



2023

Palos Verdes
Nature Preserve

Annual Report

Prepared By

**Palos Verdes Peninsula
Land Conservancy**

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Prepared for

The Rancho Palos Verdes
Natural Community
Conservation Plan and
Habitat Conservation Plan

In collaboration with

City of Rancho Palos Verdes,
California Department of Fish
and Wildlife Service, & U.S. Fish
and Wildlife Service

2023 ANNUAL REPORT

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1.0 INTRODUCTION

The Palos Verdes Peninsula Land Conservancy (PVPLC) and City of Rancho Palos Verdes (City) prepare an annual report based on the calendar year for the purposes of evaluating the implementation of the NCCP/HCP during the proceeding year and the adequacy of the overall progress being made toward reaching the conservation goals of the NCCP/HCP. The 2023 Palos Verdes Nature Preserve Annual Report for the Rancho Palos Verdes Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) fulfills annual submittal requirements by the Palos Verdes Peninsula Land Conservancy (PVPLC) for the Palos Verdes Nature Preserve (Preserve). Additionally this report details stewardship activities, research, funding, and community involvement in the Preserve during the period January 1 through December 31, 2023. This report also includes annual submittal requirements of the City of Rancho Palos Verdes including habitat tracking and updates on Covered Projects and Activities permitted under the NCCP/HCP.

PVPLC is the designated Habitat Manager for the Palos Verdes Nature Preserve for the City of Rancho Palos Verdes. As of August 2022, the Preserve now encompasses approximately 1,500 acres and is located on the southern side of the Palos Verdes Peninsula in the City of Rancho Palos Verdes, California. The Preserve was formed under the NCCP/HCP to “maximize benefits to wildlife and vegetation communities while accommodating appropriate economic development within the City and region pursuant to the requirements of the NCCP/HCP Act and Section 10(a) of the ESA (URS 2004a).” The City Council adopted the NCCP/HCP in November 2019 and received its Section 10 permit in April 2020. The City is awaiting CDFW permit decisions. As a primary component of the NCCP/HCP, a Preserve design was proposed to conserve regionally important habitat areas and provide habitat linkages in order to benefit sensitive plants and wildlife. PVPLC manages the habitat in the Preserve per the requirements of the NCCP/HCP as well as other Preserve management activities further detailed in a management agreement with the City.

The primary focus of management for the Preserve is to maintain or restore habitat for the covered plant and animal species listed in the NCCP/HCP. A Habitat Management Plan was adopted in 2007 that outlines the restoration of five acres per year for a total of 15 acres over a three-year period. This plan also outlined the methodology for removal of exotic plant species, a predator control plan, and the monitoring of covered plant and animal species. PVPLC seeks additional funding when possible, to perform restoration on more than the minimum five acres per year required in the NCCP/HCP as well as for invasive species removal. Several opportunities of this nature occurred during the reporting period that enabled PVPLC to implement additional restoration as detailed below. Additionally, PVPLC executes several trail projects and habitat protection and enhancement measures with the aid of staff, volunteers and additional funding sources.

PVPLC also facilitates scientific research through community science programs and academic research in the Preserve. Volunteers greatly support the implementation of management strategies for the Preserve by assisting in monitoring the properties, wildlife, and habitat as well as helping to restore habitat and maintain trails. Collaborating with regional high schools and colleges allows for scientific research that expands our understanding of the Preserve.

Annual Submittals (Included in This Report)

1. Restoration Plans for the NCCP/HCP and Other Projects
2. NCCP/HCP Restoration Monitoring Report
3. Tracking of Habitat Impacts
4. Targeted Exotic Removal Program for Plants (TERPP) Report
5. Community Science and Education Programs
6. Trail Maintenance Activities and Project List
7. Volunteer Involvement and Support
8. Enforcement Reports
9. Night Hikes and Trail Counter Data
10. Financials

Site Description

The Preserve is located on the southern side of the Palos Verdes Peninsula in the City of Rancho Palos Verdes, California (Figure 1). The approximately 1,500-acre Preserve has been divided into 15 subareas referred to as Reserves (Table 1).

The topography of the Preserve is diverse, ranging from relatively flat lowland areas above steep coastal bluffs in the south, to very steep slopes, ridgelines and gullies on the slopes to the north. Elevations range from approximately sea level along the coastal edges of Vicente Bluffs, Abalone Cove, and Ocean Trails to approximately 1,300 feet above mean sea level at the northern most parcel, Vista del Norte. Adjacent land uses include single-family residences on most sides, open space associated with neutral lands on the Peninsula, the Pacific Ocean to the south and west, and the Los Verdes and Trump National golf courses near the western and eastern ends of the Preserve area.



Figure I. Map of the Palos Verdes Nature Preserve with associated Reserve locations

Table I
Reserve Names of the Palos Verdes Nature Preserve. See Figure I for locations

Abalone Cove Reserve	Malaga Canyon Reserve
Agua Amarga Reserve	Ocean Trails Reserve**
Alta Vicente Reserve	Portuguese Bend Reserve
Dorothy and Allen Lay Reserve	San Ramon Reserve
Filiorum Reserve	Three Sisters Reserve
Forrestal Reserve	Vicente Bluffs Reserve
Jacqueline M. Glass Family Reserve	Vista del Norte Reserve
Lower Filiorum Reserve*	
* Final Reserve Name Pending ** Not actively managed by PVPLC	

2.0 HABITAT RESTORATION PLANS

Restoration is the process of re-establishing or enhancing historical biological functions and values to degraded habitats. Section 7.5 of the NCCP/HCP requires that the City restore a minimum of 250 acres of habitat over the 50-year Permit Term within the Preserve. A minimum of 5 acres of native habitat shall be restored each year, or a total of 15 acres every three years if exigencies prevent restoration of 5 acres each year.

The initial Preserve Habitat Management Plan (PHMP) for the NCCP/HCP was created in 2007. A component of the PHMP was the Habitat Restoration Plan for five acres per year for a total of 15 acres over the first three-year period. This plan was completed in April 2007 and concluded that Alta Vicente Reserve in the Preserve ranked the highest in terms of site suitability for an immediate restoration project. However, since a fire occurred at Portuguese Bend Reserve in August 2009, plans were adapted to focus immediate habitat restoration at Portuguese Bend Reserve, and only Phase I and 2 (10 acres) were implemented at Alta Vicente Reserve. The Restoration Plan for Portuguese Bend Reserve covered habitat restoration and monitoring of 25 acres over five years (2010 to 2015).

In 2015, PVPLC developed new habitat restoration plans to execute the final phases of the restoration at Alta Vicente Reserve, and these plans were included in the 2015 Comprehensive Report. Phase 3 was initiated in 2016 and Phase 4 initiated in 2017, with the installation of drip irrigation and coastal sage scrub vegetation species. In 2016, the Habitat Restoration Plan for the Abalone Cove Ecological Reserve was developed to continue with restoration at Abalone Cove Reserve. The plan includes three phases with site preparation of the first phase beginning in 2019. A fourth phase was added to the Abalone Cove plan in 2021 and was started in spring 2022 and is now in maintenance phase. A new restoration plan for the Jacqueline M. Glass Family Reserve was being reviewed and finalized in 2023 to continue with the goal of completing 250 acres of restoration within the permit term for the Palos Verdes Nature Preserve. The plans initial site preparation was begun in late 2023, but due to accelerated land movement, the project implementation has been postponed until further review from the City geologists. A review of invasive species removal and native plant irrigation is expected in March of 2024.

2.1 ALTA VICENTE RESERVE RESTORATION

The Habitat Restoration Plan for Alta Vicente Reserve outlined appropriate habitat revegetation locations and methodology to adequately comply with the Preserve Management requirements of the Rancho Palos Verdes NCCP/HCP. The Habitat Restoration Plan for Alta Vicente Reserve provided guidelines for the establishment of coastal sage scrub (CSS), coastal cactus scrub (CCS), and PVB butterfly habitat on a total of 15 acres during 3 consecutive years at the Alta Vicente Reserve with an additional 5 acres added to the project.

The habitat restoration conducted at the Alta Vicente Reserve consisted of four phases, with one phase initiated each year. The first five-acre phase of restoration, Phase 1 (Figure 2) began with site preparation during the fall of 2007 and 2008 to minimize weeds after planting (as per the timeline in the Alta Vicente Restoration Plan, Table 2). Phase 1 plants were installed and hydroseeded during the winter of 2009/2010. Site preparation for Phase 2 began in fall 2008. In December 2010, staff removed *Acacia cyclops* and completed planting and seeding in the Phase 2 area. Staff weeded and maintained Phase 1 and 2. Additional container plants were installed from 2012 to 2017 to fill in areas with low native plant cover.

Phase 3 (Figure 2) was initiated in fall 2016 with the installation of drip irrigation system and container plants throughout the 5 acre area. Year 1 monitoring began in spring 2018. Preparation for Phase 4 planting began in summer 2017 with site clearing using goats and drip irrigation system installation. Phase 3 passed all success criteria in 2022 and has concluded as of 2023. Phase 4 (Figure 2) planting began in winter 2017 and extended through early 2018, and Year 1 monitoring began in spring 2019 and is expected to be concluded in 2024.

Table 2

Restoration Project Schedule for Alta Vicente Reserve, based on the Alta Vicente Reserve Habitat Restoration Plan

	Task	Date
PHASE 1	Site clearing and soil preparation	Fall 2007, Fall 2008
	Installation of temporary irrigation system	Fall 2008
	Weed/exotic removal and grow-kill cycles	Fall 2008-Spring 2009
	Planting container stock	Early Winter 2009/2010
	Hydroseed application	Winter 2009/2010 (following planting)
	Completion of installation/assessment of site installation	Following completion of installation and seeding and 120 day maintenance period
	5-year biological monitoring and maintenance	To begin upon successful installation of restoration work
	Phase one completion	2015, end of Year 5
PHASE 2	Site clearing and soil preparation	Fall 2008, Fall 2009
	Installation of temporary irrigation system	Fall 2008, Fall 2009
	Weed/exotic removal and grow-kill cycles	Fall 2008, Fall 2009,-Spring 2010
	Planting container stock	Winter 2010/2011
	Seed application	Winter 2010/2011 (following planting)
	Completion of installation/assessment of site installation	Following completion of installation and seeding and 120 day maintenance period
	5-year biological monitoring and maintenance	To begin upon successful installation of restoration work
	Phase two completion	2016, end of Year 5
PHASE 3	Begin site preparation, weed removal	Fall 2016
	Install irrigation	Fall 2016
	Planting Container Stock	Fall and Early Winter 2016
	Seed application	Fall and Early Winter 2017
	Monitoring and Maintenance	Begin after planting, Winter 2016
	5-year biological monitoring and maintenance	Spring 2018-Spring 2022
PHASE 4	Begin site preparation, weed removal	Summer 2017
	Install irrigation	Fall 2017
	Planting Container Stock	Fall and Early Winter 2017
	Seed application	Fall and Early Winter 2017
	Monitoring and Maintenance	Began after planting, Winter 2017
	5-year biological monitoring and maintenance	Spring 2019-Spring 2024

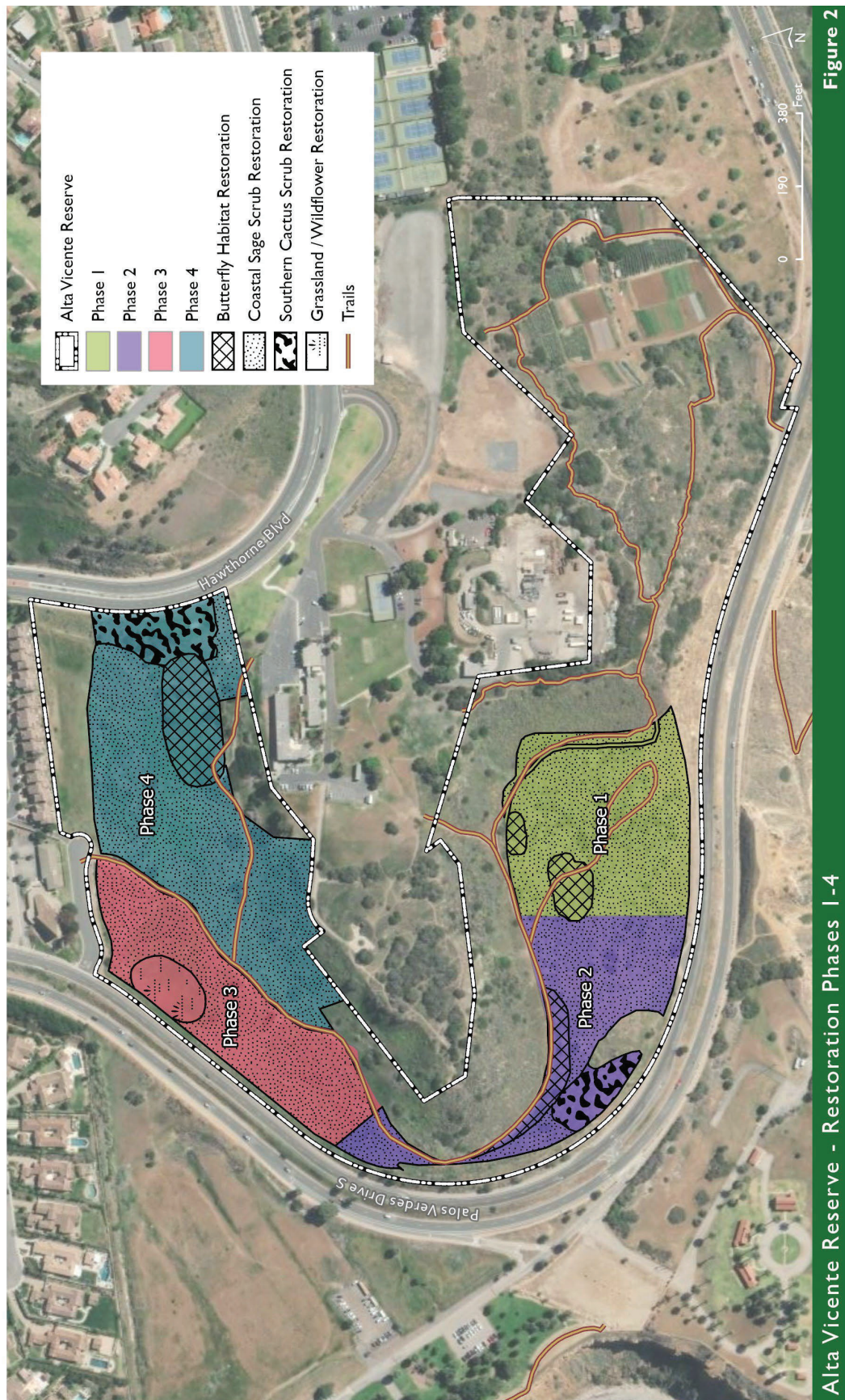


Figure 2. Map of Phase 1 - 4 Restoration Areas at Alta Vicente Reserve

2.2 PORTUGUESE BEND RESERVE RESTORATION

The habitat restoration plan for Portuguese Bend was to complete 25 acres in five phases (Table 3, Figure 3) following a fire event in the area. Site preparation at Portuguese Bend began in February 2010. Field staff weeded (manual/mechanical/herbicide) the burn area in 2010. In February 2011, goats were deployed to clear vegetation. Due to the high density of weeds, an additional year of weeding was implemented, and plants were installed on ten acres in fall 2012 (Phase 1 and Phase 2).

PVPLC implemented the “grow and kill” technique prior to plant installation, and improve seed and plant survival after planting. Phases 1, 2 and 3 were irrigated with overhead sprinklers. Drip irrigation was installed for Phases 4 in fall 2014 and for Phase 5 in fall 2015, coinciding with the plant installation for those phases. Weed control was implemented in all phases for five years after plant installation and continues to this day on an as needed basis. Table 3 provides the implementation schedule for Phase 1 through 5 at Portuguese Bend.

Table 3

Restoration Project Schedule for Portuguese Bend Reserve Phases 1, 2, 3, 4 and 5, based on the Portuguese Bend Reserve Habitat Restoration Plan

	Task	Date
PHASE 1 and PHASE 2	Begin site preparation, weed removal	Fall 2010
	Install irrigation	Winter 2012
	Final site preparation: weed and thatch removal	Fall 2012
	Installation: Seeding and planting	Fall 2012-Early Winter 2013
	Maintenance weeding	Winter 2013-Spring 2014
	Fill-in planting, as needed	Fall 2013-Fall 2014
	5-year biological monitoring and maintenance	Spring 2013-Spring 2017
	Phase one and two completion	2017, end of Year 5
PHASE 3	Site preparation, weed removal	Fall 2012-Fall 2013
	Final site preparation: weed and thatch removal	Fall 2013
	Installation: Seeding and planting	Fall 2013-Early Winter 2014
	Maintenance weeding	Winter 2014-Spring 2015
	Remedial seeding, as needed	Fall 2014-Fall 2015
	5-year biological monitoring and maintenance	Spring 2014-Spring 2018
	Phase three completion	2018, end of Year 5
PHASE 4	Site preparation, weed removal	Fall 2013-Fall 2014
	Final site preparation: weed and thatch removal	Fall 2014
	Installation: Seeding and planting	Fall 2014-Early Winter 2015
	Maintenance weeding	Winter 2015-Spring 2016
	Remedial seeding, as needed	Fall 2015-Fall 2016
	5-year biological monitoring and maintenance	Spring 2015-Spring 2019
	Phase 4 completion	2019, end of Year 5
PHASE 5	Site preparation, weed removal	Fall 2014-Fall 2015
	Final site preparation: weed and thatch removal	Fall 2015
	Installation: Seeding and planting	Fall 2015-Early Winter 2016
	Maintenance weeding	Winter 2016-Spring 2017
	Remedial seeding, as needed	Fall 2016-Fall 2017
	5-year biological monitoring and maintenance	Spring 2016-Spring 2020
	Phase 5 completion	2020, end of Year 5

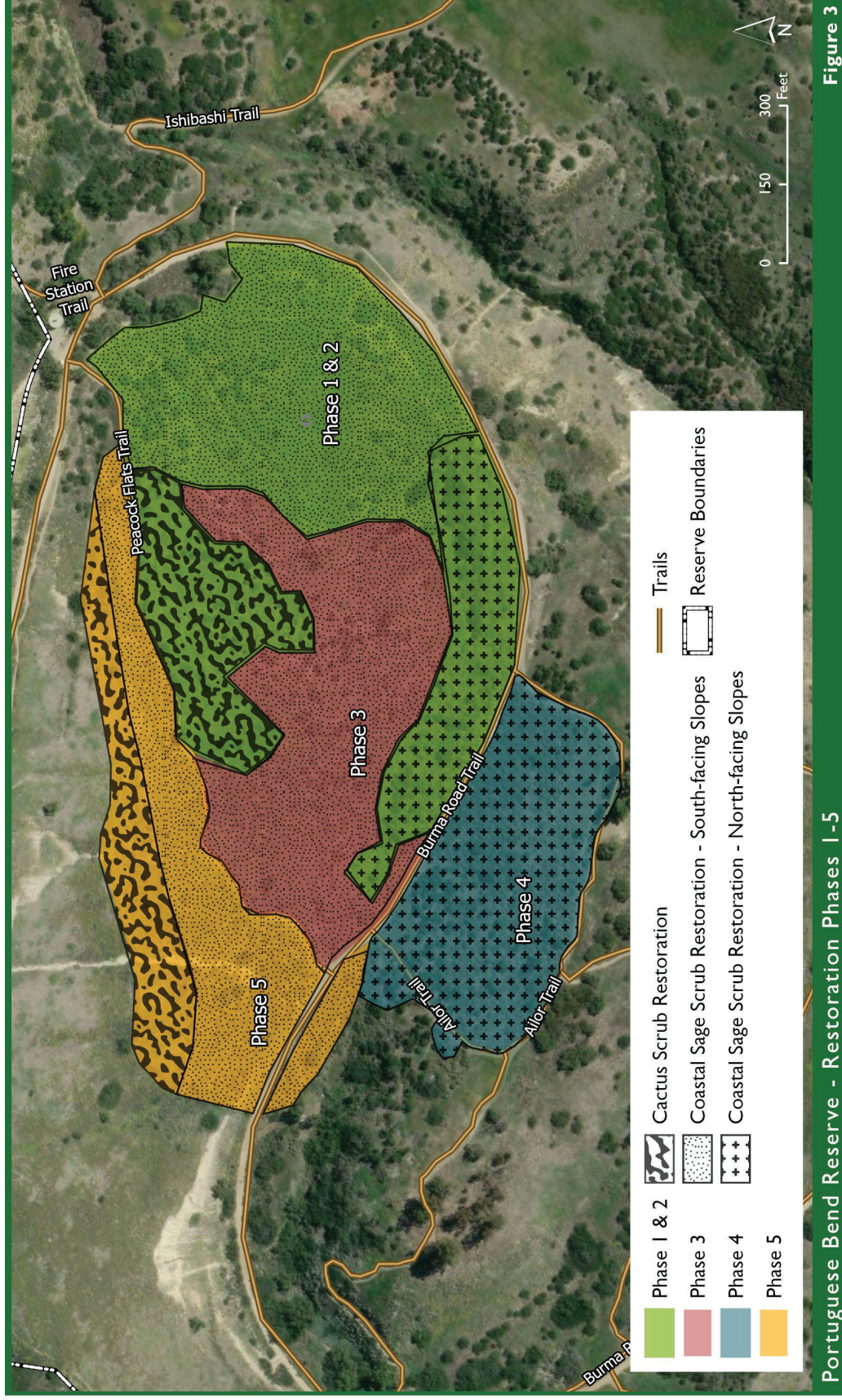


Figure 3. Map of Phase 1 – 5 Restoration Areas at Portuguese Bend Reserve

2.3 ABALONE COVE RESTORATION

The habitat restoration project at Abalone Cove Reserve was designed to restore 20.3 total acres of mixed coastal scrub, and mixed Southern Coastal Bluff Scrub/Southern Cactus Scrub (Table 4, Figure 4). The project began in 2019, by introducing goats to graze the Phase I area to reduce the cover of invasive plants and prepare the site for the habitat planting effort started in 2020. At the end of 2019 and through the end of 2020, PVPLC crews removed non-native woody shrubs such as acacia and peppertree. Planting in Phase I began in winter of 2019 following irrigation installation. Phase 2 planting began in fall of 2020 following site preparation and irrigation installation for that phase. Phase 3 site preparation began in spring 2021 and irrigation installation was finished at the end of 2021 with planting implemented in early 2022. Phase 4 was grazed of non-natives in spring of 2022 and drip irrigation was installed in 2023 followed by successful container planting and continued weed maintenance. Non-native trees were removed in early 2023, as well. The Abalone Cove restoration project is complete as of 2023 and is in maintenance and monitoring phase. The full restoration plan can be found in Appendix A and the implementation schedule can be seen in Table 4 for Phase I through 4.

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Table 4

**Restoration Project Schedule for Abalone Cove Reserve, based on the
Abalone Cove Reserve Habitat Restoration Plan**

	Task	Date
PHASE 1	Site clearing	Fall 2019
	Installation of supplemental watering system	Spring 2020
	Invasive weed species control and grow-kill cycles	Fall 2019 – Summer 2020
	Planting container stock	Spring 2020
	Seed application	Fall 2020
	Monitoring and maintenance	To begin upon successful installation of plants
PHASE 2	Site clearing	Spring 2020
	Installation of supplemental watering system	Summer 2020
	Invasive weed species control and grow-kill cycles	Spring 2020 – Fall 2020
	Planting container stock	Fall 2020
	Seed application	Fall 2020
	Monitoring and maintenance	To begin upon successful installation of plants
PHASE 3	Site clearing	Spring 2021
	Installation of supplemental watering system	Summer 2021
	Invasive weed species control and grow-kill cycles	Spring 2021 – Fall 2021
	Planting container stock	Fall 2021
	Seed application	Fall 2021
	Monitoring and maintenance	To begin upon successful installation of plants
PHASE 4	Site clearing(manual and goats)	Spring 2022
	Installation of supplemental watering system	Fall-Winter 2022/23
	Invasive weed species control and grow-kill cycles	Spring 2022- Winter 2022/23
	Planting container stock	Winter 2022/23
	Seed application	Winter 2022/23
	Monitoring and maintenance	To begin upon successful installation of plants

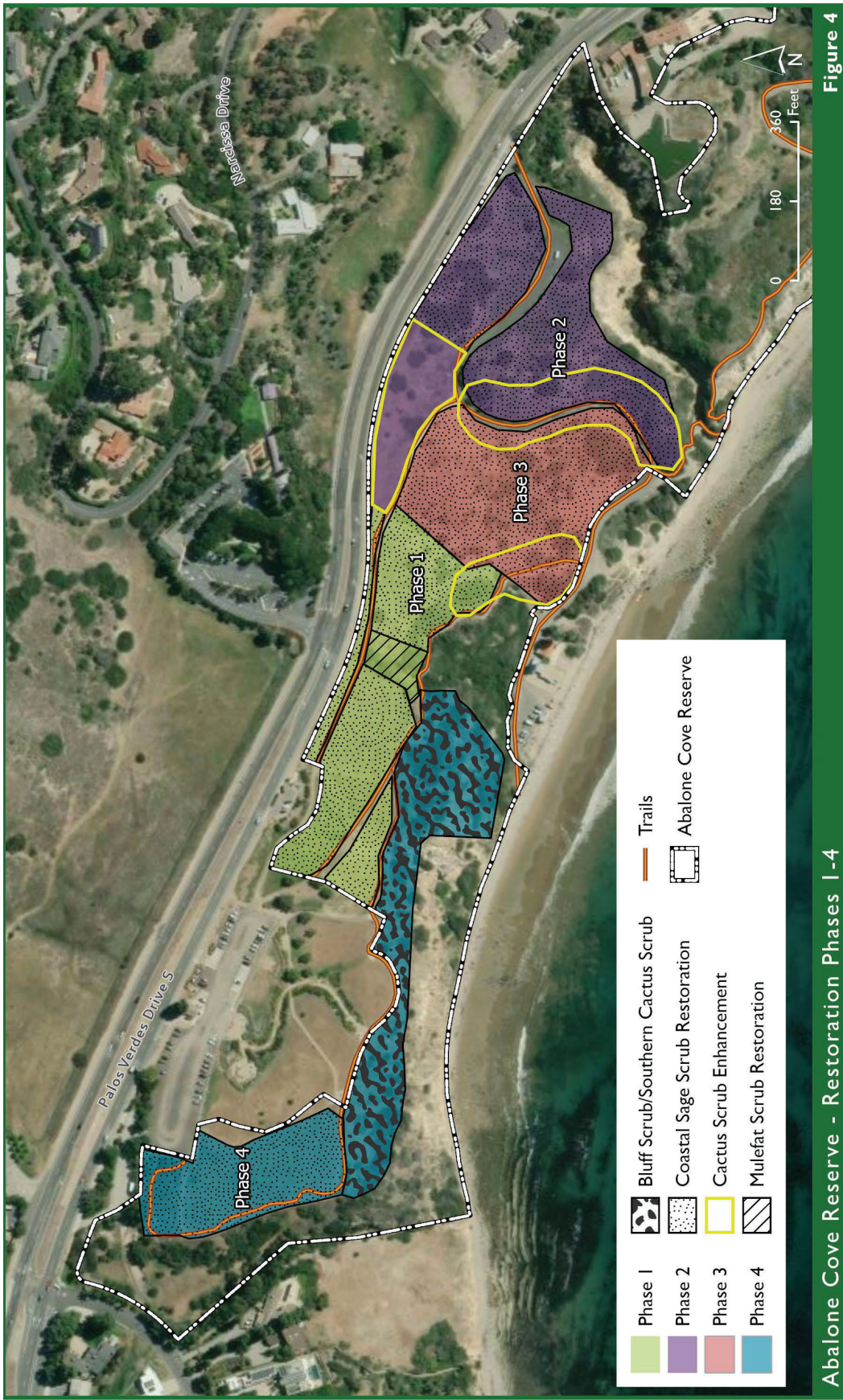


Figure 4. Map of Phase 1 – 4 Restoration Areas at Abalone Cove Reserve

2.4 JACQUELINE M. GLASS FAMILY RESERVE RESTORATION

The habitat restoration project at Jacqueline M. Glass Reserve (Glass Reserve) was designed to restore approximately 17 acres of habitat (12 acres of Coastal Sage Scrub and 5 acres of Southern Cactus Scrub) to continue in the creation of contiguous native habitat (Figure 5). The Glass Reserve lies on the southern portion of the newly acquired ~100 acres. This restoration plan would begin the creation of a wildlife corridor outlined in the NCCP/HCP. The project was under review and nearly finalized in 2023, later than anticipated and an initial mowing of invasive species was completed. With accelerated land movement occurring in the area and a recommendation to cease irrigation in and around the landslide area, the project has been put on hold until further information is obtained. A review of invasive species removal and native plant irrigation is expected in March of 2024. The full restoration plan can be found in Appendix A and the implementation schedule can be seen in Table 5 for Phase I through 4.

Table 5

Restoration Project Schedule for Jacqueline M. Glass Family Reserve, based on the Jacqueline M. Glass Reserve Habitat Restoration Plan

Preliminary Restoration Project Schedule		
Task	Date	
Site clearing	Fall prior to first year	Oct-22
Invasive weed species control and grow-kill cycles	Winter and Spring of first year	October 2022-October 2023
Installation of supplemental watering system	Summer of first year	Apr-23
Planting of container stock	Fall and early winter of second year	Oct-23
Seed Application	Fall and early winter of 3rd year	November 2024 or before large rain event
Monitoring and Maintenance	To begin upon successful installation of container plants	Five years after planting



Figure 5. Restoration Areas at Jacqueline M. Glass Family Reserve

3.0 ADDITIONAL RESTORATION ACTIVITIES IN 2023

PVPLC seeks additional funding, to perform restoration on more than the minimum five acres per year required in the NCCP/HCP. Several funding opportunities were pursued and awarded in previous years and work was continued during the reporting period. Two grants were received in 2022 and implementation continued during 2023. One preserve wide grant was awarded in 2023 and is expected to begin in spring of 2024. Figures 6A-6G provides a site map for all restoration projects active in 2023, including the restoration at Alta Vicente, Portuguese Bend and Abalone Cove Reserves that fulfills the requirements of the NCCP/HCP Habitat Restoration Plan. A complete summary of all restoration work completed in the Preserve, along with maps of restoration sites, can be found in Table 6. This summary includes several types of restoration techniques including Intensive Restoration (outplanting), Restoration (large scale seeding), and Passive Restoration (invasive removal and natural revegetation).

Table 6. PALOS VERDES NATURE PRESERVE RESTORATION PROJECTS THROUGH 2023

NCCP/HCP Restoration Activities							
NCCP/HCP Reserve	Funding source	Location	Habitat Type	Acres	Status	Start Date	End Date
Alta Vicente	NCCP/HCP	Phase 1	CSS	4.5	Completed	2007	2014
Alta Vicente	NCCP/HCP	Phase 1	PVB habitat	0.5	Completed	2007	2014
Alta Vicente	NCCP/HCP	Phase 2	CSS	4	Completed	2008	2015
Alta Vicente	NCCP/HCP	Phase 2	Cactus scrub	0.5	Completed	2008	2015
Alta Vicente	NCCP/HCP	Phase 2	PVB habitat	0.5	Active	2008	2015
Alta Vicente	NCCP/HCP/LA County Grant	Phase 3	CSS	4.5	Completed	2016	2022
Alta Vicente	NCCP/HCP/LA County Grant	Phase 3	Wildflowers	0.5	Completed	2016	2022
Alta Vicente	NCCP/HCP/LA County Grant	Phase 4	Cactus scrub	1	Completed	2017	2023
Alta Vicente	NCCP/HCP/LA County Grant	Phase 4	PVB habitat	1	Active	2017	2023
Alta Vicente	NCCP/HCP/LA County Grant	Phase 4	CSS	5	Completed	2017	2023
Portuguese Bend	NCCP/HCP	Phase 1 and 2	CSS	8	Completed	2010	2017
Portuguese Bend	NCCP/HCP	Phase 1 and 2	Cactus scrub	2	Completed	2010	2017
Portuguese Bend	NCCP/HCP	Phase 3	CSS	5	Completed	2012	2018
Portuguese Bend	NCCP/HCP	Phase 4	CSS	5	Completed	2013	2019
Portuguese Bend	NCCP/HCP	Phase 5	CSS	4	Completed	2014	2020
Portuguese Bend	NCCP/HCP	Phase 5	Cactus scrub	1	Completed	2014	2020
Abalone Cove	NCCP/HCP	Phase 1	CSS	4.59	Active	2019	2025
Abalone Cove	NCCP/HCP	Phase 1	Mulefat Scrub	.21	Active	2019	2025
Abalone Cove	NCCP/HCP	Phase 2	Mixed CSS	4	Active	2020	2026
Abalone Cove	NCCP/HCP	Phase 3	Mixed CSS	4.3	Active	2021	2027
Abalone Cove	NCCP/HCP	Phase 4	CSS	2	Active	2023	2029
Abalone Cove	NCCP/HCP	Phase 4	Cactus Scrub	3	Active	2023	2029
			NCCP/HCP Acreage Subtotal:	65.1			

* NCCP/HCP Funding Sources include a combination of sources including the City of Rancho Palos Verdes Management Agreement, community contributions, and grants to name a few.

Additional Restoration Activities							
Reserve	Funding source	Location	Habitat Type	Acres	Status	Start Date	End Date
Abalone Cove	Coastal Conservancy, NFWF, SMBRC, USFWS		CSS	5	Completed	2013	2016
Abalone Cove	Heritage Castle		CSS, Cactus Scrub, Butterfly habitat	1.5	Active	2020	2025
Agua Amarga	USFWS		CSS	2	Completed	2001	2003
Agua Amarga	USFWS		Riparian	0.5	Completed	2004	2005
Agua Amarga	LACSD		Riparian	0.25	Completed	2011	2016
Agua Amarga	D&M		Riparian	0.2	Completed	2012	2017
Agua Amarga	USFWS		Butterfly habitat	13	Active	2022	2025
Alta Vicente	PVPLC	Alta Vicente Trail	Cactus Scrub	0.82	Completed	2018	2022
Alta Vicente	Coastal Conservancy	Throughout	Cactus Scrub, Butterfly habitat	12	Active	2023	ongoing
Filiorum	PVPLC	Pony	Cactus Scrub	3.08	Completed	2018	2022
Filiorum	Coastal Conservancy	Pony	CSS, Cactus Scrub, Butterfly habitat	10.7	Active	2023	ongoing
Portuguese Bend	El Segundo Mitigation	Ishibashi	CSS and grassland	9.5	Completed	2010	2015
Portuguese Bend	HCF grant	Ishibashi	CSS	0.25	Completed	2012	2015
Portuguese Bend	HCF grant	Peppertree	CSS	0.5	Completed	2012	2015
Portuguese Bend	Local Assistance Grant		Cactus scrub	3	Completed	2010	2011
Portuguese Bend	PVPLC	Peacock Flats	Cactus scrub	0.86	Completed	2018	2022
San Ramon	Coastal Conservancy	Switchback Trail	CSS, Butterfly habitat	24.1	Active	2023	ongoing
Three Sisters	LAWA		CSS	13.3	Completed	2007	2013
Three Sisters	LAWA		Grassland	7.7	Completed	2007	2013
Three Sisters/McCarrell Canyon	Coastal Conservancy		Riparian	0.5	Completed	2009	2012
Three Sisters/McCarrell Canyon	Coastal Conservancy		CSS	2	Completed	2009	2012
Three Sisters	PVPLC	McCarrell's Canyon Trail	Cactus Scrub	2.3	Completed	2018	2022

Additional Restoration Activities							
Reserve	Funding source	Location	Habitat Type	Acres	Status	Start Date	End Date
Vicente Bluffs	Coastal Conservancy		Coastal scrub	2	Completed	2009	2014
Vicente Bluffs	PVPLC	Adopt-a-Plot	ESB habitat	0.1	Active	2016	ongoing
TERPP	RPV	PVNP	Acacia	23	Completed	2019	2019
TERPP	RPV	PVNP	NN Grassland	15	Completed	2019	2019
TERPP	RPV	PVNP	Acacia	14	Completed	2020	2020
TERPP	RPV	PVNP	NN Grassland	10.8	Completed	2020	2020
TERPP	RPV	PVNP	Acacia	11.64	Completed	2021	2021
TERPP	Rolling Hills	PVNP	Acacia	2	Completed	2019	2019
TERPP	Rolling Hills	PVNP	NN Grassland	16	Completed	2019	2019
TERPP	Rolling Hills	PVNP	Acacia	1	Completed	2020	2020
TERPP	Rolling Hills	PVNP	NN Grassland	14	Completed	2020	2020
TERPP	Rolling Hills	PVNP	Acacia	2	Completed	2021	2021
TERPP	Rolling Hills	PVNP	NN Grassland	5.5	Completed	2021	2021
TERPP	Rolling Hills	PVNP	Acacia	1.5	Completed	2022	2022
TERPP	Rolling Hills	PVNP	NN Grassland	5.5	Completed	2022	2022
				Additional Projects Acreage		237.1	
				TOTAL Acreage		302.2	

FIGURE 6A. PALOS VERDES NATURE PRESERVE RESTORATION THROUGH 2023

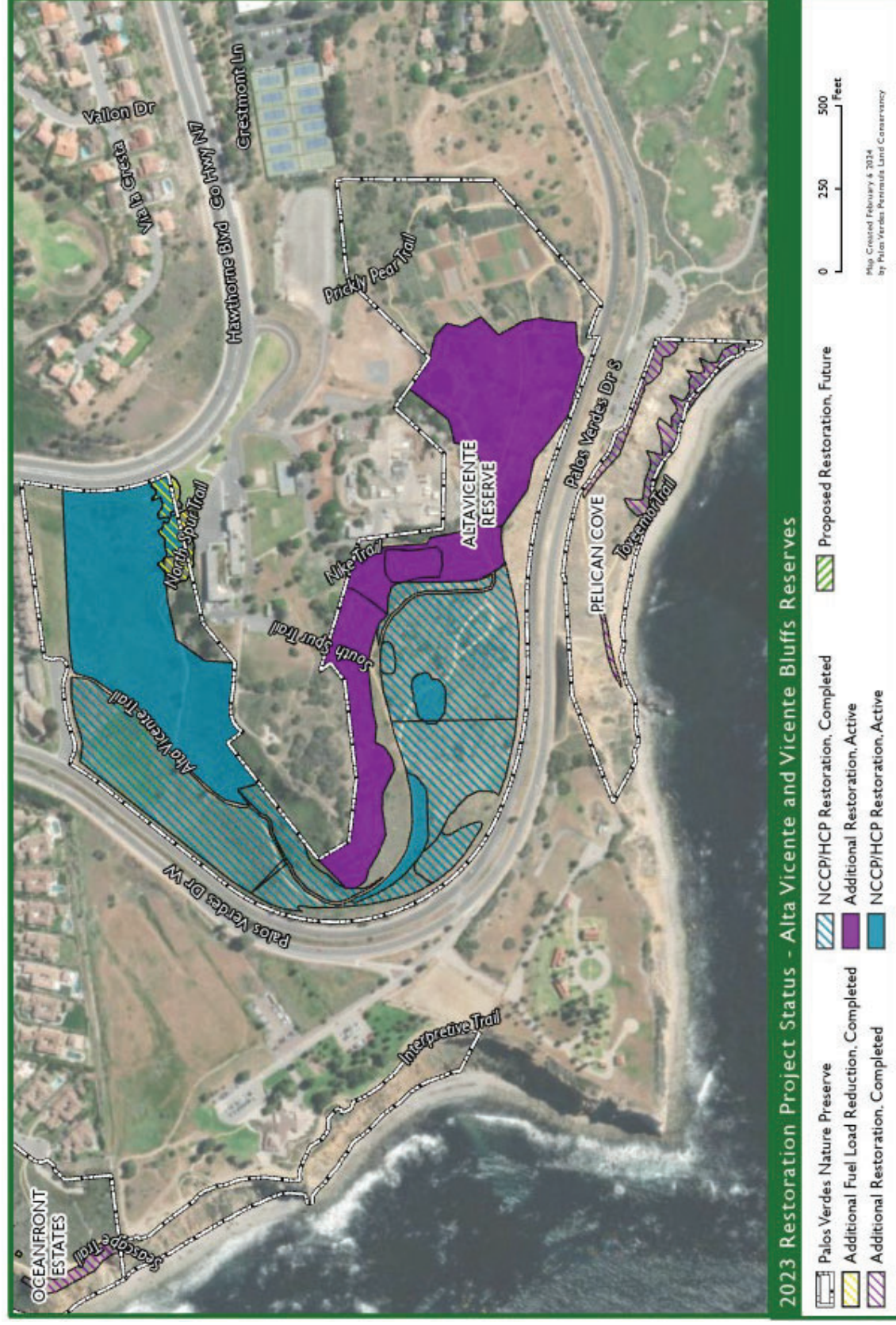


FIGURE 6B. PALOS VERDES NATURE PRESERVE RESTORATION THROUGH 2023

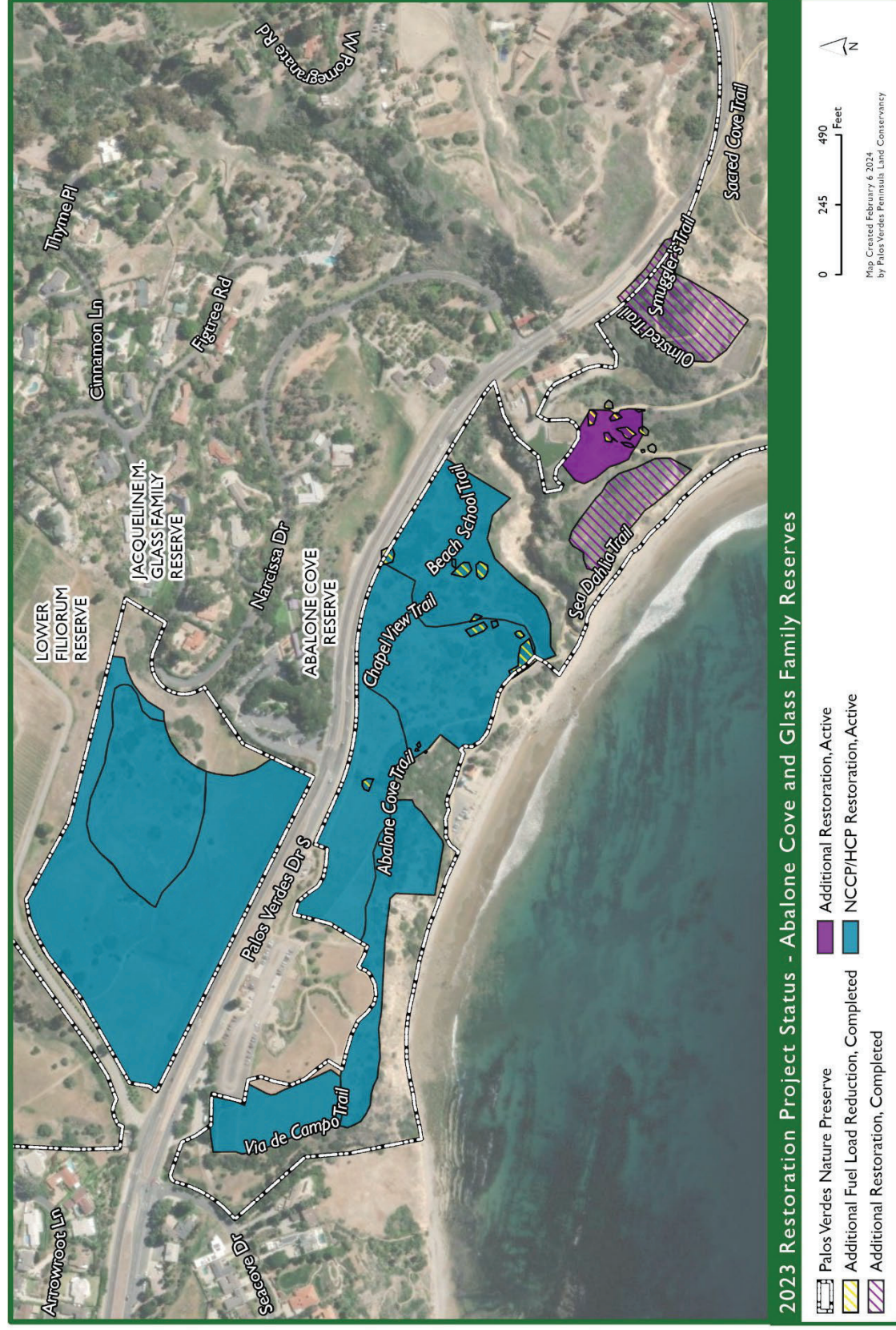


FIGURE 6C. PALOS VERDES NATURE PRESERVE RESTORATION THROUGH 2023

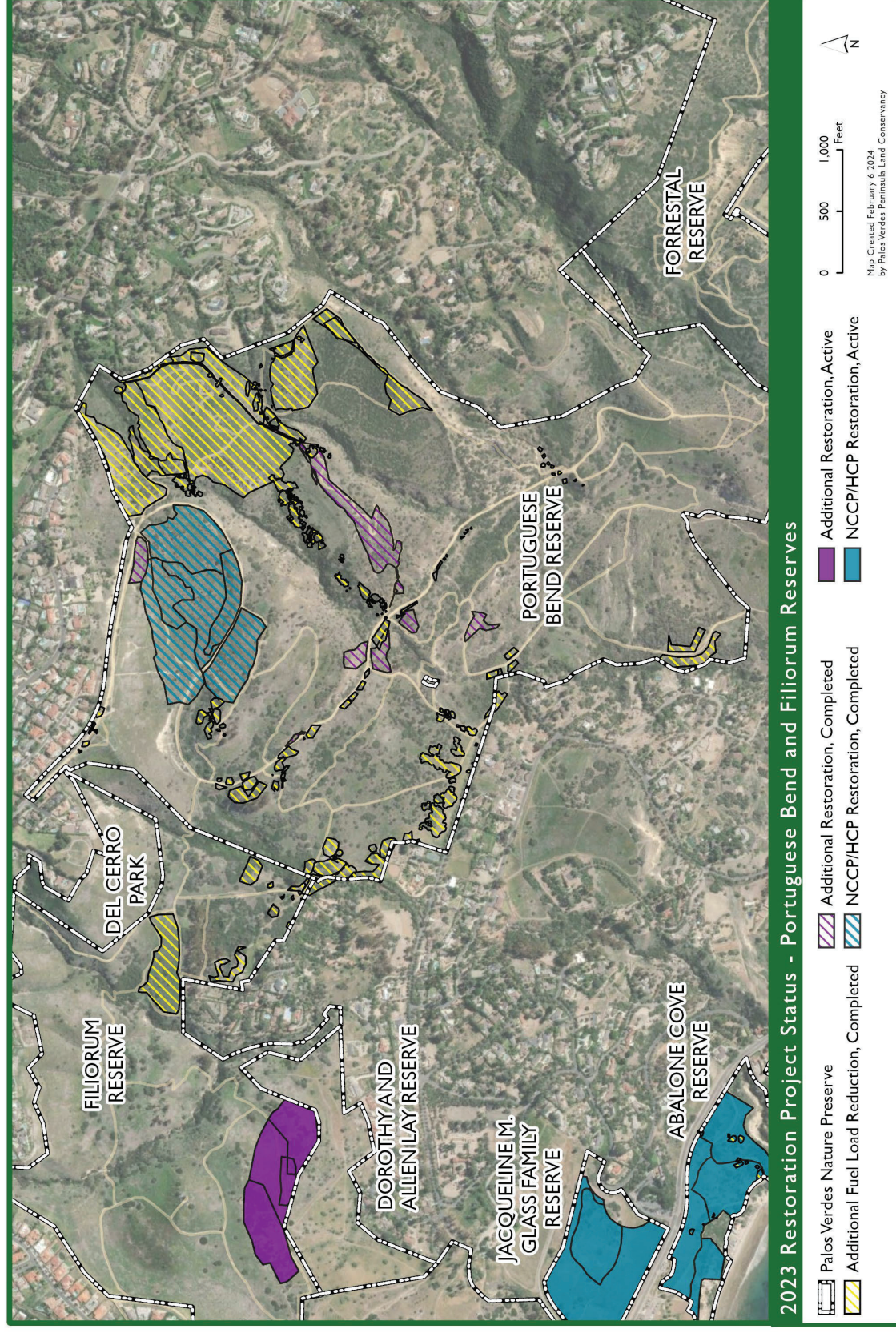


FIGURE 6D. PALOS VERDES NATURE PRESERVE RESTORATION THROUGH 2023

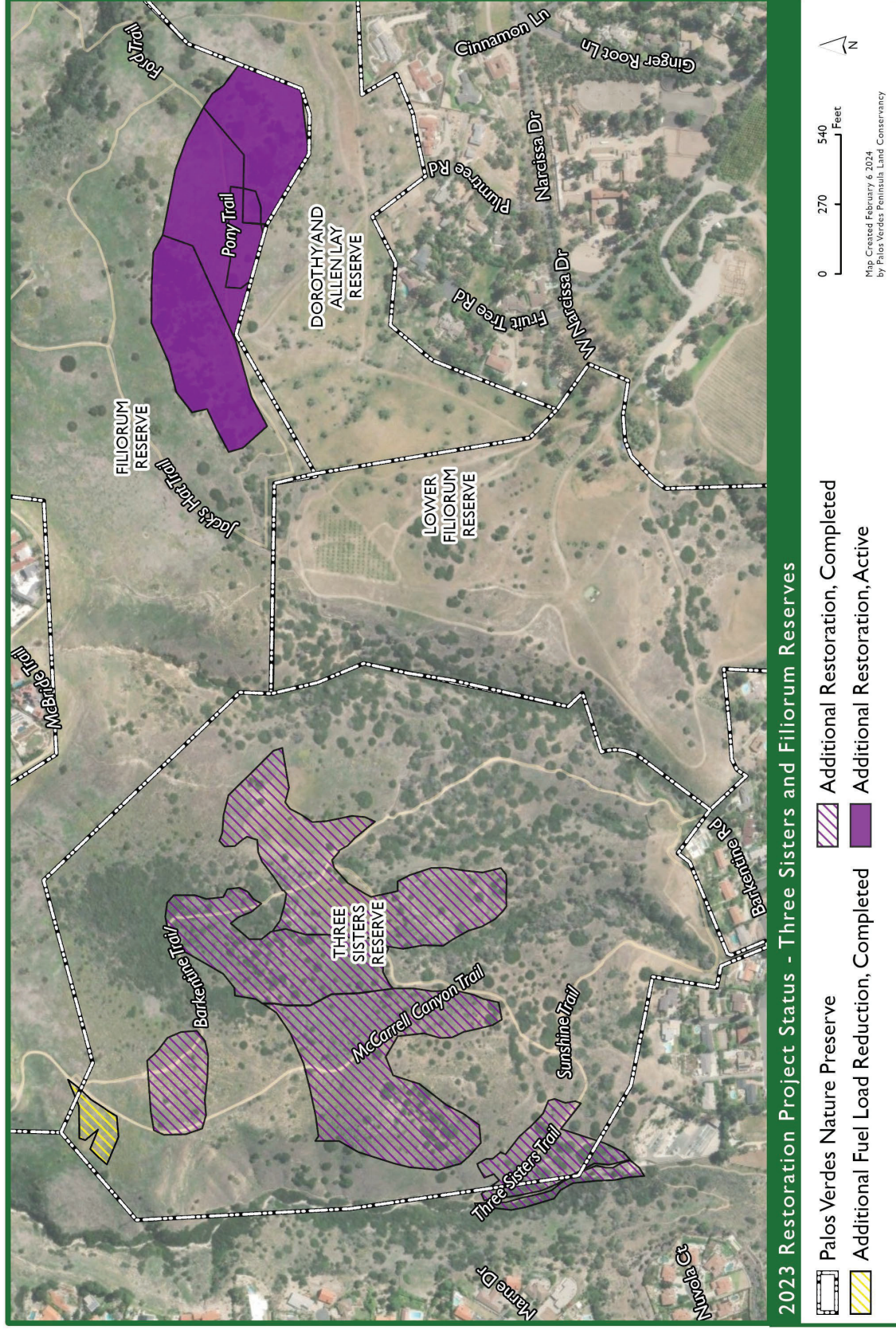


FIGURE 6E. PALOS VERDES NATURE PRESERVE RESTORATION THROUGH 2023

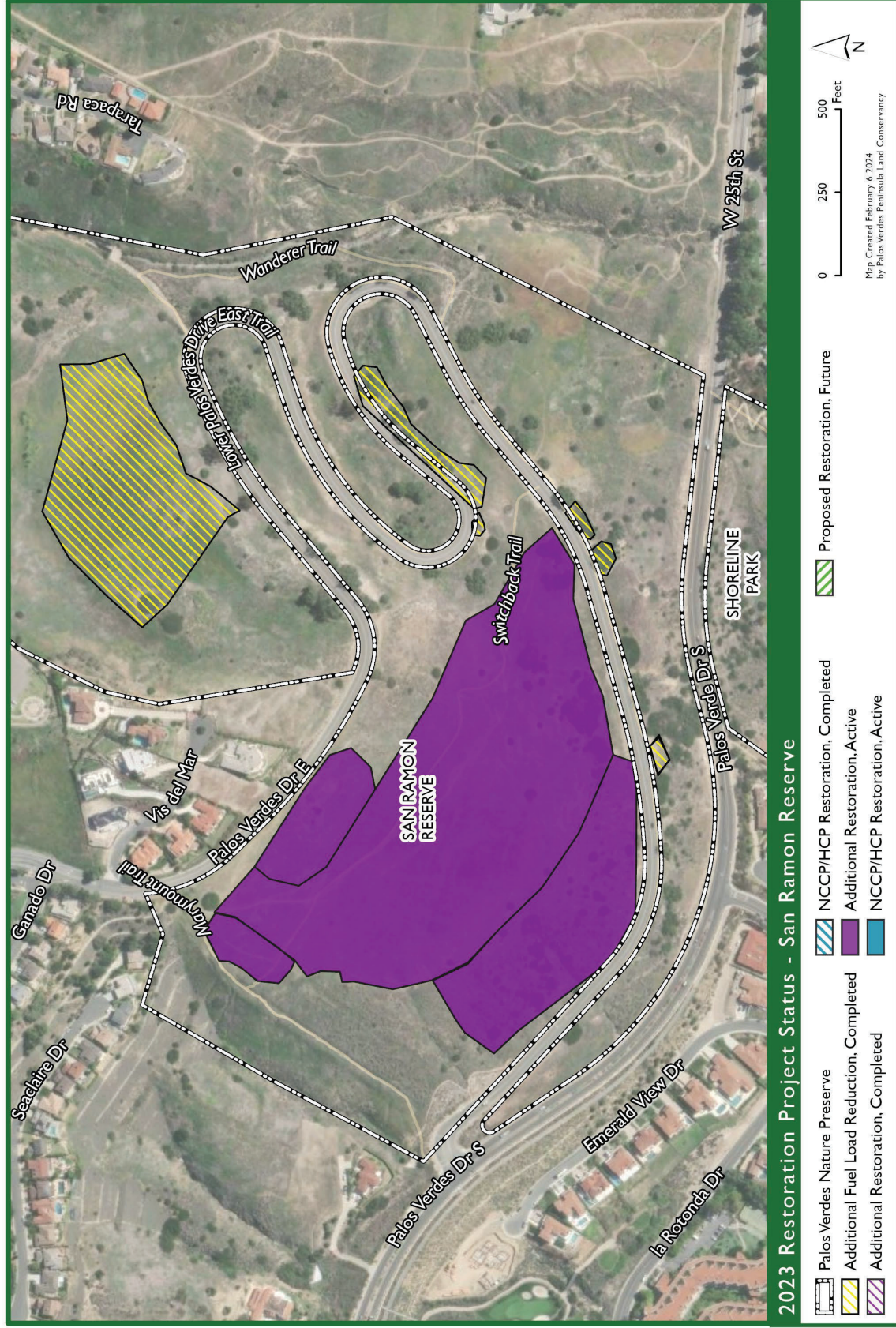


FIGURE 6F. PALOS VERDES NATURE PRESERVE RESTORATION THROUGH 2023

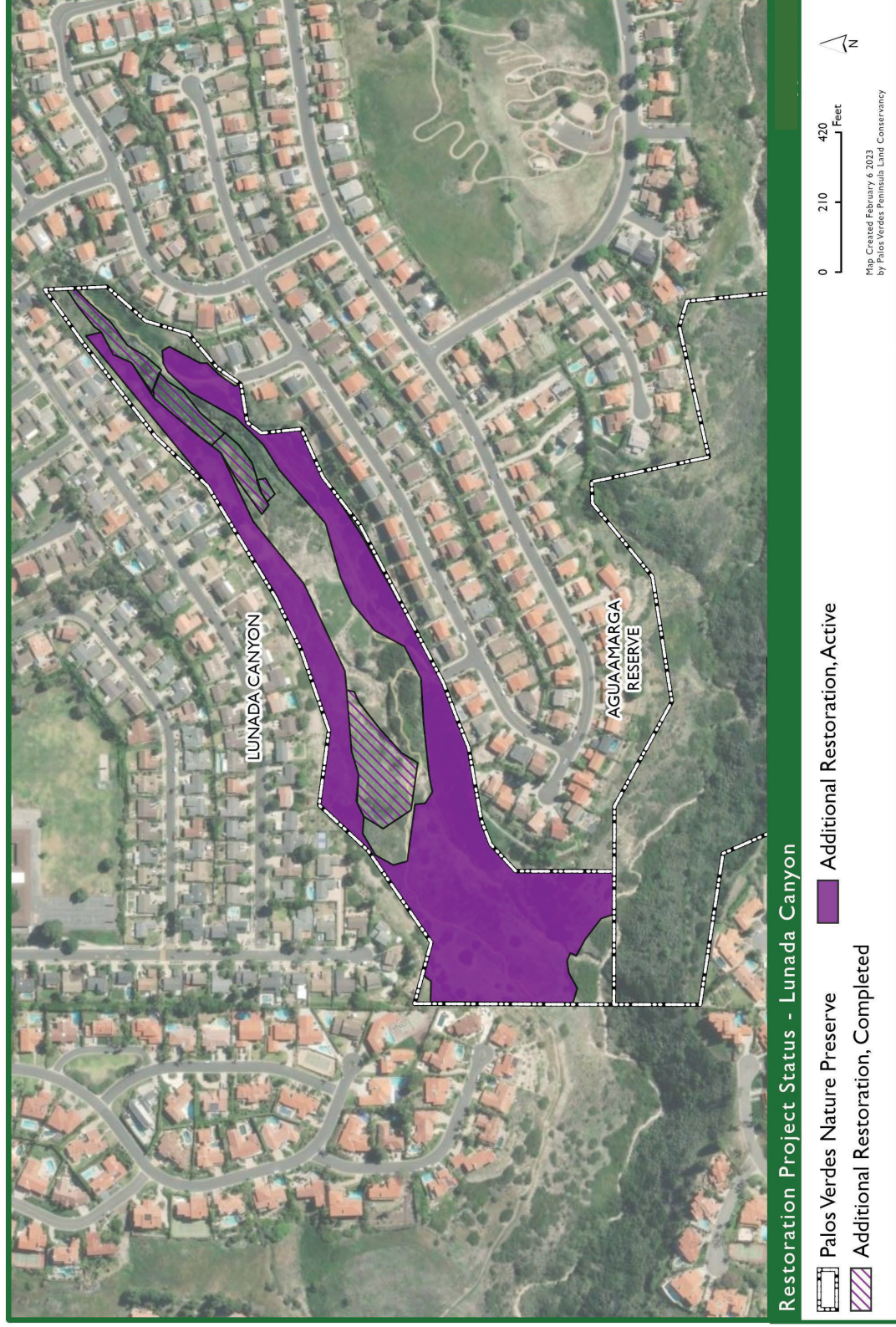


FIGURE 6G. PALOS VERDES NATURE PRESERVE RESTORATION THROUGH 2023



ADDITIONAL RESTORATION

3.1 ABALONE COVE

In 2015, illegal grading took place in the Abalone Cove Reserve. The city took action working closely with the US Fish and Wildlife Service to create a mitigation plan for the area. Project planning and design began and in 2019, site preparation started with the removal of non-native species. Irrigation installation and planting occurred in 2020 and is now being maintained for non-native species and fill-in planting as needed. Site maintenance started in 2021 and is set to occur for 5 years along with monitoring.

3.2 AGUA AMARGA

In 2012, an additional mitigation project (D&M Eight LTD) funded the planting of 147 riparian plants at Lunada Canyon. The plants were installed in January 2014 and irrigated with a drip irrigation system. Severe rains in 2014 caused torrential stream flows that removed some of the installed plants. PVPLC installed replacement plants and monitored the site's recovery in 2015, 2016, 2017, and 2018. The final report was submitted in 2019. Continued maintenance occurred at the site in 2020, 2021, and 2022 with light weeding and trash cleanup in the riparian zone.

In 2022, the U.S. Fish and Wildlife Service awarded PVPLC a grant for restoration in Lunada Canyon. The "Lunada Canyon habitat restoration for the reintroduction of the Palos Verdes Blue Butterfly (*Glaucopsyche lygdamus palosverdesensis*) in the Palos Verdes Nature Preserve" project aims to create 13 acres of PVBB habitat in degraded areas within the canyon. The Land Conservancy will incorporate PVBB habitat requirements which includes regular disturbance to provide for the ideal conditions for future reintroduction of the species from an existing captive rearing program.

3.3 VICENTE BLUFFS

In June 2008, a grant agreement was signed with the State Coastal Conservancy to provide habitat restoration at Vicente Bluffs Reserve. PVPLC restored three acres of coastal bluff scrub and El Segundo blue butterfly habitat by removing acacia, pampas grass and ice plant, and installing container plants with coastal bluff scrub and El Segundo blue butterfly host plants. PVPLC added plants to this site in 2013, 2014 and 2015 to fulfill the grant goals. Since then, volunteers alongside PVPLC staff have continued the effort to plant host plants and remove invasive species through 2023 in order to expand habitat area for the El Segundo blue butterfly.

3.4 PORTUGUESE BEND

In 2012, PVPLC received funding from the Habitat Conservation Fund to create trail-side habitat consisting of coastal sage scrub and cactus scrub to close unauthorized trails. The

closeout of this grant occurred in 2018. PVPLC continues to monitor the successful completed work and maintain closures on unauthorized trails.

3.5 TARGETED EXOTIC REMOVAL PLAN FOR PLANTS (TERPP)/FUEL LOAD REDUCTION PROJECTS

Pursuant to the NCCP/HCP, PVPLC conducts weed control activities to remove exotic species with the Preserve. Specifically, PVPLC actively engages in a TERPP, through which they remove a minimum of five acres of non-native exotic species annually. Often, the removal of non-native exotic plants serves the dual purpose of enhancing the quality of habitat in the Preserve, while also reducing the fuel load within the Preserve. While some TERPP areas are targeted to optimize habitat, other areas are chosen for their fuel load reduction properties, including locations near homes or areas with heavy concentrations of more flammable plants.

In the summer of 2019, PVPLC proposed a TERPP/fuel load reduction project to the City of Rancho Palos Verdes which consisted of the removal of 23 acres of Acacia (*Acacia cyclops*) shrubs and 15 acres of non-native mustard. This approved project occurred in three locations in the Portuguese Bend Reserve near Portuguese Canyon and in the southern area of the Preserve near Narcissa drive. Large acacia shrubs were cut, chipped and taken off-site where possible. PVPLC continues to monitor the areas of acacia removal and treating any regrowth and removing any seedlings. Goats were used in the San Ramon Reserve to reduce the large stands of non-native brush along the San Ramon Trail. In the winter of 2019, a second project was proposed to continue with the removal of Acacia and the mowing of mustard. A proposed 31 acres of high density Acacia stand removal and 16 acres of mowing was planned for Portuguese Bend, Forrestal, Vicente Bluffs, Filiorum, Three Sisters, and San Ramon for 2020. Locations were chosen based on surrounding vegetation types and native plant observations below the invasive species canopies. Due to access issues, stand density and native plant cover, only 14 acres of the acacia were removed and 10.8 acres of mustard were mowed throughout 2020. Large stands of native plants were uncovered below the invasive species. PVPLC is monitoring these locations for acacia regrowth and treating as needed. The final locations of the project were implemented in 2021 at Portuguese Bend totaling an additional 11.64 acres. The Acacia removal locations were along Burma Road and abutted the Portuguese Bend Reserve NCCP/HCP 25-acre restoration project. PVPLC continues to monitor these locations for regrowth and treatment as needed.

Following the successful Fuel Load Reduction project with the City of Rancho Palos Verdes, the City of Rolling Hills and PVPLC began conversations about Fuel Load Reduction abutting the city's boundaries and in 2019 the City of Rolling Hills funded the first phase of a Fuel Load Reduction Project. Phase I consisted of 2 acres of Acacia removal and 16 acres of dry brush mowing which consisted of black mustard and non-native grasses. Seeing the success of the project and the previous City of Rancho Palos Verdes Fuel Load Reduction project, a second phase was funded in 2020, which consisted of 1 acre of Acacia removal and 14 acres of dry

brush mowing. A third phase was funded in 2021 and 2 acres of acacia were removed and 5.5 acres of dry brush were mowed. In 2022 a fourth phase was proposed and funded, with the removal of 1.5 acres of acacia and 5.5 acres of dry brush.

All acacia removal locations and mowing locations are being treated as passive restoration sites. Passive restoration is the process of removing environmental stressors, invasive species in this case, and allowing for natural succession to occur. The locations of these treatments are showing signs of regeneration of annual and perennial native plant species that were being choked out by the invasive species. A natural seed bank is still present and PVPLC will continue to monitor and maintain these sites, resources permitting, and will continue to pursue funding to remove Acacia on the Preserve and mow large stands of mustard and non-native grasses.

The full details of the TERPP, acacia removal, and fuel load reduction project can be found in the Targeted Exotic Removal Program for Plants, Appendix D.

3.6 WILDFIRE RESILIENCY GRANT

In 2023, The California Coastal Conservancy awarded PVPLC a Wildfire Resiliency Grant for the PVNP. The Grant consists of the removal of 46.8 acres of invasive species in San Ramon, Alta Vicente Reserves. The cleared areas will then be broadcast seeded with evergreen low growing covered species host plants such as rattlepod, deerweed and dune buckwheat. The locations chosen for the project are historical or current locations of multiple covered species and high density weeds. The project implementation began in 2023 and is expected to be completed by the end of 2026.

4.0 MONITORING

4.1 HABITAT RESTORATION MONITORING

PVPLC's stewardship staff conducted surveys at the restoration sites throughout the Preserve including quantitative vegetation transects, qualitative vegetation assessments and photo point monitoring. Vegetation transect surveys were conducted using standardized methods (line intercept and CNPS Rapid Vegetation Assessment) that provide data on the cover of native and non-native plants in the habitat in order to evaluate success against criteria as determined in the habitat restoration plans. Quantitative point-intercept transect surveys are conducted in Year 3 and Year 5 after planting, whereas qualitative rapid vegetation assessments are conducted in Years 1, 2 and 4. In 2023, restoration monitoring was conducted at Alta Vicente and Abalone Cove Reserves. Detailed monitoring reports are in Appendix B.

Over the years, PVPLC has adapted its approach to restoration and previous years resulting low percent cover by increasing plant density and utilizing drip irrigation instead of overhead sprinklers in subsequent restoration projects, and we are seeing a noticeable improvement.

At Alta Vicente Reserve, the restoration areas are healthy and growing, and have all increased in native coverage since last year. In 2023, Palos Verdes Blue Butterfly were observed during flight season in Phases 1-3 in Alta Vicente, pointing to the success of restoration and maintenance efforts. The Alta Vicente cactus scrub restoration sites met success criteria prior to 2023. The Alta Vicente coastal sage scrub (CSS) restoration areas in Phase 1, 2, and 3 achieved success criteria of 50% native plant cover prior to 2023. PVB habitat in Alta Vicente Phase 1 and 2 have not yet passed success criteria. In 2023, staff will continue to focus on controlling weeds on a regular basis to decrease competition and increase bare ground for seed germination. Targeted soil disturbance will also occur to stimulate early successional host plant species germination. PVPLC will continue to observe and control weeds in Alta Vicente Phases 1, 2 and 3 to observe the rate of restoration and monitor butterfly habitat transects. Butterfly habitat in Alta Vicente Phase 4 met host plant coverage goals for El Segundo Blue butterfly, though did not meet success criteria for PVB host plants at the time of survey. It is important to note that a healthy population of *A. trichopodus* was observed earlier in the season during annual PVB surveys March-April, and died back before the annual vegetation survey was performed. Multiple PVB were observed in Alta Vicente Phase 4 near the butterfly transect. Therefore, it is likely this restoration area is more suitable than the 2023 results suggest. Phase 4 will continue to be maintained to have gaps in CSS, which are essential for PVB host plant growth. Cactus scrub habitat met success criteria (>30% native cover; 10% cactus cover) on schedule in Phase 4.

At Abalone Cove, qualitative methods were used to monitor Year 1-3 of restoration success. All restoration areas are thriving and increased in native cover. In Year 3 of Phase 1, mulefat scrub and CSS habitat passed success criteria on schedule (>40% mulefat Scrub and <25% non-native species cover). In Year 2 of Phase 2, cactus scrub habitat met success criteria early (>30% native Cactus Scrub cover, including and >5% cacti cover, and <25% non-native cover) and both CSS habitat transects passed ahead of time (>40% CSS cover). PVB were observed in Phase 2, signaling restoration progress. Phase 3 was monitored for the first time in 2023. The CSS transect passed Year 3 goals early and the cactus/bluff scrub habitat is on schedule to meet Year 3 goals. In 2024, Phase 4 transects will be established and monitored for the first time. Phase 4 restoration habitat includes CSS, cactus scrub, and bluff scrub. Success at Abalone Cove can largely be attributed to additional drip irrigation installation in 2022 and consistent weed management by PVPLC technicians.

4.2 COVERED SPECIES MONITORING

The NCCP/HCP requires surveys for covered species on the Preserve every three years. The last report on the status of covered plant species, California gnatcatcher, and cactus wren was completed in 2021 for the 2019-2021 reporting period and a new survey is planned to be completed in 2024. The surveys for El Segundo blue butterfly were completed for this reporting period in 2022 and will be included in the 2022-2024 comprehensive report.

The NCCP/HCP includes a total of six covered plant species. They are aphanisma (*Aphanisma blitoides*), south coast saltscale (*Atriplex pacifica*), Catalina crossosoma (*Crossosoma californicum*), island green dudleya (*Dudleya virens* ssp. *insularis*), Santa Catalina Island desert

thorn (*Lycium brevipes* var. *hassei*) and woolly seablite (*Suaeda taxifolia*). Surveys for covered plant species are triggered by precipitation that totals at least 9.75 inches (75% of the annual average), or the last year of the comprehensive reporting period. The 2022-23 seasonal rainfall recorded seasonal rainfall recorded approximately 22" for Rancho Palos Verdes triggering the report to be conducted. The Covered Plant species report will be available in the 2022 – 2024 Cumulative Report.

4.3 REINTRODUCTION MONITORING RESULTS

Reintroduction monitoring has taken place in 2021 - 2023 for the two areas in the PVNP that Palos Verdes Blue Butterfly (PVB) were released in 2020. The PVB partners decided that the habitat at Alta Vicente Reserve and Filiorum Reserve exhibited adequate habitat for releases in April of 2020, after site visits to various historical PVB locations. The 2023 survey showed encouraging signs of PVB presence. In Alta Vicente, 20 PVB individuals were observed on the *A. trichopodus* var. *lonchus*. Notably, 11 individuals, including four females, were observed before the release of captive-reared PVB in April, showing the relative success of the release in 2020 and 2022, and providing hope for the future efficacy of this site. Abalone Cove was chosen as a third release location in 2022 after exhibiting adequate habitat to potentially sustain PVB. At Abalone Cove, surveyors observed 9 PVB including 8 females before the release in April 2023. This site exhibits high relative cover of *Astragalus trichopodus* var. *lonchus* and is in an active restoration status for the next three years or longer. Surveys will continue in 2024 and will likely include additional locations in the Preserve.

Reintroduction of one covered plant species of plants also continues to occur. *Catalina crossosoma* was introduced into the Abalone Cove Phase 2 restoration area in 2023. Previous reintroductions to Alta Vicente Phase 3 and 4 continue to thrive and plants have produced seed in 2021, 2022 and 2023. Additional *Crossosoma* is planned for installation at Abalone Cove Phase 4. Outside of the PVNP, *Crossosoma* has also been planted at the White Point Nature Preserve, with success. *Aphanisma*, Santa Catalina Island desert thorn and island green dudleya are planned to be reintroduced into Abalone Cove phase 4 in Spring of 2024.

4.4 COVERED PROJECT/ACTIVITY TRACKING

Section 9.3.1 of the NCCP/HCP requires that habitat annual tracking take place accounting for acreage, type, and location of habitat and species conserved or lost within the Plan Area.

PVPLC provided monitoring, consultation and documentation for 8 projects/impacts and 1 project completion from a previous 2022 project. Seven of those projects were documented as having impacts within the preserve and one outside of the preserve. Additionally, 7 CalWater habitat impacts due to land movement, were recorded.

City staff and PVPLC continued to work on updating a Preserve Project Form for any projects occurring within or adjacent to the preserve. The form includes a comprehensive summary of the NCCP/HCP covered species regulations and minimization measures for covered projects and activities that serves as a guide for anyone completing projects in or adjacent to the Preserve.

PVPLC and RPV staff coordinated site visits with all parties proposing projects in the preserve and assisted in filling out the form where needed. Minimization of biological resource impacts were discussed at every meeting and some projects were able to avoid any impacts. Continued communication and coordination is essential for impact minimization for projects. PVPLC and RPV staff also present the Preserve Project Form and explain preserve rules at quarterly Peninsula Projects Coordination Meetings where utilities and other agencies working in the city share upcoming projects. All impacts are documented in Table 7 and in the RPV NCCP/HCP Habitat Loss Tracking table containing information through 2023 in Appendix C. Below are summaries of the projects:

In April of 2023, the Land Conservancy met with City, County and Sanitation District representatives about a potential sewer leak and maintenance access in Agua Amarga. Recommendations on an access point within the established easement were provided. Due to the network of sewer manholes throughout the preserve, city representatives cut vegetation from an access point from a southeast location not within the easement. PVPLC measured those impacts and attended several meetings to understand the impacts associated with the projects. The total amount of impacts outside of the easement to coastal sage scrub was .2 acres and will be considered permanent since the locations will have to be cleared yearly to maintain access. As of the publication of this annual report, PVPLC is awaiting further information if further clearance or impacts are needed to facilitate maintenance of that sewer system and will report in the 2024 Annual Report. This project category is 14. Utility Maintenance and Repair.

In July of 2023, PVPLC was contacted by the City that the Los Angeles Fire Department Lifeguard unit needed to install a new lifeguard tower at Abalone Cove Beach and that impacts to the road would occur to bring in that structure. .03 acres of Coastal Sage Scrub habitat impacts were documented. Since the work mainly involved trimming shrubs, those would regrow into their original footprint and it will be considered temporary. This project category is 8. RPV Trails Plan Implementation.

Also in July of 2023, PVPLC was contacted by Terranea Resort about the need to remove habitat to meet fuel modification requirements from the LA County Agricultural Commissioner. PVPLC gave recommendations on prioritizing non-native species removal first and then targeting certain native species to meet the goals. The total impact to Coastal Sage Scrub was .001 acres.

Also in July of 2023, a vehicular accident occurred at Vicente Bluffs Reserve which resulted in a casualty. The vehicle crash and subsequent retrieval resulted in the impact of .007 acres of temporary impacts to grassland within the preserve. This unfortunate incident was an accident and will be followed up on in the 2024 Annual Report.

In August of 2023, a volunteer noticed an encroachment into the Forrestal Nature Reserve. PVPLC worked with the City's Code Enforcement Division and it was determined that .13 acres of Coastal Sage Scrub habitat had been impacted. However, because the habitat loss occurred within a fuel modification zone, it will not be additionally deducted.

In November of 2023, as part of dewatering well construction by the Abalone Cove Landslide Abatement District (ACLAD), areas within Abalone Cove adjacent to Olmstead Trail were damaged. ACLAD initially met with PVPLC for a pre-construction walk in accordance with minimization measures. Additional impacts occurred during construction that were not discussed and .43 acres of Coastal Sage Scrub were impacted as well as covered species habitat. It is still being determined if the areas impacted will be permanent or temporary and as of the publication of this report, PVPLC is awaiting further information from ACLAD on how much of the impact footprint will need to be kept cleared indefinitely and will report in the 2024 Annual Report. This project category is 2. Dewatering Wells.

Also in November of 2023, as part of Klondike Canyon Landslide Abatement District (KCLAD) landslide abatement measures to fill a fissure, .16 acres of Coastal Sage Scrub habitat were impacted in Klondike Canyon, south Conqueror Trail. Further information is needed to determine if the area will need to be maintained indefinitely and to categorize this project as temporary or permanent. As of the publication of this report, PVPLC is awaiting further information and will report in the 2024 Annual Report. This project category is 2. Dewatering Wells.

In December of 2023, as part of dewatering well construction by ACLAD, areas within Abalone Cove Reserve adjacent to Beach School Trail were impacted. ACLAD initially met with PVPLC for a pre-construction walk in accordance with NCCP/HCP minimization measures. Additional impacts occurred during construction that were not discussed and .2 acres of Coastal Sage Scrub/Cactus Scrub habitat were impacted which included areas of known Palos Verdes blue butterfly and El Segundo blue butterfly occurrences. Further information is needed to determine if the areas impacted will be permanent or temporary impacts. PVPLC is also in communication to understand if further work and subsequent impacts need to occur in the area. As of the publication of this report, PVPLC has not received further information and will report in the 2024 Annual Report. This project category is 2. Dewatering Wells.

In 2021, fuel modification occurred in Malaga Canyon Reserve in areas that had not been managed before. By using goats, the City was able to reach steep slope areas that were included in the 200' fuel modification zones. Surveys were done after the project was completed with maps and acreage calculated. Since these additional sites had never been cleared, Coastal Sage Scrub was impacted resulting in the loss of 1.2 acres of habitat.

The project category is 13.Preserve Fuel Modification.

Pending Projects:

A CalWater hydrant break near Burma Road in 2021 which caused significant damage to trails and habitat is still being assessed and worked on and is expected to be reported in the 2024 Annual Report.

In May of 2023, a water leak was noticed in Klondike Canyon. As part of the Klondike Canyon Landslide Abatement District (KCLAD) dewatering well infrastructure, clearing of vegetation was conducted North of Conqueror trail, to find and repair the leaking infrastructure. Repairs are still being made and impacts are expected to be reported in the 2024 Annual Report.

California Water Service Habitat Impacts

Throughout 2023, due to an increase in land movement, various failures to California Water Service (CalWater) infrastructure occurred. The City along with PVPLC worked as closely as possible to alert CalWater of breaks, implement emergency response and coordinating temporary repairs. Pressurized water flow has since been stopped east of Vanderlip Trail. With this adjustment to water flow, future breaks and impacts along the Burma Road main water line are not anticipated. Currently, the impacts are being considered as Temporary but further information is needed to understand if they should ultimately be classified as Permanent, especially when multiple breaks occur in the same vicinity. None of these projects were initially addressed in the NCCP/HCP so they may be charged a fee to be deposited in the habitat restoration fund. Also to note is that many projects began in 2023 and continued into 2024. If completed, those projects will be included in the 2024 Annual Reports Habitat Impacts. An estimated 1.11 acres of Coastal Sage Scrub and .15 acres of Grassland were impacted. Below is a summary of habitat impacts that occurred within the Preserve:

In April of 2023, a water line break occurred at Portuguese Bend Reserve near Burma Road Trail and Vanderlip Trail resulting in .43 acres of Coastal Sage Scrub habitat damage.

In August of 2023, a water line break occurred at Forrestal Reserve near Conqueror Trail resulting in .06 acres of Coastal Sage Scrub habitat damage.

In August 2023, a water line break occurred a Portuguese Bend Reserve in the area of Toyon /Landslide Scarp Trails resulting in .13 acres of Coastal Sage Scrub habitat impacts.

In August 2023, a water line break occurred at Portuguese Bend Reserve in the area of Barn Owl/Panorama Trails resulting in .06 acres of Coastal Sage Scrub habitat impacts.

In August 2023, a water line break occurred at Portuguese Bend Reserve, north of Gary's Gulch Trail resulting in the impact of .1 acre of Grassland habitat.

In November 2023, a water line break occurred at Portuguese Bend Reserve at Vanderlip Trail resulting in the impact of .05 acre of Grassland habitat.

Also in November 2023, a water line break occurred at Forrestal Reserve near Conqueror Trail resulting in .43 acres of Coastal Sage Scrub habitat impacts.

Table 7. Habitat Impacts in the PVNP in 2023

Habitat Impacts in the PVNP in 2023							
Date	Project	Impact	Location	Vegetation Type	Size of Impact (acres)	Permanent or Temporary loss of habitat*	Project Category
April 2023	Agua Amarga Sewer Repair & Maintenance	Habitat damage to repair & maintain sewer line	Agua Amarga Canyon	Coastal Sage Scrub	.2 acres	Permanent*	14. Utility Maintenance & Repair
July 2023	Lifeguard Tower Installation	Habitat damage to install tower	Abalone Cove: Olmstead Trail	Coastal Sage Scrub	.03 acres	Temporary	8. RPV Trails Plan Implementation
July 2023	Terranea Fuel Modification	Habitat damage due to fuel modification	Terranea Resort (outside of preserve)	Coastal Sage Scrub	.001 acres	TBD	TBD
July 2023	Vehicular Accident	Habitat damage due to accident	Vicente Bluffs	Grassland	.007 acres	Temporary	17. Other Misc. City Projects
August 2023	Coolheights Encroachment	Habitat damage due to encroachment	Forrestal	Coastal Sage Scrub	.13 acres	N/A	N/A
November 2023	ACLAD Dewatering Wells	Habitat damage due to well construction	Abalone Cove: Olmstead	Coastal Sage Scrub: Covered Species	.43 acres	TBD	2. Dewatering Wells
November 2023	KCLAD Dewatering	Habitat damage due to drainage repair	Forrestal: Klondike Canyon South	Coastal Sage Scrub	.16 acres	TBD	2. Dewatering Wells

December 2023	ACLAD Dewatering Wells	Habitat damage due to well construction	Abalone Cove: Beach School Trail	Coastal Sage Scrub, Cactus Scrub & PVB/ESB Habitat: Covered Species	.2 acres	TBD	2. Dewatering Wells
2022	Malaga Canyon Fuel Mod	Habitat damage due to fuel modification	Malaga Canyon	Coastal Sage Scrub	1.2 acres	Permanent	13. Preserve Fuel Modification

California Water Service Habitat Impacts							
Date	Project	Impact	Location and Vegetation Type	Vegetation Type	Size of Impact (acres)	Permanent or Temporary loss of habitat**	Project Category***
April 2023	Water Line Break	Habitat damage due to repetitive breaks and subsequent repairs	Portuguese Bend: Burma Road/Vanderlip Trail	Coastal Sage Scrub	0.43 acres	TBD	14. Utility Maintenance and Repair
August 2023	Water Line Break	Habitat damage to repair line damage	Forrestal: Conqueror Trail	Coastal Sage Scrub	.06 acres	TBD	14. Utility Maintenance and Repair
August 2023	Water Line Break	Habitat damage to maintain line	Portuguese Bend: Burma Road at Toyon/Landslide Scarp Trails	Coastal Sage Scrub	0.13 acres	TBD	14. Utility Maintenance and Repair
August 2023	Water Line Break	Habitat damage to repair line	Portuguese Bend: Burma Road at Panorama/Barn Owl Trails	Coastal Sage Scrub	0.06 acres	TBD	14. Utility Maintenance and Repair
August 2023	Water Line Break	Habitat damage to repair line	Portuguese Bend: North of Gary's Gulch Trail	Grassland	0.1 acres	TBD	14. Utility Maintenance and Repair
November 2023	Water Line Break	Habitat damage to repair line	Portuguese Bend: Vanderlip Trail	Grassland	.05 acres	TBD	14. Utility Maintenance and Repair
November 2023	Water Line Break	Habitat damage to repair line	Forrestal: Conqueror Trail	Coastal Sage Scrub	.43 acres	TBD	14. Utility Maintenance and Repair

*The City, PVPLC, USFWS, and CDFW are coordinating closely on landslide-related impacts and activities, and these loss tables are subject to change.

**Further information is needed to understand if these projects will be classified as Temporary or Permanent. An assessment should be completed by the 2024 Annual Report.

***There are currently 1.26 acres of habitat impacted by CalWater leaks and repairs within the landslide area. There are also currently 0.79 acres of habitat impacts caused by abatement district work in the landslide area. These habitat losses are currently categorized under the Utility Maintenance Project and Dewatering Wells Project categories, respectively and are subject to change.

5.0 UTILITY AND CONTRACTOR ACCESS

Protocols are currently in place to ensure that utilities and contractors accessing the Preserve follow guidelines to implement minimization measures and remain on permitted trails to avoid damaging the habitat. PVPLC continues to collaborate with the City to create more effective protocols and outreach techniques. For example, a Preserve Project Form helps communicate all aspects of contractor, City, and PVPLC projects that are planned to take place in the Preserve. Additionally, a Preserve Access Protocol will be developed to address where authorized vehicles may travel in the Preserve. The City also hosts quarterly Peninsula Projects Coordination Meetings to receive updates on upcoming projects throughout the City and provide reminders for protocols to follow while conducting work in the Preserve. The Preserve Project Form is presented at the Peninsula Projects Coordination Meetings and sent out to the participating agencies.

6.0 TARGETED EXOTIC REMOVAL PROGRAM FOR PLANTS

The Targeted Exotic Removal Program for Plants (TERPP) is an element of the Preserve Habitat Management Plan for the NCCP/HCP that requires the annual removal of exotic plant species of twenty individual populations or five acres in the Preserve. Some of these activities also serve fuel load reduction purposes, as described in Section 3.5. The TERPP provides a protocol for ranking the degree of threat to native vegetation, the feasibility of eradication, and the invasiveness of each exotic species found in the Preserve. Populations of exotic plant species are then targeted for removal based on the results of the ranking outcome.

In 2023, PVPLC met the objectives for the TERPP program by monitoring and treating 13.2 acres of *Acacia cyclops* (Coastal Wattle) at eight locations of previous Acacia removal project in the Palos Verdes Nature Preserve. Mowing of the highly invasive *Brassica nigra* (Black Mustard) also took place at eight locations totaling 35 acres. Acacia seeds can persist in the soil for an indefinite amount of years, and treatment needs to be repeated for several years to successfully control these species on the Preserve. Acacia are very serious invasive species, and their expansion in the Preserve must be controlled and eradicated if possible. Therefore, many of the TERPP sites will be treated for many years under the same site name. Several areas treated for Acacia in previous years were also visited and seedlings were hand pulled.

All of the populations previously targeted by TERPP continue to be monitored yearly for new germination or regrowth. The various species targeted by TERPP tend to have long lived seedbanks and also tend to regrow without stump treatments. Continued monitoring of all known populations will continue into the indefinite future to minimize the return of targeted exotic species to those locations and to achieve eradication. The full details of the TERPP accomplishments for 2023 can be found in Appendix D.

7.0 FUEL MODIFICATION

Fuel modification is the clearing or thinning of vegetation in areas that occur immediately adjacent to structures and roads to create defensible space as mandated by CALFire and enforced through the Los Angeles County Agricultural Commissioner/Weights and Measures. As landowner, the City is responsible for brush clearance/fuel modification within the Preserve (with the exception of Lunada Canyon owned by PVPLC), to provide an appropriate level of defensible space, emphasizing the protection of public safety in the urban-wildlife interface areas. The City coordinates with PVPLC to implement the NCCP/HCP habitat impact avoidance and minimization measures while performing fuel modification. PVPLC and the City have coordinated closely to develop clear protocols to ensure that Best Management Practices for natural resource protection associated with fuel modification activities are consistently followed.

In 2023, City staff continued to successfully collaborate with PVPLC to ensure that bird surveys were completed prior to fuel modification activities and sensitive habitat areas were avoided to the maximum extent possible. Stewardship Associate Biologist, Olivia Jenkins and Conservation Director, Cris Sarabia, worked with the City to establish clear nesting bird survey and reporting protocols. All sites that had observed nesting birds within the Fuel Modification Zone or within an NCCP/HCP determined buffer area (100ft-500ft dependent on bird type) were postponed until after the bird breeding season (February 15th – August 31st) or raptor breeding season (January 31st – September 30th) or once a biologist has determined that the nest is no longer in use. During the bird surveys, any natural resource concerns, including animal dens or rare plants, were flagged and the City was notified in each report. Maps of each site with GPS coordinates of any concerns were provided in each report. Additionally, PVPLC provided recommendations and species identification to contractors and city staff.

The 20-acre Lunada Canyon property located within the larger Agua Amarga Reserve is owned by PVPLC, which maintains brush clearance requirements. All of these requirements were met throughout 2023. No other fuel modification areas within the Preserve fall under the responsibility of PVPLC.

As of the writing of this report, the City is working to establish the fuel modification and defensible space requirements within the newly acquired Wildlife Corridor property. Any new fuel modification zones and/or impacts will be assessed and reported in future annual reports.

8.0 COMMUNITY SCIENCE AND EDUCATION

The Preserve is an ideal setting for an outdoor laboratory because it provides scientists and students with access to a variety of habitat types and wildlife. Student research topics are often chosen to answer questions informing improved restoration practices and to better understand the local ecology. Community Science volunteer programs assist the PVPLC

with annual monitoring of the presence and abundance of cactus wren and mesopredators (coyote, grey fox, and red fox) as part of the NCCP/HCP Predator Control Program research projects and community science monitoring programs is located in Appendix E.

9.0 TRAIL MANAGEMENT AND MONITORING

9.1 PRESERVE TRAILS PLAN

The Preserve Trails Plan is a part of the City's Public Use Master Plan (PUMP), which is an NCCP/HCP-covered activity, and must follow certain avoidance measures and guidelines to protect covered species. The City Council approved the latest version updates of PUMP in March 2013 after the designation of trails in Filiorum Reserve. A revision to the PUMP is required in order to adopt trail alignment and user designations for Malaga Canyon Reserve and the approved trail designation in 2023 for the newly acquired Lower Filiorum, Dorothy and Allen Lay and Jacqueline M. Glass Family Reserves, as well as incorporate other changes including the Preserve Access Protocol and other minor trail amendments. It is anticipated that the PUMP may be revised and updated in spring 2025 in coordination with the USFWS, CDFW, PVPLC and with public input and City Council approval.

9.2 TRAIL MANAGEMENT

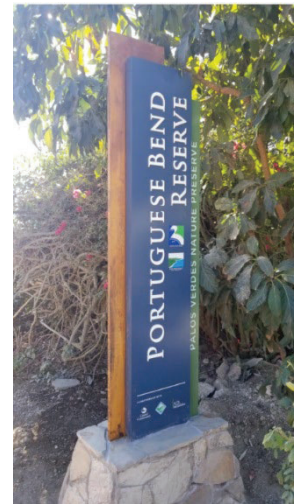
PVPLC continues to pause printing trail maps since major changes have occurred to parking rules and some trails have been temporarily closed due to land movement. Maps will be assessed and language revised for any future reprinting. QR codes have been installed at trail heads to provide access to maps from a personal device. Other locations for placement are being considered. PVPLC refreshes carsonite signs and decals in the Preserve, as needed, to better delineate trails, help with wayfinding and provide a positive user experience. A full-time PVPLC field operations specialist focuses on unauthorized trail closures, trail delineation, graffiti removal, water diversion installation and maintenance and general trail maintenance as well as assisting on Volunteer Trail Crew events and leading Rapid Response projects. With the help of the Volunteer Trail Watch, a weekly report is submitted to staff, where tasks are prioritized and addressed on the Preserve. The following represent PVPLC's 2023 trail management accomplishments:

Area Closed Signs Installed	1 sign
Decals Replaced	210 decals
Graffiti Removed	8 locations
New/Repaired Carsonite Markers	6 markers
Trail Maintenance Projects(Brush/Weed Clearance)	295 projects
Spur Trail Closures (New/Old)	36 closures
Trail Crew Events (Maintenance Projects and Classes)	14 events
Rapid Response Volunteer Days	69 events

City maintenance details are located within the Quarterly Enforcement Reports (Exhibit H). With support of grants from Habitat Conservation Fund (HCF), PVPLC worked with the City of Rancho Palos Verdes to design a master plan for Preserve signage to include designs for primary trailhead markers, interpretive panels and regulatory signage (Appendix F). The signage plan was approved by City Council in July 2016. In 2017, the Los Angeles County Regional Parks and Open Space District provided funds to implement the new Preserve signs at Alta Vicente Reserve and HCF funded signs at Portuguese Bend Reserve and Agua Amarga Reserve. In 2018-2023, the City funded signage installation at Vicente Bluffs, Vista del Norte, San Ramon, Filiorum, Forrestal, Three Sisters, Malaga Canyon, and Ocean Trails Reserves. In 2023, two signs were installed at newly acquired reserves with private funding. The two new signs were installed at visible locations at the Jacqueline M. Glass Family Reserve and Allen and Dorothy Lay Family Reserve.

9.3 UNAUTHORIZED TRAIL CLOSURES

Implementing the Preserve Trails Plan involves closing many social trails that were previously in use and are no longer authorized in the PUMP. PVPLC's priorities are to close newly created unauthorized trails before they become established and damage habitat. PVPLC has also developed techniques to reduce trail widening, particularly at trail intersections. Maintaining closures of unauthorized trails is intensive work, which requires continuously reinforcing and replacing trail closures when signage, branches, and plants are removed or damaged. Rapid Response Team volunteers assist staff in maintaining closures by reclosing sections on a weekly basis. Additionally, the Volunteer Trail Watch, City Open Space Management Staff, and City Rangers implement some of these tasks when they encounter them.



In 2023, focal areas were Abalone Cove Reserve (Olmstead Trail, Sacred Cove View Trail, and Chapel View Trail); Alta Vicente Reserve (Alta Vicente Trail, Prickly Pear Trail and North Spur Trail); Filiorum Reserve (Pony Trail and Kelvin Canyon Trail); Forrestal Reserve (Flying Mane Trail, Dauntless Trail, Conqueror Trail, Exultant Trail, and Pirate Trails); Portuguese Bend Reserve (Ishibashi Trail, Peacock Flats Trail, Burma Road Trail, Barn Owl Trail, and Klondike Canyon Trail); San Ramon Reserve (Marymount Trail, Wanderer Trail and Switchback Trail) and Three Sisters Reserve (Barkentine Trail, Sunshine Trail and Three Sisters Trail) (Appendix F).

9.4 TRAIL REPAIR

The PVPLC Volunteer Trail Crew assists in much of the trail work on the Preserve. A complete summary of the PVPLC Volunteer Trail Crew Program's accomplishments can be found in the

Volunteer Involvement section of the report (Appendix G). PVPLC staff or RPV staff including Open Space Management, Recreation and Parks, and Public Works personnel were also involved in trail enhancements and monthly coordination and prioritizing meetings occur between all groups. Trail projects that may be completed in the future, based on available resources, are listed in Appendix F.

9.5 TRAIL MONITORING

PVPLC stewardship staff and volunteers from the Volunteer Trail Watch (VTW) Program conducted trail monitoring to educate trail users and to report maintenance and safety issues to City and PVPLC staff during the reporting period. The mission of the Palos Verdes Nature Preserve Volunteer Trail Watch Program is to serve as eyes and ears of the City and the Palos Verdes Peninsula Land Conservancy with a focus on 1) protecting the natural resources of the Palos Verdes Nature Preserve, including the flora and fauna as well as the geology, topography and scenic landscape, and 2) enhancing the safety of, and promote an enjoyable experience for all Preserve visitors. Volunteers educate the public about Preserve rules and etiquette; and enter observations of infractions into a web portal (i.e. dogs off leash, off-trail activity, user on non-designated trail, etc.) to allow enforcement personnel and Preserve managers to establish patterns of misuse for enforcement and education. A summary of these activities is presented quarterly at the Preserve Public Forum to share with the community. In 2023, volunteers dedicated 3,105 hours to the program through training and field implementation activities, and reporting observations through the web portal for record keeping. Additional details of the VTW program are described in detail in the Volunteer Annual Report section of the report (Appendix G).

In 2018, PVPLC was awarded a California Department of Fish and Wildlife Local Assistance (LAG) Grant. The grant supports the implementation of the Trail Baseline Monitoring Program required by the NCCP/HCP to monitor and manage trail widening impacts to habitat. The initial tasks of the grant were started in 2019 and were completed by the end of 2020 with a report being submitted in 2021. The report is be available in the Comprehensive Management and Monitoring Report for 2019 – 2021. A five year follow up survey will be conducted in 2025 to compare trail width and conditions over time.

9.6 SUMMARY OF NIGHTTIME USE

The City grants permission for night hikes in the Preserve with pre-approved routes. In 2023, 11 night hikes were permitted with a total of 164 attendees and a detailed list can be found in Appendix I.

9.7 PUBLIC USE IMPACTS AND RECOMMENDATIONS

Continued spur trail creation has always been a major concern especially during bird breeding season and when they occur in high quality habitat areas or near documented NCCP/HCP covered species. The PVPLC Field Operations Specialist (FOPS) is a full time position that addresses many of the reported issues in a timely manner alongside with the Rapid Response program and the City's Open Space Management Division. Continued support for these staff positions and programs is essential in addressing issues before they become long term and irreversible problems. The FOPS position is reactive to problems while the Volunteer Trail Watch, being proactive, attempts to educate users about Preserve rules before issues occur. The City Park Rangers provide an enforcement presence, educate the public, and enforce rules with warnings and citations as needed. It is recommended that these groups continue to be fully staffed and provided the resources needed to minimize public use impacts with their combined efforts. Continued coordination, communication and planning in the VTW monthly meetings is essential so that target areas are addressed and impacts are minimized. It is also recommended that regulatory and informational signage continue to be maintained and repaired of any vandalism. New locations for regulatory signage should also be identified where needed while old signs that are no longer needed be removed.

10.0 VOLUNTEER INVOLVEMENT

PVPLC is a non-profit organization that relies heavily on the support of community involvement to perform many of the habitat management activities for the Preserve. In 2023, volunteers provided a grand total 22,772.85 hours of service to support conservation, restoration and management of the Palos Verdes Nature Preserve. This represents a 20.15% increase over 2022. According to the Independent Sector, volunteer time in California is valued at \$37.32 per hour (based on Dollar Value of a Volunteer Hour, by State: 2022, Independent Sector), thus generating a total of \$849,882.76 of in-kind services. The 2023 Volunteer Annual Report detailing the volunteer programs is located in Appendix G.

11.0 CONTRIBUTIONS TO PRESERVATION

In 2022, a 96-acre parcel of natural land located adjacent to the Palos Verdes Nature Preserve, historically known as Plumtree and Lower Filiorum was acquired. Funds to purchase the land were awarded from U.S. Fish and Wildlife (\$12.6 million), Wildlife Conservation Board (\$4.8 million), City of Rancho Palos Verdes (\$1.3 million), Palos Verdes Peninsula Land Conservancy (1.3 million) and Los Angeles County Regional Park and Open Space District (\$1 million). The newly acquired parcel had been designated in the NCCP/HCP as important private land to add to the Preserve and creates an ecological crucial contiguous wildlife corridor between several reserves.

12.0 EVALUATION OF MANAGEMENT ACTIVITIES

In the 2006 initial Management and Monitoring Report for the NCCP/HCP, potential threats and disturbance factors were identified for each NCCP/HCP covered species occurrence. This section gives recommendations for any improvements needed to be made to current management or enforcement activities in order to ensure long-term sustainability of Covered Species and their habitats.

Threats/disturbance factors that were identified in the 2006 initial Management and Monitoring Report for the NCCP/HCP-covered plants species include trails/trampling, invasive plants, erosion (coastal bluff and canyon), and herbivory. NCCP/HCP-covered wildlife species threats/disturbance factors include trails, invasive plants, proximity to houses, parks, or other developed areas, potential for predation from feral cats and red fox, potential nest parasitism from brown headed cowbirds, and agricultural or disking activities. A summary of management recommendations that have been implemented and improvements that can be made are listed below:

Trails: The initial plan recommends that trails not appropriate for the Preserve be closed following recommendations set in the Public Use Master Plan (PUMP). Following the PUMP document, redundant and unauthorized trails have been closed and continue to be monitored for use and closed by PVPLC and the City as needed. Appropriate signage and trail restoration have been implemented and assessment and monitoring continues for future unauthorized trail closure projects. Continued education of the public on authorized trail use is done by VTW and rules enforcement is done by City Park Rangers.

Invasive Plants: The initial plan recommends the removal of invasive plant species in accordance with the TERPP and Habitat Restoration Plan since invasive plants pose a substantial threat to the integrity of the native vegetation communities of the PVNP. The TERPP program continues to be implemented throughout the year, controlling and eradicating invasive plant populations, while invasive species control occurs within all restoration project sites and surrounding buffer areas. PVPLC continues to pursue funding opportunities to go above and beyond in invasive species removal, control and eradication. Many grants have been acquired over the last several years to focus on high priority species such as mustard, non-native grass, and acacia and long-term monitoring and maintenance continues for these areas that have been addressed. PVPLC staff continues to monitor and document new occurrences of invasive species within the Preserve and surrounding areas. Volunteers assist with invasive species control where appropriate. Detailed information can be seen in Appendix D (TERPP).

Erosion: The initial plan documented coastal bluff erosion throughout the PVNP. While the majority of coastal bluff erosion was naturally occurring, some of the erosion problems were a consequence of unauthorized unstable coastal bluff trails. Recommendations were to establish replacement trails, removing invasive species on coastal bluffs, installing check dam or weirs and

revegetating eroded slopes. PVPLC and the City have worked on a variety of projects to address all recommendations and continue to monitor for erosion issues throughout the PVNP, especially after rain events. In addition, trail delineation has been implemented in targeted areas to keep trail users away from erosive trails. Recent coastal bluff restoration projects have focused on vegetating barren bluffs with native plant species and have had success.

Herbivory: The initial plan recommends continued monitoring of this potential threat. As part of the Wildlife Tracking program and the Wildlife Camera Remote Monitoring project, rabbits and other mammals are documented. No rabbit population increases have been observed in the PVNP. PVPLC will continue to document rabbits, monitor covered plant species, and monitor transects in restoration projects for impacts due to herbivory. In addition, caging around new plantings has been implemented in certain areas to limit herbivory until plants reach maturity. This tactic can be implemented for covered plant species if impacts are observed.

Proximity to Houses, Parks, and other Developed Areas: The 2006 report recommends that edge effects due to proximity to houses, parks and other developed areas be monitored over the long term to determine if they are problematic and if so, to document where the problems are occurring. As part of PVPLC's annual Easement Monitoring, these edge effects are documented, and reported to the appropriate City department for follow up. PVPLC continues to monitor for edge effects.

Potential Predation from Feral Cats and Red Fox: A Predator Control Plan was developed in accordance with the NCCP/HCP. Monitoring for red fox and feral cats continues and those occurrences are documented and reported in Triennial Comprehensive Report along with recommendations for predator control.

Potential Nest Parasitism by Brown-Headed Cowbird: Ongoing monitoring for cowbirds has continued throughout the Preserve as part of the Predator Control Plan. No cowbirds have been observed within this reporting period.

Agricultural Land and Disking: There was previously only one location of permitted agricultural land that was operating within the Preserve. PVPLC had coordinated throughout the years with the operator to minimize disturbance to covered species and to determine whether or not they are a source of non-native, invasive plant species. They were not determined to be a source and worked cooperatively with PVPLC. As of August 2022, the Hatano Farm lease was not renewed and the operator has left the site. PVPLC will continue to work with the city to ensure that the future use of the farm land avoids the threats/disturbance factors that were identified in the 2006 initial Management and Monitoring Report. A Cactus Wren territory was documented within the permitted agricultural land and PVPLC plans to include that location in its monitoring and make any recommendations as needed. Disking has been phased out as a fuel modification tool within the preserve and current weeding techniques include grazing or mechanical removal and are monitored to limit disturbance and invasive species spreading into the preserve.

12.1 EVALUATION OF ENFORCEMENT ACTIVITIES

In 2019, the City of RPV created a Park Ranger program which replaced the Lomita Sheriffs contract for patrolling the preserve. Park Rangers patrol the PVNP and educate users on the proper use of the Preserve. In addition they are able to cite user infractions as needed. Quarterly Enforcement Reports are included as Exhibit H.

12.2 EVALUATION OF FUNDING NEEDS

PVPLC continues to apply for funding from federal, state and private sources to assist in the management of habitat and species on the Preserve. Some of the focus areas for funding needs include invasive species removal, fuel load reduction, habitat restoration, native plant seed farming and container growing, covered species monitoring and enhanced research, and restoration of current and historical covered species locations.

12.3 EVALUATION OF ABILITY TO ACCOMPLISH RESOURCE MANAGEMENT GOALS

PVPLC, City staff and Wildlife Agency representatives brought the draft NCCP/HCP before the Rancho Palos Verdes City Council in November 2019, and the City Council adopted the document. Wildlife agencies have issued federal permits while the state permit is pending. State and Federal wildlife agency permits are needed in order to give take authorization to the City to conduct projects in the NCCP/HCP area and Preserve.

PVPLC has been successful at completing restoration under the NCCP/HCP, monitoring NCCP/HCP covered species, and meeting the goals for targeted invasive plant removal. With the start of the Abalone Cove Restoration project at the end of 2019 and the continued maintenance of the previous restoration projects, contiguous high quality habitat has been available throughout the Preserve with various covered species occupying those sites. PVPLC chose a new restoration project site in 2023 and initiated planning and the approval process so that work could begin. With land movement acceleration in the area, the city and PVPLC are assessing whether the location and mode of restoration is appropriate for the site, and the project may be delayed. Working alongside with the city, PVPLC also recommends the continued evaluation and implementation of areas where more Acacia can be removed and where dry mustard and non-native grasses can mowed to enhance native habitats in order to support the natural recovery of covered species.

Concerns about habitat damage in the future continue to include the ability to successfully close unauthorized trails and to prevent new illegal trails from being created. Closing unauthorized trails is time consuming and expensive because of continuous vandalism, drought conditions, and repeat use by a limited number of individuals. PVPLC is taking

information collected by staff and the VTW to coordinate with City of RPV staff, and city rangers to help determine which areas need more enforcement and maintenance attention. This combined approach has proven to be effective in limiting impacts to habitat.

13.0 SUMMARY OF CLERICAL CHANGES AND CHANGES TO MONITORING/REPORTING

No clerical changes or changes to monitoring/reporting have been made to the NCCP/HCP.

14.0 PALOS VERDES PENINSULA LAND CONSERVANCY BOARD AND STAFF

2023 Board Officers

Rob Kautz, President
Rick Wallace, Executive Vice President
Carolynn Petru, Secretary
Bruce Ross, Treasurer

2023 Board of Directors

Bill Ailor
Cindy Akiyama
Diana Bailey
Lew Enstedt
Allen Franz
William Glantz
Randy Harwood
Dave Pilon
David Snow
Steve Tight
Geoff Wainwright

2023 Staff

Executive Director

Adrienne Mohan

Office Administration

Jill Wittman, Office Manager
Kevin Liebson, Finance & Operations Manager

Education Program

Holly Gray, Education Director
Zoe Allen, Education Program Manager
Adina Bakos, Naturalist

Land Stewardship

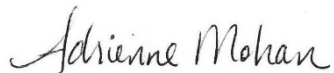
Cris Sarabia, Conservation Director
Johnny Perez, Stewardship Manager
Olivia Jenkins, Stewardship Associate
Lynn Rotunno, Volunteer Program Manager
Susannah Miles, Volunteer & Stewardship Coordinator
Caleb Rodriguez Mezen, Field Operations Specialist
Hugo Morales, Stewardship Technician Lead
Humberto Calderon, Stewardship Technician
Neli Gonzalez, Nursery Technician Lead
Stu Woodward, Native Plant Nursery Assistant
Ian Rhodes, Native Plant Nursery Assistant

Development

Susan Wilcox, Director of Development
Louise Olfarnes, Manager of Marketing
Communications
Kenny Roth, Development and Outreach
Manager
Felicia Ramirez, Development Associate

15.0 REPORT CERTIFICATION STATEMENT

I certify under penalty of law that, to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this report, the information submitted is true, accurate, and complete.



Adrienne Mohan
Executive Director

City Official
City of Rancho Palos Verdes