

**San Diego Association of Governments  
Famosa Slough Stormwater Treatment Pond  
Restoration and Enhancement  
Friends of Famosa Slough  
Final Report  
Project Period: July 1, 2023 – March 13, 2025  
Submission Date: 7/11/25  
SANDAG Contract Number: S1125487 EMP-01**

## Executive Summary

Famosa Slough is a 67 acre coastal wetland in the Point Loma and Ocean Beach Communities in San Diego. It is hydraulically connected to the San Diego River.

The Famosa Slough – Valeta Street Treatment Ponds were built in 2001 with support of the U.S. Environmental Protection Agency (EPA) Clean Water Act (CWA) Grant managed by the Regional Water Quality Control Board (RWQCB), Region 9, and the U.S. Fish and Wildlife Service (USFWS) Coastal Wetlands Program. The ponds are now a Fresh Water Marsh Habitat. The treatment ponds require maintenance periodically to remove the years of accumulated sediment deposited by Storm Water. The ponds act to capture sediment, nutrients and trash, reducing the impact of the storm water on the adjacent Famosa Slough Coastal Wetland. This project was meant to restore the ponds to their original design elevations and restore the California Bullrush *Schoenoplectus californicus*.

This project was initiated by The Friends of Famosa Slough, non-profit organization. The administration and management of this grant was done on a volunteer basis and with the cooperation of the City of San Diego Parks & Recreation & also the City of San Diego Environmental Services. The Friends hired Merkel and Associates after a bidding process. Merkel provided both the biological permit expertise, but also the construction know how and capabilities. The City provided disposal bins and transportation of the exotic plants and disposal soil (estimated value \$30,000). The Friends also added about \$20,000 to the project. By reaching out to our partners, we added \$50,000 value and contributed ~200 hours of volunteer labor.

Our goal was to remove an estimated 130 Cubic yards of sediment from Pond 1 (0.2 acres fresh water marsh) and to remove exotic plants & replant with California Bullrush. We also worked to clear the culverts connecting the three ponds to renew the functionality of the Treatment Pond System. In late 2024, we received our streambed alteration permit. In February and March 2025, we worked with the City of San Diego and Merkel & Associates to do the mechanical work. Volunteers worked the many days in the month of February 2025 to facilitate the professional workers. The project seems to have been a great success and has really invigorated our group. There is nothing that brings a team together more than having to ask for help. Some other environmental groups partnered with the efforts—San Diego Bird Alliance and the SD Surfriders both joined us on special work party days.

I want to thank Lauren Lee, Kim Smith and Benjamin Gembler for helping us navigate this process.

## **Final Report Overview**

**PLEASE DO NOT CHANGE OR ALTER THE FORMATTING OF THIS DOCUMENT!**

SANDAG has developed a standardized grant monitoring and tracking program for the Environmental Mitigation Program (EMP) Land Management Grant Program. The purpose is to collect information on individual projects and the grant program as a whole for reporting to the Regional Habitat Conservation Taskforce, SANDAG policy advisory committees, and the SANDAG Board of Directors. SANDAG monitors grantees through invoices, progress reports, performance measures, and designated photograph points. These standardized reporting templates and instructions for submittal are included below.

## **Table of Contents Instructions**

To use the automatic **Table of Contents**:

- First add all of your data to the *Project Tasks, Conclusions, Geographic Information System (GIS), Photographs, Figures, and Appendices* sections.
- When you are finished adding, removing, or editing *Work Performed by Task, Conclusions, GIS, Photographs, Figures, and Appendices* sections, simply click once on the **Table of Contents**.
- Then click *Update the Table* in the upper left-hand corner of the Table.
  - A window will open for you to choose to update just the page numbers or the entire table, choose to **update the entire table**.
- The Table will automatically update the headers and page numbers from the information you inputted in the rest of the report.

*\*Each header will be hyperlinked to the corresponding page for easier access.*

*Please do not manually update the Table of Contents. It will automatically update when you add, remove, or edit the Work Performed by Task templates below on page 4 and click update the entire table on the Table of Contents.*

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## **Project Background**

The Famosa Slough Water Quality Treatment Wetland (also referred to as a Treatment Basin) was constructed through cooperative efforts of the City of San Diego (City) and Friends of Famosa Slough in 1999-2000. The creation of the Treatment Basin involved converting ruderal wetlands to a three chambered storm water treatment wetland system consisting of Pond 1, 2, and 3 with the intent to capture trash and sediment and to improve water quality prior to discharge into the tidal waters of Famosa Slough. The Treatment Basin makes use of managed wetlands to provide water quality treatment benefits. Thus, these wetlands are designed to be bulrush-dominated (e.g., *Schoenoplectus*, *Bolboschoenus*) freshwater/brackish marsh.

Funding for the construction of the Treatment Basin was provided by the City and Friends of Famosa Slough as well as significant grant support from an U.S. Environmental Protection Agency (EPA) Clean Water Act (CWA) Grant managed by the Regional Water Quality Control Board (RWQCB), Region 9, and the U.S. Fish and Wildlife Service (USFWS) Coastal Wetlands Program. Regulatory approvals for the creation of the Treatment Basin were issued by the U.S. Army Corps of Engineers (USACE; Permit No. 95-20072-TCD), RWQCB, and CDFW (CDFW Streambed Alteration Agreement [SAA] #5-189-99). The SAA approved creation as well as maintenance of the Treatment Basin to maintain its function. Maintenance of the Treatment Basin is guided by the Operations, Maintenance and Monitoring Plan for the Famosa Slough Treatment Wetland (Merkel & Associates, Inc. 2001). Maintenance was most recently implemented through cooperative efforts of Friends of Famosa Slough and the City in February 2011.

Our Project is really the second maintenance cycle of The Valeta Street Treatment Ponds since construction in 2002.

## **Project Goals**

The Treatment Ponds had overgrown and filled in with sediment. Our goal was to re-establish the ponds to their original build condition. Remove invasive plants and restore *Schoenoplectus*, *Bolboschoenus*. Also to assure that the ponds connecting weirs and inputs are restored to a fully clear and flowing condition. This would improve the condition of the overall system.

We planned to remove 120-250 CY soil. We removed 130 CY soil & 120 CY vegetation. We salvaged 100's of Bullrush rhizomes that have already taken off.

## **Work Performed by Task**

### **Task 1- Site Surveying and Restoration Plan**

*Budget: \$8,000 + \$1,700 per budget reallocation = \$9,700*

*Spent: \$9,703.75*

*Match for Task: no match*

Merkel and associates started work surveying, contacting appropriate agencies, and preparing a Streambed Alteration Plan to CA Fish and Game. We were not sure this

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permit would be required. From July - December 2023 Merkel had contacted all agencies, prepared a maintenance plan and had submitted our Plan to Fish and Game for permit.

### **Task 2- Agency Permitting**

*Budget: \$3,000*

*Spent: \$2,914.30*

*Match for Task: no match*

This is the agency plan check fee

### **Task 3-Removal, Testing, Disposal of Debris and Fine Grading**

*Budget: \$28,000*

*Spent: \$28,000.50*

*Match for Task: FFS contributed \$17,500 to this task (this was not required by the grant)*

This work started in Early February- Early March 2025. There was delay in gaining access to the site due to City of San Diego Right of Entry requirements that took longer than expected to establish. This work is where the coordination efforts paid off. The professional, City agency and volunteer efforts came together. First Volunteers cleared a path from the parking lot to the Pond 1 Access point. The City brought a 40-yard bin, Merkel chainsaw crew layed down all the invasive trees where they grew. Volunteers then hauled the cut material to the bins. After 2-days, we had complete access to the floor of the pond. We did build makeshift roads out of the larger branches to prevent the machines from sinking into the mud. The roads were built to the far ends of the pond and as the excavator lowered the floor of the pond, they also pulled out the makeshift road. We had very few machine issues and did not get stuck once. The bulk of the soil removal was done by the excavator.

As the excavator worked, we had some manual workers salvaging the California bullrush, further removing exotic plants and had digging (per plan) to clear out the culverts.

We did have some rain that delayed the work, we would like to start in late fall next time. Because of the late start, we felt pressure needing to finish before the nesting period. However, we worked together to keep the machine running to pull out the sediment. I am very glad to have worked with Merkel & Associates. Their expertise was invaluable.

### **Task 4 -Restoring Berms**

*Budget: \$8,000 - \$1,700 per budget reallocation = \$6,300*

*Spent: \$6298.23*

*Match for Task: no match*

A mix of 60/40% sand and clay was mined from the sediment in the pond. The trail soil was added to the berms. The berms were recompacted by the machine movement.

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### **Task 5 - Removal & Disposal of non-native plants**

*Budget: \$4,000*

*Spent: \$3,962.90*

*Match for Task: no match*

Estimated 120 Cubic yards of exotic plants was removed from the fresh water marsh. Brazilian Pepper, Ash Tree, fan palms, kikuya grass & grasses were removed and disposed with City provided bins. This was done by a chainsaw crew early Feb. and hauled by volunteers.

### **Task 6 - Revegetation**

*Budget: \$2,000*

*Spent: \$2,000.35*

*Match for Task: no match*

Manual salvaging and preparation of California bullrush rhizomes was done by Merkel staff in mid Feb. This material was stored on-site and replanted after the fine grading had been completed. The bullrush is prolific and has almost fully covered the Pond 1 Basin floor.

### **Task 7 - Administrative**

*Budget: 160 volunteer hours*

*Spent: ~160 volunteer hours.*

*Match for Task: no match*

The administrative component started with Task 2 Early February- Early March 2025. It is near complete with the completion of INV003 and this Final report.

## **Photographs & Figures**

**Photographs and figures are invaluable!** Please include photos/videos in the final report and any figures (if applicable). Both photos and figures may be included throughout the document under corresponding tasks or at the end following the Discussion/Conclusion section and are required to be submitted as separate files from the Word/PDF document. Photographs taken at the same place or photographic points (photo-points) throughout the grant period assist SANDAG staff in tracking the project's progress over time.

It is required that **Photographs include:**

- A before and after comparison sequence from the start to the completion of the project for photo points.
- A brief description of the corresponding tasks, date, and activity in the photograph.
- **A copy of each photograph included in the report submitted in a .jpeg or .png file format.**

It is required that **Figures include:**

- A caption with a brief description.

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### Conclusions

The project accomplished its goals of restoring the riparian marsh to its original design elevations. We cleared all of the inputs culverts into the pond and assured connectivity between the ponds at the weir point. The areas around the weirs were hand cleared of vegetation to allow proper flow between the treatment pond system. A good deal of exotic vegetation has been cleared. Brazilian Pepper trees have been cleared and treated to prevent resprout. The basin of pond one was recontoured for a more even flow and bed for the bullrush to thrive. The basin of Pond 1 is almost re-established now. The trail/berms were raised some inches and leveled—places water had flowed over were recompacted and releveled.

Our permitting process could have gone smoother. I think if we had assumed we would need a Fish and Wildlife Streambed Modification Permit and we could have prevented delays. There are windows that relate to the bird nesting and we did not make the first available, so we do appreciate that SANDAG granted an administrative extension. Staff was great in reaching out to help.

We have certainly improved the number of native plants in this location. Willows and bullrush the dominant plants. The bullrush has doubled in area compared with invasive plants that had overgrown.

As a constructed Treatment Pond project, this project requires continued maintenance. It is heavily impacted by sediment transport and all the neighborhood storm-water. We will continue to work on the trail and improving the image of the human access for in this location.

In 10 years, we should do this again. Next time, the Friends would get the permit ahead of the grant request. Maybe we can include a paid grant administrator.

### Geographical Information Systems Data

Please provide GIS data or mapping if applicable to the project. If GIS data or maps are included:

- Spatial data should accompany all Performance Measures as either a point, line, polygon, or list of coordinates.
- Spatial data should be attached to San Diego Management and Monitoring Program's (SDMMP's) website project page and shared publicly except when it absolutely necessary to keep private. *If the data needs to private, please reach out to ([smccutcheon@usgs.gov](mailto:smccutcheon@usgs.gov)) or Emily Perkins ([eperkins@usgs.gov](mailto:eperkins@usgs.gov)).*
- Spatial data should be provided as either a shapefile, KML/KMZ, or spreadsheet of coordinates.
  - Treated or planted areas should be tracked as points or polygons.
  - Fencing or trails should be tracked as lines.
- Spatial data should have the following attributes:
  - Date of Activity,
  - Type of Activity,
  - Area or Length Completed,
  - Goal Area or Length, and
  - Any notes specific to the activity.

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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](mailto:smccutcheon@usgs.gov)) or Emily Perkins ([eperkins@usgs.gov](mailto: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.

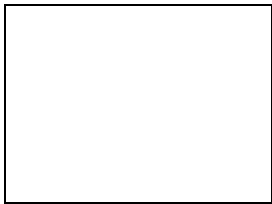
To transfer the **Project Performance Measures Excel Spreadsheet** to the Final Report:

- 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.



## EMP Land Management Grants

### Final Report Template

## 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](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