintenance work parties should continue to focus on invasive removal, and the permissions to continue that work should be maintained.

One goal of the project was to build community investment in the future success of this project, so as to build a group of volunteers willing to continue to support this work beyond the end of the grant. That continues to be the case, with both docents and maintenance volunteers continuing to regularly work to maintain the site. This is part of the project's long-term sustainability, to supplement the limited resources of the City of San Diego's Parks and Rec Department with skilled, trained and committed community volunteers. Both San Diego Bird Alliance and the San Diego River Park Foundation seek additional opportunities to continue to fund this important work to protect and build upon the success of this grant.

Geographical Information Systems Data

No additional spatial data submitted.

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SDMMP Project Page

To complete the grant requirements, your Final Report (along with all annual or interim reports) must be added to your project's Project Page on the SDMMP website. Add any necessary photographs to the photo carousel and fill out the photograph information.

Please contact Sarah McCutcheon (smccutcheon@usgs.gov) or Emily Perkins (eperkins@usgs.gov) if you are having trouble accessing or editing your project page.

Performance Measures Instructions

Grantee's performance will be measured against the Performance Measures (Exhibit D: Grant Agreement) during the term of the project. More details on Performance Measures and Grant Recovery Plans are outlined in the Grant Agreement.

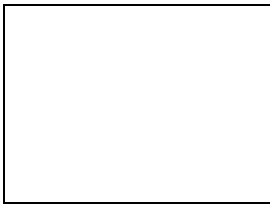
To transfer the **Project Performance Measures Excel Spreadsheet** to the Final Report:

- Copy the Excel icon located under the *Project Performance Measures* section in your Quarterly Progress Report.
- Open the Final Report Template and under the *Project Performance Measures* section, paste the Excel Icon.
 - The excel spreadsheet icon will appear and when double-clicked, will open the most up-to-date version of the *Project Performance Measures*.

Performance Measures

Please include the Project's Performance Measures with the cumulative data from the entire project in order to complete the grant requirements.

Insert Excel Icon Spreadsheet here



Appendices

As necessary, please include any additional materials as separate appendices and reference them in the report as needed. Examples may include outreach materials, management plans, data sets, etc.

Appendix 1. Photo-Monitoring Report

Appendix 2. Habitat Restoration in Progress, Stay on Trails Signage

Appendix 3. Bark Ranger Brochure

Appendix 4. Interpretive Signage, digital files

Appendix 5. San Diego River Estuary iNaturalist Project Export

Final Report Template

SDMMP and SANDAG will be collecting specific data from each grant project in order to update the *Status of the Regional Preserve System in Western San Diego County*. Information collected will become available on SDMMP's Dashboard.

- Please fill out the spreadsheet by simply double-clicking the *State of Preserve Monitoring* chart.
 - The excel sheet will open up and allow you to input data. Once you are finished inputting the data into the excel sheet, scroll the excel sheet to the top with the headers displayed. Then simply click once on the grey space to the right of the excel sheet to return to the Word document to resume editing.

[illegible]

Definitions

- **Management Strategic Plan (MSP):** [The Management and Monitoring Strategic Plan for Conserved Lands in Western San Diego County: A Strategic Habitat Conservation Roadmap](#) (or simply "MSP Roadmap" or "MSP") is a comprehensive, landscape-scale adaptive management and monitoring framework for prioritized species and vegetation communities in western San Diego County.
- **Habitat Type:** Please select from one of the MSP listed habitats. If the habitat type is not listed, please do not select from the dropdown and manually type in the habitat type name. Provide acreage by specific habitat types, **do not combine multiple habitat types with one acreage calculation.**
- **Habitat Enhancement through Invasive Species Control (acres):** removing invasive plant or animal species to improve ecological function.
- **Habitat Created/Restored (acres):** establishing habitat where it did not exist before; returning a damaged site to a natural or native state.
- **Fencing (feet):** fencing installed for grant purposes to lessen a threat or stressor to habitat
- **Acres Requiring Management:** activities such as vegetation thinning, invasive plant treatment, etc. that are necessary for maintaining previous enhancement, restoration, or creation efforts.
- **Acres Requiring Monitoring:** any regular monitoring conducted to establish baseline and/or determine success of grant project.
- **Sensitive Species:** MSP SL, SO and SS Species (https://sdmmp.com/msp_doc.php; Section 2.8 and 2.9; Table VI.1-1) that the management actions of the project are specifically designed to benefit to help ensure the species persists over the long-term on Conserved Lands in the Management Strategic Plan Area.
- **Sensitive Species Planted:** List any sensitive plant species that were seeded/planted for this project
- **Sensitive Species Benefitted:** List any other sensitive species that will or already have directly benefitted from the project