CNLM's DANA POINT PRESERVE (S033)
ANNUAL REPORT OF MANAGEMENT ACTIVITIES
FOR THE 2021 FISCAL YEAR

(October 1, 2021 – September 30, 2022)

Owned and Managed by CNLM

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SUMMARY OF 2021-2022 ACTIVITIES

- Public access was controlled based on scientific guidance and best management principles. Public access to the trail continued to be three days per week, 8:00 a.m. to 4:00 p.m.
- CNLM rangers patrolled the Preserve to protect the habitat and provide information to visitors.
- Trail and fence infrastructure was maintained as needed.
- Coastal California gnatcatcher (*Polioptila californica californica*) surveys were conducted.
- Pacific pocket mice (*Perognathus longimembris pacificus*) were monitored using track-tubes.
- Public outreach and education events were conducted in collaboration with volunteers.
- Collaborations with the City of Dana Point Staff continued.
- Invasive non-native plant species removal was conducted.
- Erosion control measures were implemented along the bluff edge.
- Dead native perennial vegetation was selectively thinned.
- Communications and coordination with appropriate partners were continued
- A workplan and a budget for fiscal year 2023 activities were prepared.
- A report on fiscal year 2021 stewardship activities was prepared.
- A partial update of the Preserve's draft Habitat Management and Monitoring Plan was prepared.

I. INTRODUCTION

The Dana Point Preserve (Preserve) is located in Dana Point, Orange County, California. The Preserve has been owned and managed by the Center for Natural Lands Management (CNLM) since December 2005. The Preserve consists of 29.4 acres of native coastal sage and coastal bluff scrub habitat. Adjacent natural open spaces (known as South Strand, Hilltop, and Harbor Point conservation parks) are owned by the City of Dana Point (City; Figure 1).

The process to protect the Preserve was initiated when the California Coastal Commission (CCC) required the developer of an oceanfront property project (Project), Headlands Reserve LLC, to dedicate and preserve in perpetuity a portion of its property, as public open space, in its natural habitat. The Project site is included in the NCCP/HCP EIR/EIS as a Covered Project, and the proposed project is included as a "Planned Activity" of a "Participating Landowner". An Endangered Species Act incidental take (Section 10a) permit (TE810581-1) that authorizes incidental take of 44 covered species was issued to Headlands Reserve, LLC on January 21, 2000 by the U.S. Fish and Wildlife Service (USFWS). Therefore, development impacts on federal- and state-listed species, Identified Species designated in the NCCP/HCP EIR/EIS, Covered Habitats designated in the NCCP/HCP EIR/EIS, removal of up to 30 acres of coastal sage scrub, and impacts on species dependent on or associated with the Covered Habitats were authorized and considered mitigated to less than a significant level, consistent with the NCCP/HCP guidelines under the NCCP Act, state and federal ESAs, and CEQA.

The mitigation measures also included establishing a 22-acre (8.9 ha) Temporary Pacific pocket mouse (TPPM) Reserve for eight years, possible extension for four more years, and providing

the Wildlife Agencies (USFWS and CDFW) the opportunities to acquire the TPPM Reserve at Fair Market Value if USFWS determined, at or prior to expiration of the eight-year Reserve period, that continuance of the Reserve was necessary to ensure the survival and recovery of the pocket mouse. As part of the development of the Project, USFWS and CDFW waived their option to set aside the temporary preserve and supported the City's Headlands Development and Conservation Plan based on the proposal for the Steele Foundation to provide funding for the acquisition and permanent preservation of this area, including a commitment to manage the property in perpetuity for conservation purposes. The Steele Foundation vision – and the imposed charitable restriction on its grant to CNLM – was to enable and secure the Preserve to the condition it appeared when first viewed by Richard Henry Dana in 1834. The Steele Foundation and CNLM entered into an agreement for the perpetual management of a stewardship endowment to provide the necessary financial resources for the Preserve's protection and management.

To further protect the conservation values of the Preserve in perpetuity, CNLM granted a Conservation Easement (CE) to the City of Dana Point, which was recorded December 20, 2005.

URS Corporation prepared the initial Habitat Management and Monitoring Plan (2005 HMMP) for Dana Point Headlands Biological Open Space for all preserve lands associated with the Project, including the CNLM-owned and -managed Preserve. The HMMP was reviewed by the California Coastal Commission, United States Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and the City. However, we have no record that the HMMP, dated April 18, 2005, was approved. Despite this uncertainty, CNLM's management activities for the Preserve have been operating under the guidelines of the 2005. Four primary management objectives are identified in that HMMP:

1. Maintain the Preserve to permit ecological processes to function.
2. Contribute to the preservation and restoration of the endangered or threatened species and their habitats that are present on the Preserve.
3. Contribute to the preservation and restoration of non-listed sensitive species that contribute to biodiversity.
4. Develop a public awareness program that informs residents and visitors of the sensitivity and ecological importance of the Preserve.

This document serves as a comprehensive management and monitoring report. It details the management activities, guided by the objectives listed above and the annual work plan (CNLM 2021), which occurred during the Fiscal Year (FY) 2022 (October 1, 2021 – September 30, 2022).

Figure 1. Map of City Conservation Parks adjacent to CNLM's Dana Point Preserve.

II. CAPITAL IMPROVEMENTS

Infrastructure Maintenance

As a result of public use of the Preserve, the trail, trail fencing and tread, and perimeter fencing and gates continued to require a substantial amount of CNLM staff time for maintenance throughout the year, such as replacing posts, reattaching panels, picking up trash, leveling out the trail, tightening fence cable slack, and installing new fence cable.

Neighbors in the north condo at the terminus of Dana Strand Road requested CNLM replace the north perimeter fence. Due to corrosion, the fence paint is flaking away, and the metal has started to corrode at each weld joint. That section of the fence was installed in 2016 and, while CNLM did not replace it in FY 2022, it should be noted that to keep the functionality of the fence, the panels will need to be replaced sooner than the projected 20 years assumed in the Property Analysis Record (CNLM 2005). In addition, the same neighbors requested a gate stop be placed at the Selva Gate to reduce the noise of the gate closing. Rather than installing a new gate stopper, the existing stoppers were cleaned and oiled on both gates.

Occasionally throughout the year, the locks and gates were tampered with to presumably prevent the gates from locking. For example, the lock to the Scenic Gate was vandalized three times with material jammed into the keyhole, preventing the deadbolt from being accessed with a key. In one instance, staff had to engage a locksmith who had to dismantle the lock to remove the material before the gate could be unlocked manually. Other instances include placement of tape over the magnet, preventing the magnetic lock from engaging.

III. PUBLIC SERVICE

Controlled Public Access and Public Outreach

Public access hours to CNLM's trail through the Preserve for FY 2022 (October 1, 2021 – September 30, 2022) were consistent with those instituted in June 2021: Tuesday, Thursday, and Saturday during daylight hours, 0800 – 1600.

The CNLM Dana Point Preserve continues to be a regional attraction in Southern California, with high daily visitation rates for recreational use by both local residents and tourists. Although the exact number of unique visitors is unknown, we can infer trail usage over time with data collected from the trail counter. Trail usage data has been collected by automated trail counters at both gates since 2011; however, data collection during 2018-2019 was affected by a high incidence of no data collected or trigger failures due to dead batteries, corrosion of the electronic plates, and frayed wires. Thus, the 2018-2019 data were very incomplete and considered unreliable as estimates of public use of the trail. For the duration of FY 2022 only the Scenic Gate trail counter was operational. Note, "number of visitors" that were recorded on the Preserve is more accurately defined as "number of counts by the infrared trail counters".

CNLM staff reviewed and analyzed the data collected from the Scenic Gate trail counter. The upward trend of public visitation has continued to increase. The average number of visitors per day (i.e., the number of counts detected using the trail counter during days when the three day per week, eight hours per day schedule was in place) in FY 2022 was 497.4 ± 33.4(SE), somewhat higher than the average across 2011-2017 (444.4 ± 53.6 (SE) per day when the trail was open daily from 7 AM to sunset) but lower than early 2020 observations of 713± 62.0 (SE) visitors per day (CNLM 2022a). CNLM has been preparing a portion of the Habitat Management Plan required by Coastal Development Permit No. 04-23 to address public access on the Preserve, including taking into account the increasing number of visitors. CNLM submitted the draft plan to the City, the California Coastal Commission, and the wildlife agencies for their review and is now awaiting comments.

Understanding the importance of outreach and education as a conservation tool and consistent with one of the main management objectives for the Preserve, CNLM collaborated with the Friends of Dana Point Headlands to create and implement activities on the trail to increase the public's awareness and knowledge of the Preserve's conservation values and the trail guidelines. This collaboration resulted in an ongoing monthly series "Nature Hunt"– a public outreach event for trail users to look for and document species seen from the trail on the first Saturday of every month (June – September in FY 2022). During the Nature Hunt volunteers were positioned at each trail gate and a CNLM Ranger or CNLM Land Steward were stationed at an overlook to answer questions and prompt discussions on the trail. Furthermore, CNLM Land Steward Matt Marowitz gave a presentation to a local charter school and to a Kiwanis Club about the local ecosystem, the importance of local conservation areas and the general natural history of the rare and endangered species at the Preserve.

To increase the public awareness on the trail, signage was revised and replaced frequently throughout the year, informing the public of hours and rules for trail use. CNLM purchased and provided updated Preserve trail hours labels for the City's educational brochures and City maps on 21 July 2022 and provided a new sign for the parking lot with the updated hours for the Preserve trail (Figure 1) on 28 July 2022, as requested by the City.

Figure 2. Parking lot sign. *CNLM provided updated trail hours signage and labels to the City.*

In addition to written outreach material, CNLM staff and volunteers from the non-profit organization Friends of Dana Point Headlands were onsite daily during public access hours, educating visitors on the importance of the Preserve, explaining trail guidelines, answering general inquires, receiving public feedback, and enforcing the controlled public access guidelines throughout FY 2022. While visitors to the Preserve followed the rules for trail use, staff and volunteers were occasionally harassed by visitors; staff took these opportunities to provide information to visitors regarding the Preserve's conservation values. With Rabbit Hemorrhagic Disease Virus 2 posing a threat to lagomorphs, staff and volunteers were frequently stationed at the Selva Gate to educate the public and ask that they clean their shoes with a boot brush prior to entering the Preserve.

Incidents of visitors not following trail rules were an issue in FY 2022, but less so than in previous years (CNLM 2023a in prep). Incidents involving visitors at the Preserve included off-trail use, smoking, people with pets (typically dogs), littering (mainly cigarette butts, vape pens and bottles), not following safety guidelines, and access after trail hours. CNLM staff noted an increase in unauthorized access on the Preserve by young people arriving by e-bike, typically after 1600 (4:00 PM) when the trail was closed for the evening. Most prohibited activity off-trail was by people drinking and/or smoking and taking photographs. They often left trash, contributed to erosion, increased the risk of crushing PPM burrows, limited the expansion of the rare plant populations, and increased the risk to the Preserve from fire. Off-trail use is an even greater threat during the bird nesting season when such activity likely disrupts the peregrine falcon(s), the CAGN whose territories include these areas, and other nesting bird species. On

20 June 2022, CNLM staff found evidence of people driving golf balls off the bluff below Overlook 4, presumably they were hitting the golf balls into the ocean and/or on to South Strands Beach. Any activities on the Preserve's cliffs are potentially harmful to our coastal bluff scrub and our wildlife, in particular to the resident peregrine falcons and CAGN, but have these activities have added the consequence of increasing the erosion and public safety risks with rocks and debris falling onto people below the cliffs The number of people attempting to bring their dogs on the trail seems to increase each year (CNLM 2023a in prep). The most effective means of keeping people on the trail and dogs off the Preserve is by a combination of controlling access hours and having an onsite presence by staff or volunteers but even then, it is not fully effective as recorded by staff in their weekly reports. In addition to CNLM's own staffing, CNLM works with volunteers to expand enforcement capacity but as noted above trespass still occurred during this reporting period.

The Orange County Sherriff's Department (OCSD) was called by CNLM staff and volunteers on some occasions. The OCSD does have authorization to act and cite individuals who trespass on the Preserve (CNLM 2015), but, as far as CNLM is aware, no citations were issued to trespassers on-site in FY 2022.

Other Preserve Use Incidents

Unexpected incidents/operations related to public access and public safety do occur on the Preserve that require CNLM staff's time and resources and can negatively impact the natural resources. CNLM takes opportunities to better connect and coordinate with agencies to minimize future impacts when or if their services are required within the Preserve.

Collaborations

After a feasibility review of translocation (introduction) sites provided by USGS at a PPM working group meeting in 2018, staff from the San Diego Zoo Wildlife Alliance (Zoo) and USFWS organized a subcommittee of the working group to conduct a similar study using a Strength, Weaknesses, Opportunities, Threats (SWOT) analysis. CNLM staff contributed information that included the importance of selecting sites both on the basis of their habitat suitability (climate, soils, etc.) as well as ability to protect the site (i.e., importance of landowner interest or willingness to sell), land management requirements, and the need to acquire sufficient endowment funding to manage and protect the new sites in perpetuity. This work was conducted over multiple years (2019 into 2022) and resulted in a subjective analysis of potential introduction sites, a manuscript describing the SWOT process and recommendations, published in September 2022 (see Chock et al 2022).

Donations

As CNLM's donation box had been removed by the City from the Nature Interpretive Center (NIC) in October 2020, no donations were received by that means in FY 2022. CNLM had previously provided the City with assurances of security of the donation box, protocol for retrieving the funds (which included documentation and staff oversight), and the means by which the funds were deposited and accounted for. Nevertheless, the donation box was removed from the NIC and not reinstalled. Donations received onsite have been historically the main avenue for small donation amounts received by CNLM (small donation amounts are considered to be those less than $50) for the Preserve with an annual average of $610.78 (SE ± 96.19) over eleven years (FY 2009 – 2020). Since October 2020, including FY 2022, no donations were received onsite; rather all donations were received offsite via CNLM's website

and tend to be larger amounts (those greater than $50). The frequency of these offsite larger amount donations average was 5.09 per year over eleven years (FY 2009 – 2020) and 2.5 per year in recent years (FY 2020 – 2022), with an average donation total of $1,312.73 (SE ± 616.04) and $1,600.00 (SE ± 500.00) respectively.

IV. BIOTIC SURVEYS

Coastal Sage Scrub Monitoring

Regular monitoring of coastal sage scrub (CSS) is performed at the Preserve using point-intercept transects. There are twenty permanent transects within the Preserve, a portion of which have been monitored intermittently beginning in 2006. Five transects (No. 1, 2, 3, 4 and 5) were monitored on 5 April 2022 (Figure 3) which were previously monitored in 2012 and again in 2018. To ensure repeat measurements overtime at the same location and to aid in relocating the transects, each start and end point are marked by rebar stakes with a PVC pipe cover. Transects are 25 m in length, with point-intercept data recorded every 0.5 m for a total of 50 points per transect (starting at 0.5 m ending at 25.0 m). All plant species that touched a 0.5-cm diameter rod held vertically to the measuring tape at 0.5-m intervals were recorded, along with the height at each intercept, and ground cover (i.e., leaf litter, bare ground, soil crust or persistent littler). Belt transects (1 m on each side of the point-intercept line) were conducted at the same time to document the local plant community not captured in the point-intercept monitoring. Photos of each transect were taken during surveys (see Appendix A for comparison photos between years 2012, 2018 and 2022).

Across the five selected transects throughout the Preserve, a total of 13 plant species were recorded on the monitoring, three of which were only observed in belt transects. California brittlebush (*Encelia californica*) was the dominant cover (x= 31.2, SE ± 4.63) across the five transects having three times percent cover than that of the next species (Table 1). Four native forbs were recorded on the point-intercept transects (Table 1), wild cucumber (*Marah macrocarpa*) had the highest mean percent cover (x = 2.4, SE ± 1.2). The most common type of ground cover recorded in 2022 was bare ground, 64.4%, an increase from 21.2% recorded in 2018. Leaf litter accounted for 35.6% of the monitored area, when in 2018 it had accounted for 78.8%. This change in ground profile is likely due to areas recently managed for the thinning of dead and down plant materials in 2020 and 2021. Transects 2 and 3 both fall within this management area. The reduction in dead plant material is visible in the photo-comparisons in Appendix A. A single non-native invasive plant species, Sahara mustard (*Brassica tournefortii*), was observed in the belt transects (No. 4) (Table 2).

Annual precipitation for FY 2022 was 7.22 in (18.3 cm) for the area (Santa Ana, CA NOAA 2022), which is 53% of the average annual precipitation, 13.69 in (average from 1906-2016). Most of the precipitation occurred from October through December (totaling 5.58 in) with 1.38 inches from January to May and 0.26 inches as monsoonal precipitation occurred in September. This early precipitation followed by months of dry hot conditions likely played a part in conditions observed on the Preserve during surveys in FY 2022 such as low forb diversity similar to what was recorded in 2018. The average percent cover of California brittlebush (31.2%) is an increase in average percent cover by 21.8% from 2018 (9.4%). This increase could be attributed to the vegetation management efforts since 2018 that has created a more open canopy in which California brittlebush appears to readily and successfully fill-in as a successional species.

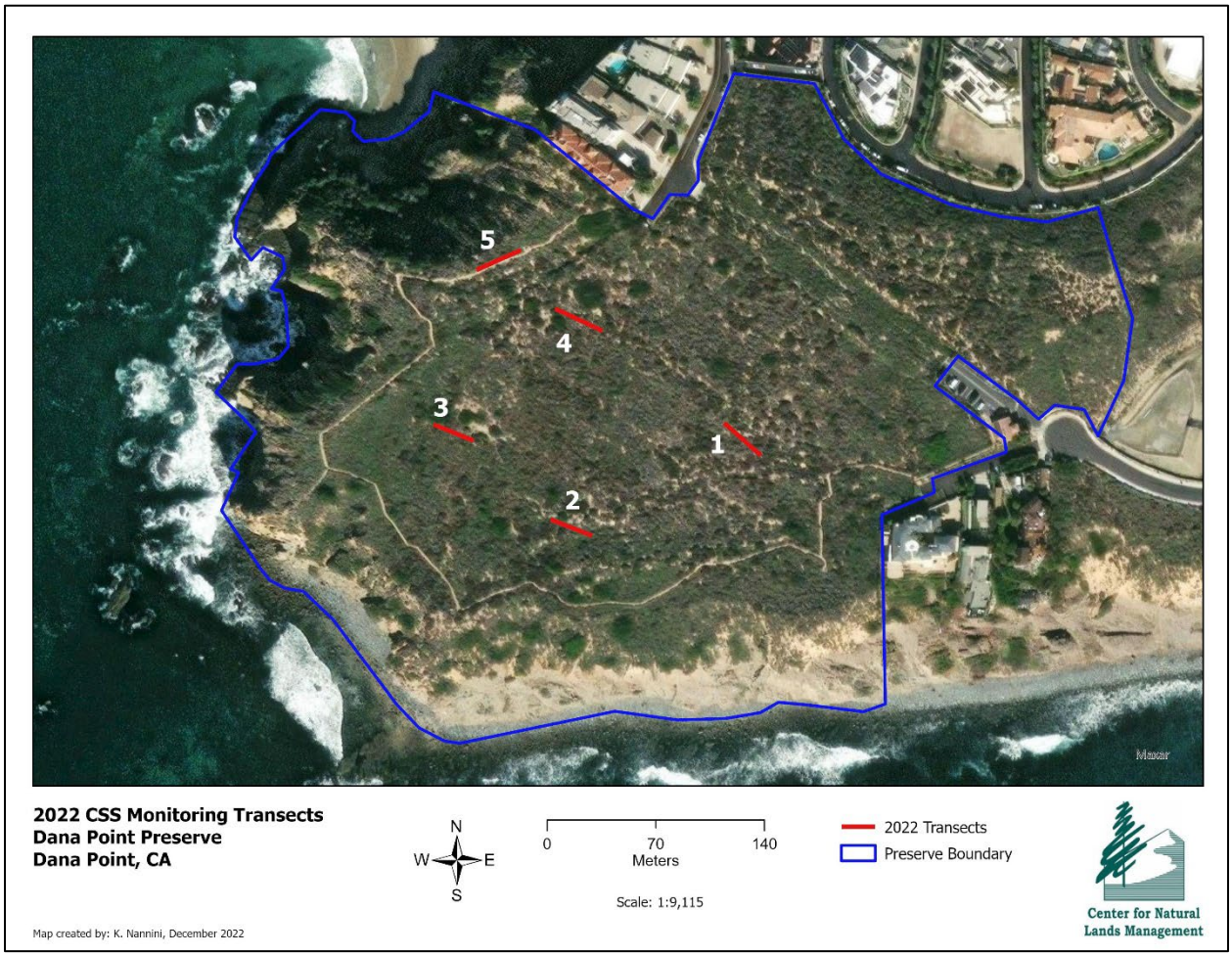

Figure 3. Map of CSS transects. *Five transects, previously monitored in 2012 and 2018, were monitored in 2022.*

Table 1. Summary of the 2022 CSS monitoring transects. *Average percent cover, standard error (SE) and percent of transects occupied for species detected along five Preserve CSS transects.*

Functional Group	Species	Mean % Coverage	SE	% Transects
Native Shrub				
	Acmispon glaber	0.4	0.2	20.0
	Artemisia californica	3.6	0.8	60.0
	Baccharis pilularis	0.8	0.4	20.0
	Encelia californica	31.2	4.6	100.0
	Eriogonum fasciculatum var. foliolosum	10.4	3.2	80.0
	Rhus integrifolia	4.4	1.3	60.0
Native Forb				
	Croton californica	1.2	0.4	40.0
	Marah macrocarpa	2.4	1.2	20.0
	Mirabilis laevis	0.4	0.2	20.0
	Pterostegia drymarioides	0.8	0.4	20.0
Non-Native Forb		0	0	0
Non-Native Grass		0	0	0
Dead Shrub [a]		6.0	1.3	60.0

[a] Dead shrubs or dead portions of live individuals (determined from intercept to stem terminus) inter-mixed among green vegetation.

Table 2. 2022 CSS belt transects. *All species recorded on the 2-m belt transects.*

Transect	Species
1	*Croton californica*
	Baccharis pilularis
	Solanum umbelliferum
2	*Croton californica*
	Rhus integrifolia
3	*Eriogonum fasciculatum* var. *foliolosum*
	Rhus integrifolia
4	*Artemisia californica*
	Baccharis pilularis
	Brassica tournefortii
	Marah macrocarpus
5	*Croton californica*
	Descurainia pinnata

Coastal California Gnatcatcher

Monitoring for coastal California gnatcatchers (*Polioptila californica californica*, CAGN) is conducted annually on the Preserve both to track presence of this threatened species and to be aware of spatio-temporal use of the Preserve. The latter is important to ensure management activities do not result in harassment of CAGN, particularly during their nesting season, generally 15 February – 31 August.

In 2022, surveys were conducted by CNLM Preserve Manager, Korie Merrill, and CNLM Land Steward, Kelsey Nannini. Both are authorized to conduct survey activities under CNLM's TE Recovery Permit 221411-5.5. Ms. Merrill and Ms. Nannini were accompanied at various times by other CNLM staff--Valente Ayala, Ida Naughton, Matt Marowitz and Matt Dimson--for supervised training purposes. Surveys were conducted according to USFWS survey protocols.

Surveys occurred over six days total- four days surveys were conducted by Ms. Nannini, February- March, and two days surveys were conducted by Ms. Merrill, April-June. There were 14 observations of potential CAGN territories, of which 12 were confirmed pairs (Figure 4) and two were unpaired males (Table 3). Survey results were reported to USFWS and CDFW in separate species reports per state and federal permit requirements.

During all of the breeding season (February- September 2022) the trail within the Preserve was open for public use three days a week. This year's (2022) results (12 confirmed pairs) is lower than recent years: in 2021, there were 17 confirmed pairs and in 2020 there were 20 pairs. However, it is higher than the 16-year average (2006-2021) of 7.4 pairs with a range of 3-20 pairs (see CNLM 2023a for a summary of CAGN activity on the Preserve since 2006). Potential impacts to the population should continue to be monitored closely. More competition stress and competition for resources including food and territory as well as increased human activity within the Preserve could contribute to the decline in CAGN activity.

Figure 4. Map of CAGN locations. *Point represents the general CAGN territory locations and identification numbers within the Preserve in 2022.*

Table 3. Summary of CAGN surveys conducted in FY 2022.

Date	Time	Weather Conditions	Results
22-Feb-22	0632-1202	49-56° F, 80% cloud cover, 8-15 mph wind	• CAGN 1 Pair • CAGN 2 Pair • CAGN 3 Pair • CAGN 4 Female • CAGN 5 Pair
23-Feb-22	0628-1000*	47° F, 100% cloud cover, 20-30 mph wind	• CAGN 6 Pair
7-Mar-22	0632-1240	47-60° F, 0% cloud cover, 7-10 mph wind	• CAGN 7 Pair • CAGN 8 Pair • CAGN 4 Pair • CAGN 9 Pair • CAGN 10 Pair
22-Mar-22	0700-1200	53-65° F, 0% cloud cover, 0-5 mph wind	• CAGN 2 Male • CAGN 8 Pair • CAGN 10 Male • CAGN 11 Male • CAGN 12 Pair • CAGN 13 Pair • CAGN 1 Pair • CAGN 3 Pair
14-Apr-22	0700-1201	47-62° F, 0% cloud cover, 4-10 mph wind	• CAGN 1 Pair • CAGN 2 Pair • CAGN 3 Pair • CAGN 8 Pair • CAGN 7 Pair
8-Jun-22	0642-1115	61-67° F, 100% cloud cover, 4-10 mph wind	• CAGN 7 Family group • CAGN 30 Male • CAGN 12 Pair • CAGN 9 Pair • CAGN 13 Nest, chicks • CAGN 2 Pair • CAGN 1 Male • CAGN 3 Pair

*Survey concluded earlier due to unfavorable weather conditions.

Pacific Pocket Mice

PPM monitoring is typically conducted annually on the Preserve both to track presence of this endangered species and to be aware of spatio-temporal use of the Preserve to ensure management activities do not result in harassment or take of individual PPM. Species surveys not only provide information on the status of the local population(s) but can be an indirect indicator of habitat suitability for those species. For animal species, any survey method is an estimate, based on a sample of the local population. Track tube surveys have been used successfully for monitoring PPM (Brehme et al. 2014), providing information on presence/absence, areas occupied, and, depending on survey design, some phenological and demographic data. This information will be valuable in determining any trends in populations

that may be important for the long-term management of our Preserve, and in aiding the larger conservation community in determining regional trends.

PPM track tube surveys were conducted by Korie Merrill (CNLM, USFWS TE 221411-5.5), in collaboration with USGS staff (USGS USFWS TE-045994). All are authorized to conduct PPM survey activities following USFWS protocol. All track cards were reviewed by Korie Merrill for definitive identification. Typically, CNLM conducts track-tube monitoring using one track-tube per monitoring grid cell but with funding provided under a Cooperative Agreement with the U.S. Marine Corps, CNLM was able to double the monitoring effort with two-tubes per grid.

Track tube monitoring surveys were conducted across the Preserve in two sessions. Track tubes were reset and checked weekly for four weeks in the months of May-June ("Session 1") and four weeks during the month of August ("Session 2"). During both sessions, two track-tubes (a 1.5" tube at subplot "B" in the northwest corner of each grid and a 1.0" tube at subplot "A" in the southeast corner of each grid) were set within CNLM's alpha-numeric grid cells (24 meters x 24 meters). Each track tube was set in the nearest suitable location within 5 meters of the flagged GPS position marking each monitoring point. A total of 265 track tubes were set within the 136 grid cells across the Preserve (Figure 5). All trails to the track tubes were flagged prior to monitoring to minimize impact to the habitat and wildlife within the Preserve. Flagging was conducted by CNLM staff with the help of five volunteers from the local community. To ensure the full population was surveyed, CNLM coordinated with the City to conduct concurrent surveys on the Hilltop conservation park. The activities and results presented in this report are for the Preserve only, and do not include the City survey results.

In addition to confirming PPM presence on the Preserve, track-tube data can also be useful in estimating habitat use. For this purpose, we used the Occupancy Estimation function in Program MARK and applied the single season, single species (MacKenzie et al. 2002) to track tube data collected at each sampled grid cell or "site." This analysis pools individual animal capture records within each site by capture occasion to estimate the proportion of sites occupied or used (Ψ) by the target species. The data were analyzed using the single season time dependent model [p(t), psi(.)] with a constant capture probability among survey occasions. Missing track cards were assumed to be a zero detection of PPM in the model. Only using cards with medium to high confidence of PPM detection the 2022 model averaged habitat use estimate as 80.5 percent (95%C.I. 75.0-85.2%) for both sessions, slightly above the naïve subplot habitat use estimate of 78.5 % (number of points with PPM detected per number of points sampled) and below the naïve grid cell habitat use estimate of 92.7 percent (127/136). Survey results were reported to USFWS and CDFW in separate species reports per state and federal permit requirements.

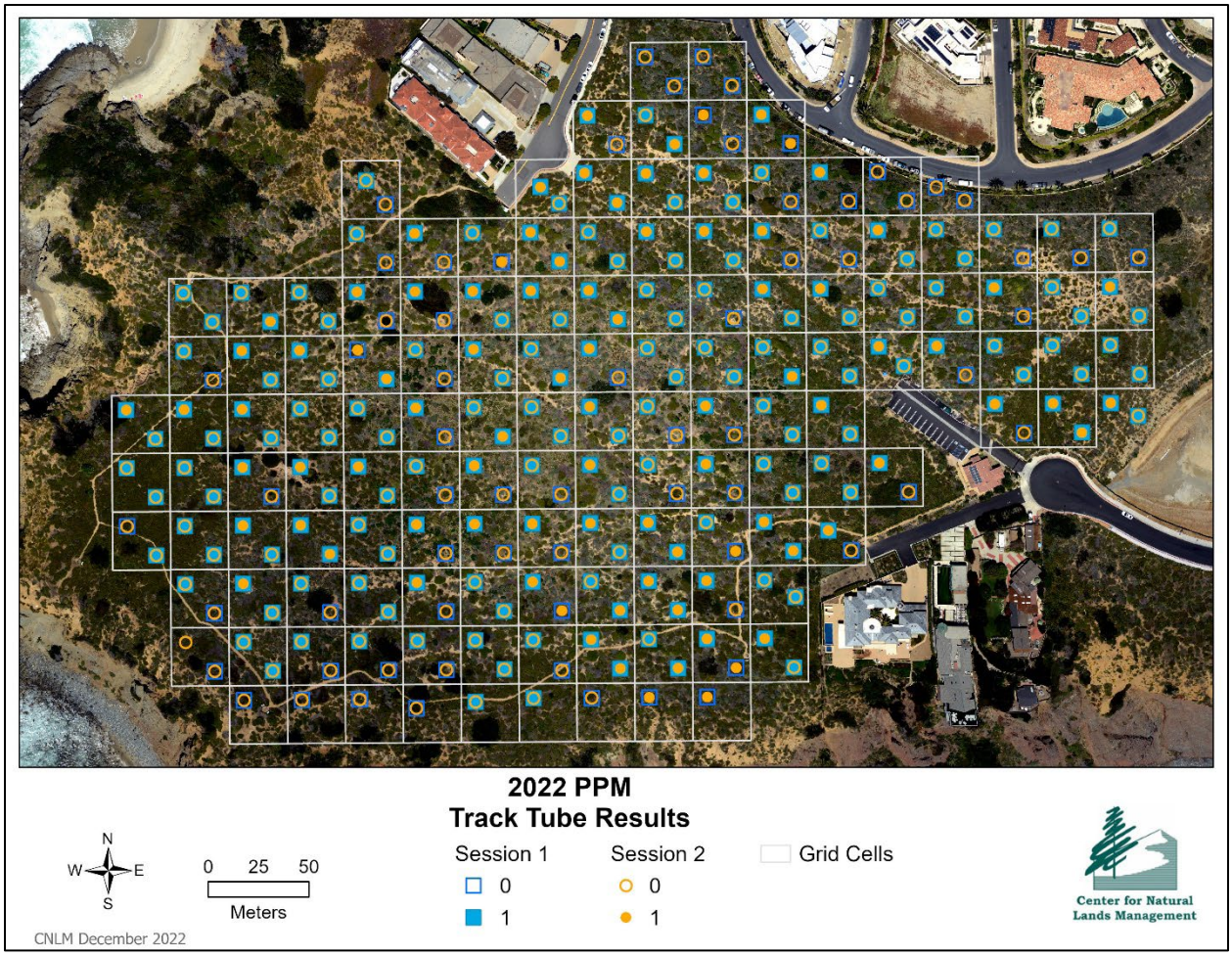

Figure 5. Map of 2022 PPM Survey Results. *0= Track tube set with no PPM detected. 1=Track tube was set and PPM detected.*

This substantial increase in the habitat use estimate from 14.5% in 2019 to 80.5% in 2022 is likely due to several influences, and caution should be used when drawing conclusions. However, two potential influences that have occurred since 2019 that may be correlated to the increase in PPM occupancy are:

1. Vegetation manipulation activities - dead and downed plant material in ~0.7 acres within the Preserve were removed to open the vegetation canopy which created patches of bare ground.
2. Changes in Public Access to Trail - the trail which had been open for public access from 0700 until sunset daily from December 2009 until March 2020 was open three days a week (0800-1600) for the entirety of this monitoring period.

In FY 2022, CNLM worked on a vegetation management plan (VMP) under the PPM enhanced management plan (EMP; CNLM 2022b) to build on data collected and analyzed in 2020 – 2022 towards a better understanding of the relationship between vegetation and PPM through long-term monitoring and data-driven modelling. Vegetation rapid assessment surveys were conducted in April 2022 at each track tube monitoring point following the same monitoring protocol used in 2020 (CNLM 2023b). As outlined in the VMP, percent cover of the top five dominant species, ground cover, soil type, and vegetation class were recorded within a 5-meter

radius of each monitoring point. In addition, notes were made about the presence of known PPM preferred food (e.g. *Croton califonicus* or *Cryptantha intermedia*), and disturbances (e.g., the trail, evidence of a fire, or trash).

The habitat data were analyzed by Cheryl Brehme, USGS using similar analytical methods as in 2020 (Brehme et al. 2020). Similar to the results from 2020, recently (<8 years) managed subplots (i.e., subplots with vegetation, dead and downed plant material and duff was thinned) were 1.75 (95% CI: 1.12–2.75) times more likely to be occupied by PPM than a site that has not been managed in the past 10 years and 5.38 (95% CI: 1.4–20.8) times more likely than a site that has not been managed in 16 years (Brehme et al. 2023, in prep). PPM were also slightly more likely to occupy plots that did not encompass a trail (ψ=0.83, SE=0.03) versus plots away from trails (ψ=0.69, SE=0.08) (Brehme et al. 2023, in prep).

Since the trail opened in 2009, CNLM staff have worked on improving and updating our information regarding public recreation impacts to wildlife through literature reviews and communications with experts. Although direct impacts on Preserve natural resources are difficult to ascertain, there is evidence of decreased Pacific pocket mouse presence after the trail initially opened, and an increase in onsite population after the trail was closed to the public in 2020 due to the COVID-19 pandemic. A recent analysis of public access impacts was used to inform CNLM's preparation of the draft plan described above in Section III.

CNLM continues to collaborate with other scientists, researchers, and land managers to develop a better understanding of PPM conservation and management including PPM genetics. For example, although outside this reporting period, in 2020 CNLM provided 44 ear snip samples and two recovered specimens for genetic analysis to the SD Zoo (see Brehme et al 2019). As no live-trapping was conducted or PPM mortalities observed during the 2021-22 reporting period, no additional samples were provided for genetic analysis. Results from the analysis of the previously collected samples (2020) were not provided to CNLM during this period. Nevertheless, given previous proposals by others to augment genetic diversity of the Dana Point population through translocation of wild individuals from Marine Corps Base Camp Pendleton, relocation of the entire Preserve population to a captive breeding facility, and introduction of captive bred mice to the Preserve, CNLM staff continued to caution against extreme intervention in regard to PPM genetics, taking instead a more cautious approach to evaluate (and interpret, understand) genetic diversity within PPM populations before assuming imminent (in evolutionary terms) intervention is needed. CNLM manages the genetic diversity of the population with professional management to support reproduction, removal or reduction of stressors, and maintenance of natural selection through maintaining a healthy population, avoiding bottlenecks, increasing awareness of management impacts, including the public access impacts and other threats.

Flora and Fauna Inventory

Since 2005, CNLM has implemented opportunistic biological surveys for wildlife on the Preserve, occasionally supplemented with more formal surveys for rare or special-status plant species and live-trapping, track-tube monitoring, protocol surveys and wildlife camera traps for animal species. Taxa identified on the wildlife cameras were recorded by CNLM staff throughout the year (Table 4) and our wildlife database was updated for any new species. A pair of peregrine falcons (*Falco peregrinus*) was recorded nesting on the Preserve's southern cliff in FY 2022. The nest was successful with three juveniles fledged.

Table 4. Wildlife Species. *Wildlife taxa documented by wildlife cameras in FY 2022.*

Common Name	**Scientific Name**
American crow	*Corvus brachyrhynchos*
Bewick's wren	*Thryomanes bewickii*
Black phoebe	*Sayornis nigricans*
California ground squirrel	*Otospermophilus beecheyi*
California quail	*Callipepla californica*
California thrasher	*Toxostoma redivivum*
California towhee	*Melozone crissalis*
Coachwhip	*Coluber flagellum piceus*
Coastal California gnatcatcher	*Polioptila californica californica*
Coyote	*Canis latrans*
Desert cottontail	*Sylvilagus audubonii*
Desert woodrat	*Neotoma lepida*
Greater roadrunner	*Geococcyx californianus*
Long-tailed weasel	*Neogale frenata*
Little bear beetle	*Paracotalpa sp.*
Mourning dove	*Zenaida macroura*
Northern mockingbird	*Mimus polyglottos*
Pacific pocket mouse	*Perognathus longimembris pacificus*
Raccoon	*Procyon lotor*
Striped skunk	*Mephitis mephitis*
Virginia oppossum	*Didelphis virginiana*
Western fence lizard	*Sceloporus occidentalis*
Western harvest mouse	*Reithrodontomys megalotis*
Whiptail lizard	*Aspidoscelis sp.*
White-crowned sparrow	*Zonotrichia leucophrys*

V. HABITAT MAINTENANCE AND RESTORATION

Rabbit Hemorrhagic Disease Virus Serotype-2 (RHDV2), RHVD2 is a threat to wild lagomorph populations in CA with a mortality rate of up to 80% of affected populations (CDFW 2020). RHDV2 was recorded in southern California in May 2020. Subsequently CDFW sent notification in June 2020 which provided recommendations for Scientific Collecting Permit holders to reduce the risk of RHDV2 spread (CDFW 2020). Following those recommendations, CNLM implemented precautions including the requirement that all Orange County CNLM staff and contractors were required to disinfect field crews' shoes and field equipment with 10% bleach solution or an anti-fungal and bacterial spray prior to entering the Preserve habitat. Boot brushes are located at the trail entrances for the vising public to brush their boots/shoes prior to using the trail. Informational signage is posted above each boot brush providing the rationale and importance of boot brushes for the Preserve. This was met with resistance at first but after two years of implementation and enforcement by staff and volunteers it is now standard practice for some of our returning visitors to brush their shoes before and after using the trail. New visitors are frequently stopped by staff or volunteers and asked to brush their shoes prior to using the trail. To ensure information for the public is current and appropriate, signs are to be

updated and refreshed every year. The current signage was installed in August 2022. As far as we know, RHVD2 has not infected lagomorphs in the Preserve.

Non-native Species

CNLM staff removed individuals of six non-native plant species during FY 2022: bridal creeper (*Asparagus asparagoides*), tree tobacco (*Nicotiana glauca*), yellow star-thistle (*Centaurea solstitialis*), black mustard (*Brassica nigra*), and Sahara mustard (*Brassica tournefortii*). Plants were removed by hand without the use of herbicide, bagged, and removed off site to prevent further spread of propagules. All activities were conducted with the supervision of the Preserve Manager to minimize any negative effects to PPM and CAGN by avoiding nesting areas and surveying for and avoiding PPM burrows prior to pulling plants.

Erosion Control Measures on the Bluff

Since 2011, CNLM has been using straw wattles to slow water flowing downhill in the exposed areas and gullies on the bluff edges which are above rare plant populations. CNLM has also been using dead vegetation and duff cleared from grid cells as erosion control materials in these same areas. In addition to erosion caused by rain, trespassers walking and sitting on the bluff edges continue to prevent vegetation from growing in these areas.

In December 2021, after surveying for PPM burrows and rare plants, jute netting and sandbags (filled with native sand) were installed below Overlooks 2 and 3 in areas with erosion rills. Six California brittlebush and one bladderpod (*Peritoma arborea*) – grown from seed collected on the Preserve by the Preserve Manager– were installed in areas of bare ground closest to the trail fence. The Overlook 2 bench was sectioned off to public use from October 2021- February 2022. Fencing off the overlook was originally for COVID-19 prevention but observations of less trespass to the bluff were noted and CNLM staff left the fence in place while allowing for restoration of the areas below the public benches. Within a few weeks the plants were trampled by people trespassing. Only one of the planted California brittlebush survived for one year.

Pacific Pocket Mouse Habitat Maintenance

To reduce accumulated duff and leaf litter and to increase bare soil available for PPM use within the Preserve, CNLM continued to conduct duff and vegetation removal treatment (“thinning”) in specifically identified areas. These activities were partly conducted using funding provided by the CNLM and US Marine Corps (USMC) Cooperative Agreement following objectives and protocols outlined in the Enhanced Management Plan (EMP) and a Vegetation Management Plan (VMP).

It is important to note that thinning, given the context of habitat for listed species (PPM and CAGN), is not a simple undertaking and must be done with caution. Not just the activity of picking up duff and dead shrubs, but the location, process, and manner in which the material is hauled off must be considered. The workload associated with duff and dead shrub removal is substantial and contractors were hired to complete the task and were on site in January 2022. Prior to contractors working in the Preserve, the area boundary was flagged out by the Preserve Manager and surveyed for potential PPM burrows. Locations of presumed burrows were marked with red pin flags and contractors avoided those areas.

Thinning vegetation increased the amount of openness of the Preserve, although this has not been further quantified or inferred from imagery. A small area of CSS was thinned, with dead

and down removed and hauled offsite with a 40-cuyd green waste dumpster, as done in previous years, or piled in place. Visual estimates suggest 10-40% more openness after treatment in portions of the area of work (see Appendix B for before and after photos of the areas planned for management). While this was successful in opening the canopy for a portion of the area, we were not able to accomplish as much as had been planned at that time. The contractors were to work for five days in a total area of 3.0 acres. Instead, they worked for three days of which they only had access to a dumpster for one full day of work before the City of Dana Point had the green waste dumpster removed on the second day. The other two days were spent trying to salvage the work with the contractors and CNLM staff piling dead and downed material in large piles within the habitat, on top of other dead and downed material. This stopgap still opened the canopy overall but did not clear or remove any vegetation from the Preserve. Rather than continue without access to a dumpster, the Preserve Manager cancelled the rest of the work for the week with only 0.77 acres, approximately 26%, of the planned management area thinned (Figure 6).

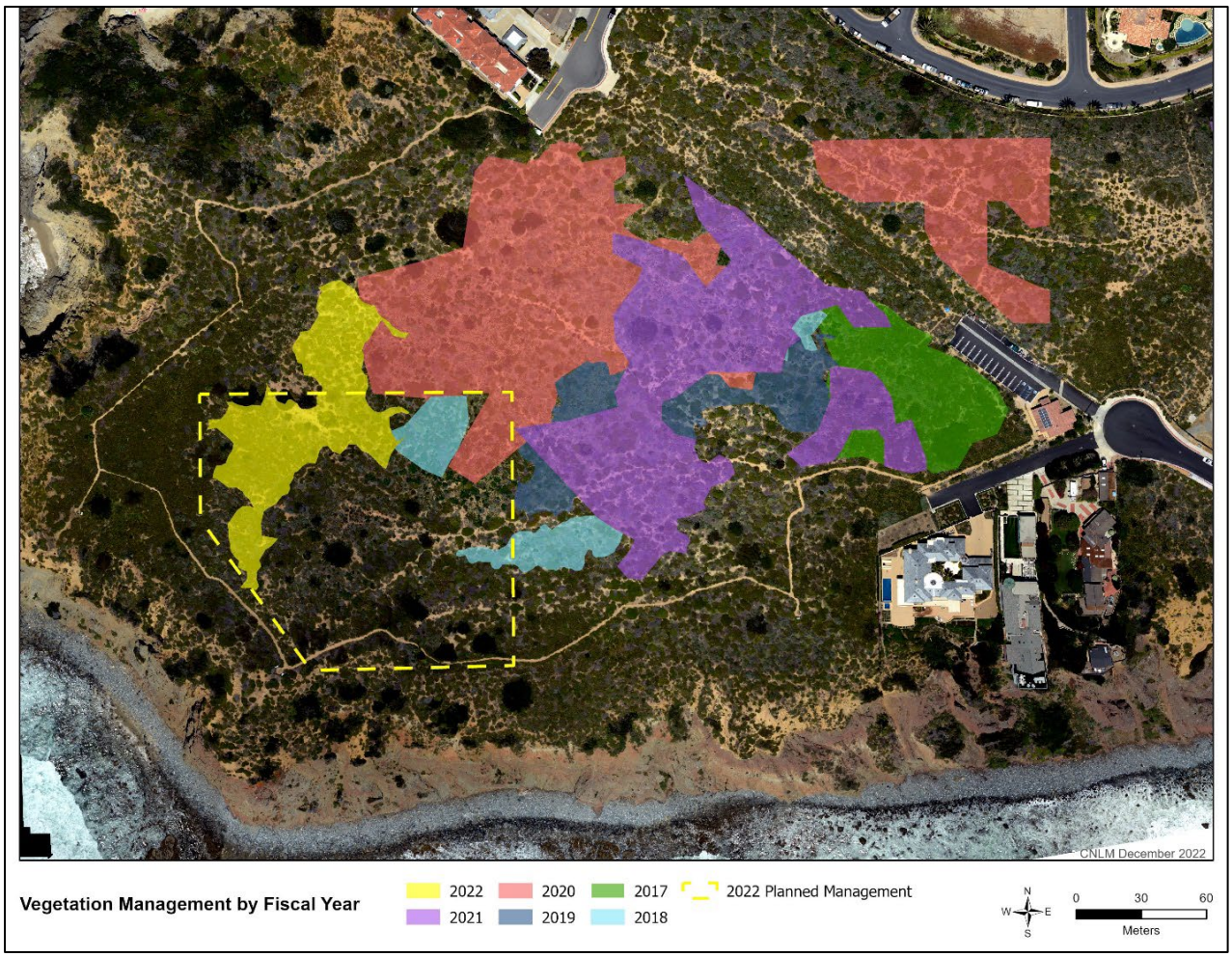

Figure 6. Vegetation and duff management 2017-2022. *Areas where dead and downed vegetation was removed are shaded according to the Fiscal Year management occurred.*

VI. REPORTING

Habitat Management and Monitoring Plan

In FY 2022, CNLM continued the process of preparing a comprehensive management and monitoring plan for the Preserve. Additionally, as mentioned above, CNLM has completed a draft of a portion of that plan related to public access, with input from some of PPM Working Group Partners, Debra Shier (SD Zoo), Cheryl Brehme (USGS) and Robert Fisher (USGS) as well as other experts Ashley D'Antonio (Oregon State University) and Lee Ann Carranza (former CNLM Preserve Manager). CNLM received comments on an earlier draft from the Wildlife Agencies and the City, and incorporated and addressed those comments in the most recent draft submitted to the Wildlife Agencies, the City, and the Coastal Commission for review.

Annual Reports

The FY 2022 annual report for activities (i.e., PPM specific enhanced perpetual monitoring and management activities, funded by US Marine Corps) conducted under the Enhanced Management Plan (EMP) was provided separately to this report (CNLM 2023b).

A work plan for FY 2023 (October 1, 2022 through September 30, 2023) was completed on 15 September 2022 and an annual comprehensive management and monitoring report describing the management activities conducted during FY 2021 was completed on 9 March 2022 and provided to CDFW, USFWS and the City.

GIS Database

CNLM managed and added GIS coverages for data collected in FY 2022 (Appendix C).

VII. REFERENCES

Brehme, C.S., J. Sebes, T. Matsuda, D. Clark, and Fisher, R.N. 2014. MCBCP Pacific Pocket Mouse Monitoring Results for 2013 and Multi-year Trend Analysis from 2012 to 2013. Prepared for AC/S Environmental Security, Marine Corps Base, Camp Pendleton. 69p.

Brehme, C.S., K. Merrill, D.T. Adsit-Morris, T.K. Edgarian and R.N. Fisher. 2020. Dana Point Headlands (CNLM, City of Dana Point) Pacific Pocket Mouse Monitoring Results for 2020. Prepared for US Fish and Wildlife Service. Interagency Agreement No. 4500139540.

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.... 2023b. CNLM Dana Point Preserve Pacific Pocket Mouse Enhanced Management Plan. Fiscal Year 2022 Summary Report. 14 February 2023.

MacKenzie, D.I., Nichols, J.D., Lachman, G.B., Droege, S., Andrew Royle, J. and Langtimm, C.A.. 2002. Estimating site occupancy rates when detection probabilities are less than one. Ecology, 83: 2248-2255.

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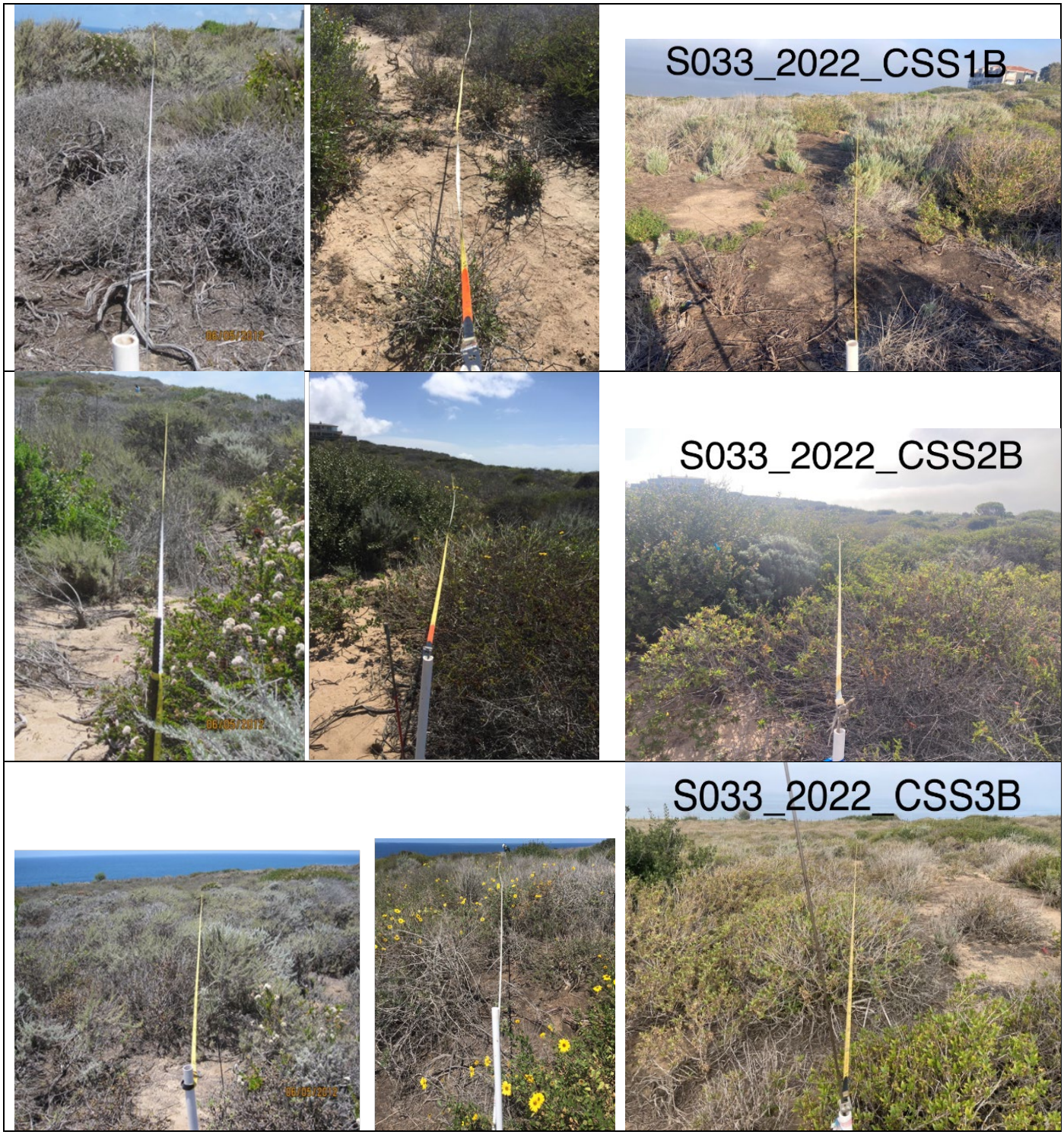
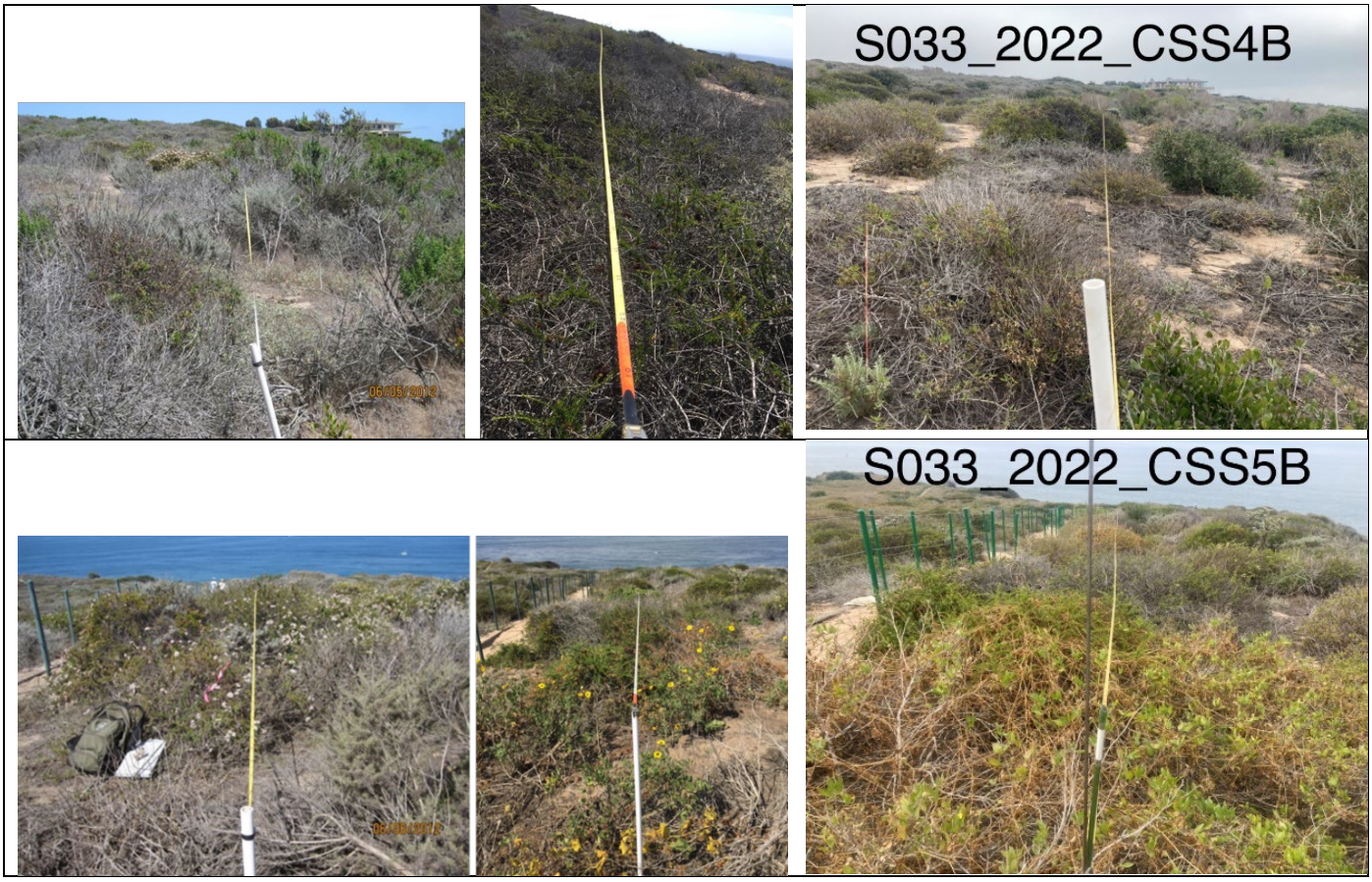
Shier, D.M., Wilder, A., Miller, W.B, Curry, C., King, S.N.D., Chock, R.Y., Greggor, A., and Houck, M.L. 2022. Draft Genetic Management Plan for the Pacific Pocket Mouse (*Perognathus longimembris pacificus*). Escondido, CA pp. 77. In prep.

URS Corporation. 2005. Habitat Management and Monitoring Plan for Dana Point Headlands Biological Open Space. 18 April 2005.

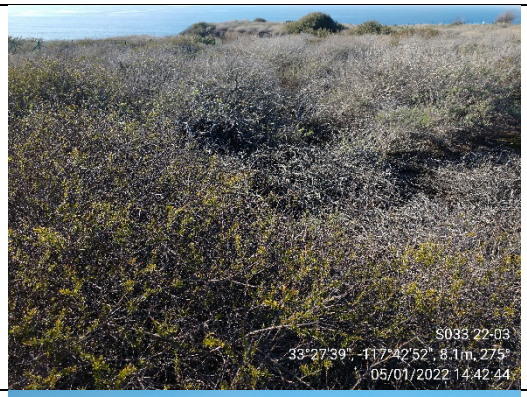
VIII. APPENDIX A. PHOTOS OF CSS MONITORING TRANSECTS.





Comparison photos of 2012 (left) 2018 (middle) and 2022 (right) CSS monitoring transects.

IX. APPENDIX B. PPM HABITAT PRE- AND POST- MANIPULATION PHOTOS.



Before (left column) and after (right column) photos of areas with dead and downed vegetation removed in January 2022.

X. APPENDIX C. GIS COVERAGE.

Coverage	Source	Source Year
Veg thinning polygons	CNLM	2022
Non-native plant locations	CNLM	2022
Gnatcatcher (points, use area, nest locations)	CNLM	2022
Pacific Pocket Mouse Occupancy	CNLM	2022
Pacific Pocket Mouse Monitoring Points and Trails	CNLM	2022
Veg thinning polygons	CNLM	2021
Non-native plant locations	CNLM	2021
Gnatcatcher (points, use area, nest locations)	CNLM	2021
Pacific Pocket Mouse Occupancy	CNLM	2021
Pacific Pocket Mouse Monitoring Points and Trails	CNLM	2021
Aerial Imagery	Airspace Inc	2020
Non-native plant locations	CNLM	2020
Gnatcatcher (points, use area, nest locations)	CNLM	2020
Pacific Pocket Mouse Occupancy	CNLM	2020
Pacific Pocket Mouse Monitoring Points and Trails	CNLM	2020
Veg thinning polygons	CNLM	2020
Non-native plant locations	CNLM	2019
Gnatcatcher (points, use area, nest locations)	CNLM	2019
Pacific Pocket Mouse Points	CNLM	2019
Veg thinning polygons	CNLM	2019
Non-native plant locations	CNLM	2018
Gnatcatcher (points, use area, nest locations)	CNLM	2018
Pacific Pocket Mouse Points	CNLM	2018
Argentine ant locations	CNLM	2018
Non-native plant locations	CNLM	2017
Gnatcatcher (points, use area, nest locations)	CNLM	2017
Pacific Pocket Mouse Points	USFWS	2017
Rare Plant Points & Polygons	Leatherman BioConsultants	2017
Vegetation Transects	CNLM	2016
Northern boundary Fence line	CNLM	2015
Bridal Creeper Locations	CNLM	2016
Gnatcatcher (points, use area, nest locations)	CNLM	2016
Bridal Creeper Locations	CNLM	2013
Gnatcatcher (points, use area, nest locations)	CNLM	2013
Rare Plant Points	CNLM	2013
PPM Capture Locations for captive breeding collection	San Diego Zoo	2012
PPM 24x24 Grid extended to former Marguerita Roadbed and North of the roadbed	USFWS	2012
Vegetation Transects	CNLM	2012
Gnatcatcher (points, use area, nest locations)	CNLM	2012
Bridal Creeper Locations	CNLM	2012
PPM 16x16 Grid extended to former Marguerita	USFWS	2011

Roadbed and North of the roadbed		
Rare Plant Points	CNLM	2011
Gnatcatcher (points, use area, nest locations)	CNLM	2011
Location of dead PPM	CNLM	2010
Rare Plant Points	CNLM	2010
Gnatcatcher (points, use area, nest locations)	CNLM	2010
Rare Plant Points	CNLM	2009
Gnatcatcher (points, use area, nest locations)	CNLM	2009
Veg Baseline Transect Locations	CNLM	2009
Pacific Pocket Mouse Points	USFWS	2009
Aerial Photo	Eagle Aerial	2008
Final Trail Route	CNLM	2008
Rare Plant Points	Fred Roberts	2008
PPM 16x16 Grid	USFWS	2008
Gnatcatcher (points, use area, nest locations)	CNLM	2008
Bobcat Point	CNLM	2007
Revegetation Areas & Seed mix	URS Corporation	2007
Gnatcatcher (points, use area, nest locations)	CNLM	2007
General Wildlife (whiptail and red racer)	CNLM	2007
Cliff Spurge Points	CNLM	2006
Veg Baseline Transect Locations	CNLM	2006
Aerial Photos	URS Corporation	2006 and 1991
PPM Habitat Areas	URS Corporation	unknown
Vista Points	URS Corporation	unknown
Pacific Pocket Mouse Points	USFWS	1993-2007
Cliff Spurge Points	URS Corporation	2007
Trail Location Options	URS Corporation	2007
Sensitive Species (Cliff spurge and Boxthorn)	URS Corporation	2006
Vegetation Communities	URS Corporation	unknown
Gnatcatcher Locations	URS Corporation	unknown
Coastal Commission ESHA Boundaries	URS Corporation	unknown
Jurisdictional Channels	URS Corporation	unknown
Open Space	URS Corporation	unknown
Headlands LLC Project Boundaries	URS Corporation	unknown
Headlands LLC Revegetation Areas	URS Corporation	unknown

Gmail

Korie Merrill <kmerrill@cnlm.org>

S033 CNLM's Dana Point Preserve Annual Report

Korie Merrill <kmerrill@cnlm.org> Mon, Jul 10, 2023 at 2:30 PM
To: "Miller, William" <william_b_miller@fws.gov>, Hans Sin <hans.sin@wildlife.ca.gov>, "Gray, Emily@Wildlife" <emily.gray@wildlife.ca.gov>, "Roberts, Carol" <carol_a_roberts@fws.gov>, Bernice Villanueva <bvillanueva@danapoint.org>, "Wisneski, Brenda@CityofDanaPoint" <BWisneski@danapoint.org>
Cc: Deborah Rogers <drogers@cnlm.org>

All,
Attached for your records is CNLM's 2022 annual report for Dana Point Preserve.

Respectfully,

--
Korie Merrill
Regional Preserve Manager - South Coast
Center for Natural Lands Management
Direct: 949.218.1145
Office: 760.731.7790 ext. 204

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8982K

Center for Natural Lands Management
Dana Point Preserve (S033)
2023 Pacific Pocket Mouse Survey Results

Date Prepared: November 8, 2023

Introduction and Objectives

Since 2012, the Center for Natural Lands Management (CNLM) typically conducts surveys annually for the federally endangered Pacific pocket mouse (PPM; *Perognathus longimembris pacificus*) on the Dana Point Preserve (Preserve) using track tubes. In 2023, track-tube monitoring was conducted in two sessions. This report summarizes the results from the track tube monitoring for PPM within the Preserve.

Presence/absence survey data is used as an indication of the status of threatened and endangered wildlife populations and as a proxy for the health of native vegetation communities/habitats. Data gathered on locations and estimates of population size and presence/absence will be valuable in determining any trends in populations that may be important for the long-term management of our preserves, and in aiding local agencies in determining regional trends.

Preserve Location and Description

The Preserve is approximately 29.4 acres in size and located in the City of Dana Point, Orange County, California. The Preserve consists of the following two assessor's parcel numbers: 672-591-11 and 672-592-17. The Preserve is within Sections 21 and 22, Range 8 West, Township 8 South on the Dana Point U.S. Geological Society (USGS) Quadrangle map. The Preserve is owned and managed by CNLM.

The dominant habitat type on the Preserve is high quality coastal sage scrub with coastal bluff scrub on the bluff face.

Methods

Surveys were conducted by Korie Merrill (CNLM, USFWS ES-221411-6.1), with assistance by CNLM staff: Matt Marowitz, Kelsey Nannini, Jared Fontaine, Kim Klementowski, Kathleen Balazs, Dhimani Govan, Tobin Weatherson, Hailey Laskey, Sabina Lawrence and Brooke Prentice-Dekker. In addition, Joanna Kipper participated in resetting track tubes for training purposes. All track cards were reviewed by Korie Merrill for definitive identification.

Monitoring was conducted across the Preserve in two sessions; May through June ("Session 1") and through August to one week in September ("Session 2", Table 1). Two track tubes were set, both 1.5-in. tubes, within each grid cell (24 meters x 24 meters) for a total of 264 track-tubes in 136 grids. With the exception along the southern cliff edge of the Preserve, where only one tube was placed in the grid instead of two for safety reasons. Each track-tube was set in the nearest suitable location within 5 meters of the flagged GPS position of each monitoring point. All trails to the track tubes were flagged prior to monitoring to minimize impact to the habitat and wildlife within the Preserve. Sterile millet was used as bait.

Results

Track tubes were set on May 23rd and checked and reset weekly May through June during "Session 1" and four times in August (1st, 8th, 23rd, 29th) and September (5th) during "Session 2" (Table 1). No track cards were reset on the 15th, due to a live-trapping event, instead track cards were set on August 23rd. Of the 264 track tube monitoring points across the Preserve, 149 unique points had at least one card with PPM tracks in Session 1 (Figure 1) and 156 unique points in Session 2 (Figure 2).

Table 1: 2023 PPM Survey Results.

2023 Session	Date	Activity	No. Points with Detections	Unique Point Detections per Session
Session 1	23-May	set	n/a	149
	31-May	reset	29	
	6-Jun	reset	76	
	13-Jun	reset	101	
	20-Jun	reset	76	
	27-Jun	end of session	46	
Session 2	1-Aug	set	n/a	156
	8-Aug	reset	63	
	15-Aug	picked up*	67	
	23-Aug	set	n/a	
	29-Aug	reset	72	
	5-Sep	end of session	80	

*To avoid interference with live trapping at the same time, track tubes were not reset on the 15th.

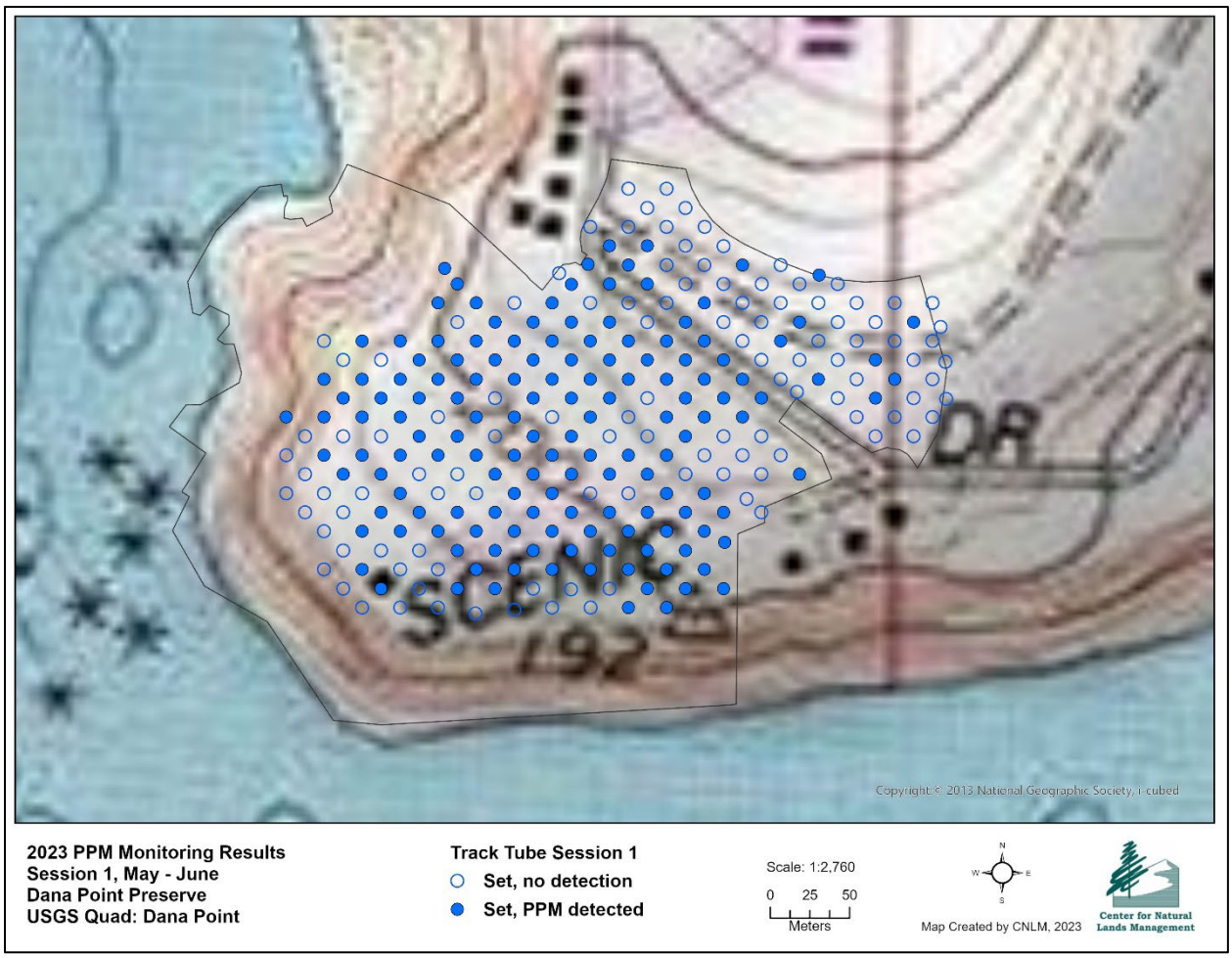

Figure 1. Map of the Dana Point PPM track tube monitoring Session 1 results.

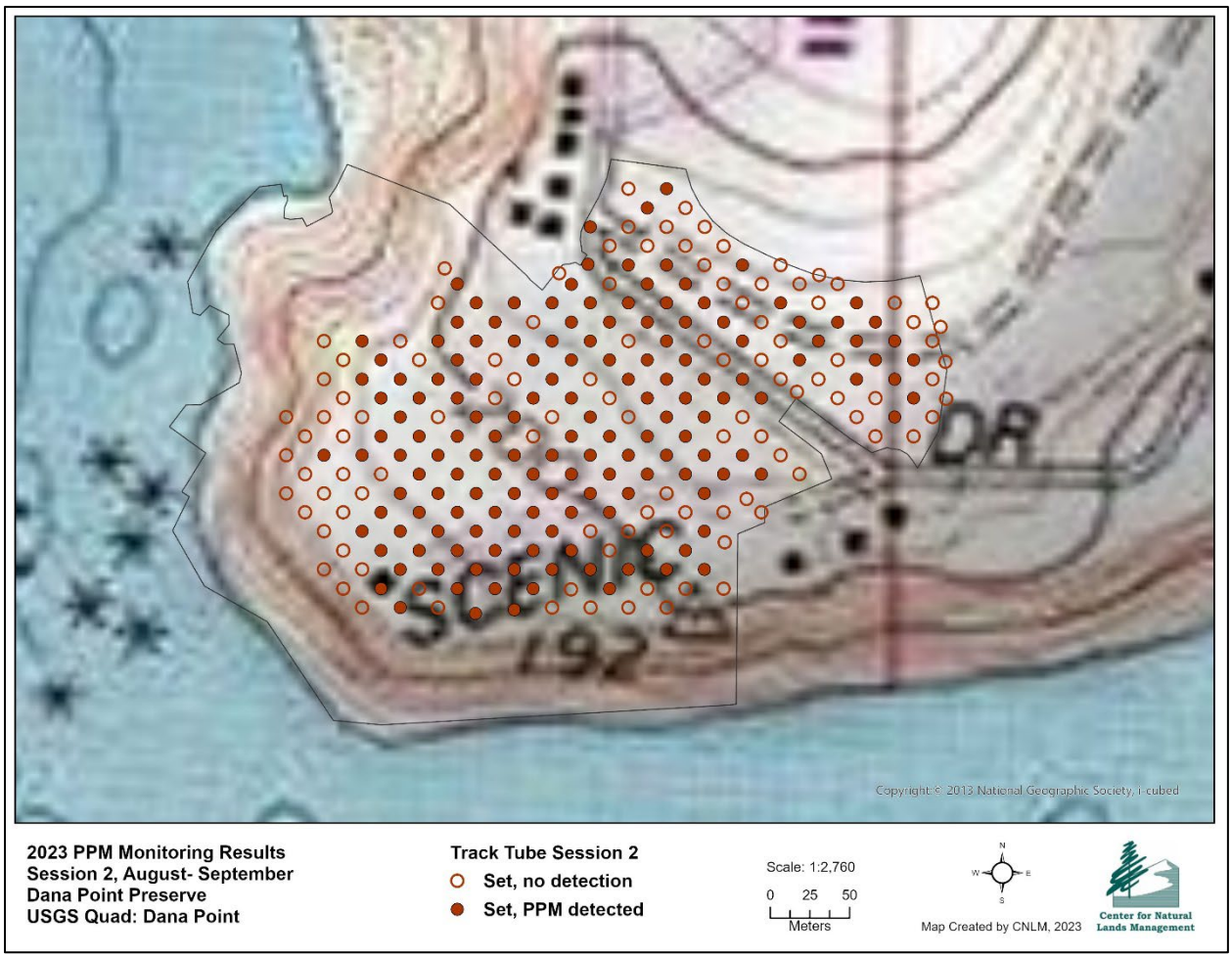

Figure 2. Map of the Dana Point PPM track tube monitoring Session 2 results.

Recommendations

Potential issues to the resident PPM population include impacts from permitted trail use and non-permitted activities such as trail users bringing dogs on- and off-leash, and off-trail trespass which increases the potential to crush PPM burrows.

The trail was open for public access from 07:00 AM until sunset daily for the entirety of monitoring (May-September 2023). I recommend reducing the number of visitors using the trail throughout the year, especially during times when PPM are more susceptible to impacts from human presence (e.g. during low-light times of the day).

Conclusion

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

If you have any questions, please call me at (949) 218-1145.

Sincerely,

November 8, 2023
Date

Korie C. Merrill
Regional Preserve Manager
Center for Natural Lands Management

Center for Natural Lands Management
A non-profit organization for the protection and management of natural resources

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November 8, 2023

Ms. Stacey Love
Recovery Permit Coordinator
U.S. Fish and Wildlife Service
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

RE: 2023 Annual Report for Permit ES221411-6.1: Dana Point Preserve (S033) Survey Report

Dear Ms. Love:

The Center for Natural Lands Management (CNLM) first obtained a 10(a)1(A) Threatened and Endangered Recovery Species Permit (TE 221411-0) (Permit) from the United States Fish and Wildlife Service (USFWS), on January 22, 2010 and amended the Permit and/or List of Authorized Individuals on July 27, 2011 (TE 221411-1), October 11, 2012 (TE 221411-2), April 12, 2013 (TE 221411-3), November 26, 2013 (TE 221411-3.1), October 21, 2014 (TE 221411-3.2), February 4, 2016 (TE 221411-3.3), March 14, 2017 (TE 221411-4), November 1, 2017 (TE 221411-5), August 1, 2018 (TE 221411-5.1), August 14, 2018 (TE 221411-5.2), February 22, 2019 (TE 221411-5.3), February 17, 2021 (TE 221411-5.4), November 22, 2021 (TE 221411-5.5), February 23, 2023 (ES221411-6), and March 13, 2023 (ES221411-6.1). As required by the Permit, CNLM is submitting the annual report and survey reports for survey activities conducted in 2023 under the Permit in the region covered by the USFWS Carlsbad office. This is the survey report for Dana Point Preserve (S033). The surveys were completed under permit ES221411-6.1. In parallel, we have submitted an annual report and survey reports for survey activities conducted under the Permit in the USFWS Sacramento and Ventura, offices. Please contact Korie Merrill (949-218-1145), should you have any questions or concerns regarding this survey report.

Sincerely,

Korie Merrill
Regional Preserve Manager
Center for Natural Lands Management