



2023 Secretary of the Navy Environmental Award Natural Resources Conservation – Large Installation Marine Corps Installations West-Marine Corps Base Camp Pendleton



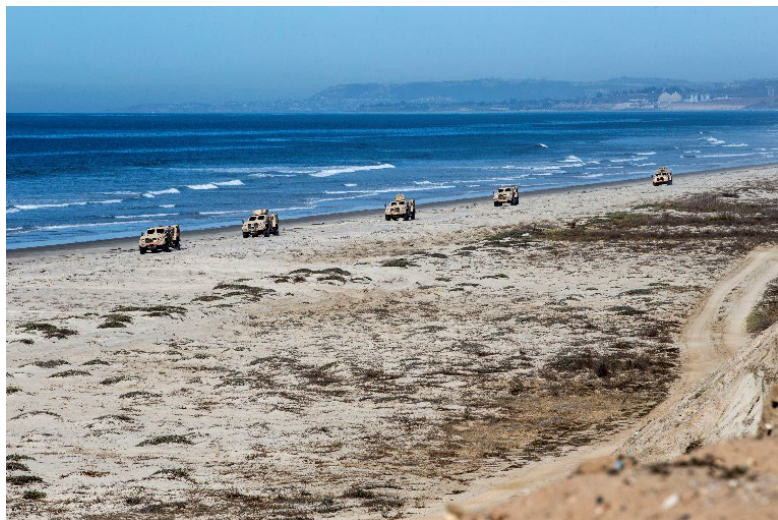
INTRODUCTION

Marine Corps Installations West-Marine Corps Base Camp Pendleton (MCIWEST-MCB CAMPEN) serves as the Marine Corps' premier amphibious training base providing comprehensive air, sea, and ground assault training to 42,000 active duty service members, 25,000 reserve service members, and over 17,000 entry level Marines (recruits) from Marine Corps Recruit Depot San Diego. Combined with civilian personnel that work on the base, MCB CAMPEN serves an average daytime population of 85,000. Through efficient range and training facility scheduling, timely de-confliction of live-fire training events, and effective special use airspace management, nearly 70,000 training events are conducted annually aboard MCB CAMPEN.

As the busiest training Marine Corps training base on the West coast, MCB CAMPEN is home to the First Marine Expeditionary Force (I MEF) supporting the day-to-day training requirements as they prepare for regular deployments with specialized units such as Marine Expeditionary Units and Special Purpose Marine Air Ground Task Forces. In addition to hosting I MEF and the major subordinate commands of 1st Marine Division and 1st Marine Logistics Group, MCB CAMPEN also supports the integral mission to provide formal schooling for newly minted Marines in basic warfighting techniques at the School of Infantry (West) and Fleet Marine Force Navy Corpsmen training at the Field Medical Training Battalion.

BACKGROUND

Located within the Peninsular Ranges topographic region of California, MCB CAMPEN's 17 miles of coastline are one of the last remaining undeveloped areas on the southern California coast. Its western boundary is the Pacific Ocean with a shoreline composed of Pleistocene marine terraces that includes long stretches of open sandy beaches. The eastern boundary is 10 to 12 miles inland with uplifted terraces forming a broad coastal plain in the southern portion of the base with steep rising mountains providing only a narrow corridor of flat land in the northern portion. The 125,000 acres of MCB



The compatible interface of undeveloped coastline, sensitive species habitat, and military training is demonstrated during Joint Light Tactical Vehicle driver training on Camp Pendleton's beaches.

CAMPEN encompass a wide diversity of native plant communities and fish and wildlife habitats, including coastal lagoons and estuaries, coastal dunes, native grasslands, coastal sage scrub, chaparral, oak woodlands, salt and freshwater marsh, ephemeral wetlands (vernal pools), riparian scrubland and woodland, arroyos, streams, rivers, ponds, and lakes. Developed cantonment areas aboard MCB CAMPEN represent approximately 10,000 acres and roughly 5,000 acres of leased property including land leased to the State of California for use as a state park. The remaining acreage is training land and dedicated impact areas that support live-fire training and exercises. Notably, training areas are

available for outdoor recreation, primarily hunting and fishing on a non-interference basis.

The mission of MCB CAMPEN's Environmental Security Department is to ensure environmental compliance and promote land use availability for military training. The Environmental Security Department promotes the long-term management of the Base's natural resources through multiple avenues including restoration of listed-species habitat and severely impacted habitats (by erosion, flooding and fire), predator control, and aquatic and terrestrial non-native species removal.

PROGRAM SUMMARY

By using an ecosystem approach to natural resources management, MCB CAMPEN has a proven record of accomplishment of supporting the military mission with no net loss of military capability while managing, conserving and rehabilitating natural resources. Since 2001, the MCB CAMPEN Environmental Security Department has actively managed the 19 listed threatened and endangered species under the Endangered Species Act (ESA) found on the base, protected waters of the United States, protected migratory birds, and oversaw a robust fish and game program, all while military training activities steadily increased. Internal to MCB CAMPEN's Environmental Security Department, is an Environmental Conservation Division comprised of 36 civil servant employees committed to the management of the base's natural resources. This division is comprised of Interdisciplinary Natural Resource Managers and Specialists, Ecologists, Wildlife Biologists, Conservation Law Enforcement Officers, and Cultural Resource Specialists that collaboratively balance the base's training mission with proactive management of species and ecosystems services across varied landscapes.

Southern California is one of the most biologically diverse regions within the continental United States. The heavily developed urban landscape of southern California makes MCB CAMPEN an island of biodiversity. Serving this island of biodiversity across the base's landscape are four major watersheds that support eight coastal lagoons and estuaries. Over 1,000 species of wildlife, including 19 federally listed as threatened or endangered species, occupy MCB CAMPEN during all or part of the year. These listed species include the Thread-leaved Brodiaea (*Brodiaea filifolia*), San Diego Button-Celery (*Eryngium aristulatum* var. *parishii*), Spreading Navarretia (*Navarretia fossalis*), California Orcutt Grass, Encinitas Baccharis (*Baccharis vanessae*), San Diego Fairy Shrimp (*Branchinecta sandiegonensis*), Riverside Fairy Shrimp (*Streptocephalus woottoni*), Tidewater Goby (*Eucyclogobius newberryi*), Southern California Steelhead (*Oncorhynchus mykiss*), Arroyo Toad (*Anaxyrus californicus*), California Least Tern (*Sternula antillarum browni*), Western Snowy Plover (*Charadrius nivosusnivosus*), Light-footed Ridgway's Rail (*Rallus obsoletus levipes*), Coastal California Gnatcatcher (*Polioptila californica californica*), Least Bell's Vireo (*Vireo bellii pusillus*), Southwestern Willow Flycatcher (*Empidonax traillii extimus*), Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*), Pacific Pocket Mouse (*Perognathus longimembris pacificus*), Stephens' Kangaroo Rat (*Dipodomys stephensi*). For a majority of these species there is a long detailed story that accompanies the sustainability of the species aboard MCB CAMPEN. Management of these species is accomplished via a holistic approach centered on overall ecosystem health and continuing actions to improve habitat. This award nomination will not detail all actions that are taken on an annual basis, but will focus on underlying planning actions, high visibility activities, and provide an overview of management.

Guided by a 2018 Joint Integrated Natural Resources Management Plan (INRMP) MCB CAMPEN - Marine Corps Air Station Camp Pendleton, the MCB CAMPEN Environmental Security Department regularly revisits goals and objectives of the INRMP to focus species and ecosystem management and action items. Throughout 2022, and interdisciplinary team of Environmental Security Department Staff

and other instrumental base staff sections such as Range Operations and Range/Training Area Management Division conducted an internal review and update to the 2018 INRMP.

SUMMARY OF ACCOMPLISHMENTS

MISSION ENHANCEMENT

ENVIRONMENTAL PLANNING

The high volume of activities aboard MCB CAMPEN requires the ability to dynamically anticipate, monitor, and respond to myriad tasks and requirements that require comprehensive project life-cycle management. The Environmental Planning Branch within the MCB CAMPEN Environmental Security Department serves as the point-of-entry for all activities aboard the base that require environmental review. During the unprecedented constraints associated with COVID-19, this branch continued to provide the impact analysis and output required to support the overarching mission of the base. During FY-21 to FY-22, to comply with the National Environmental Policy Act (NEPA) over 820 Categorical Exclusion Decision Memorandums (CATEXs) were issued. The complexity of CATEXs ranged from simple recurring maintenance activities, to more complex habitat restoration and enhancement activities that required consultation with partner agencies. In direct support of the base's primary mission of military training, Environmental Planners also reviewed over 105 training supplements (military training actions that are more complex than routine training) to directly assist units in accomplishing their training objectives. Staff also prepared in-house Environmental Assessments (EA) for larger projects and activities. Completed in August 2021 was an EA to improve capabilities of a live fire and maneuver range. Notably, the EA was completed with in-house staff, resulting in savings of approximately \$150k in contracted labor. During FY-22, staff continued to prepare three in-house EAs to follow the same cost saving trend. Companion to NEPA compliance are the Environmental Planning Branches consultations under Section 7 of the Endangered Species Act (ESA). During FY-21 to FY-22, nine consultations were completed with the United States Fish and Wildlife Service (USFWS). Continuing actions associated with consultations and permits are significant, with nine reports associated with ongoing permits or consultations submitted to various regulators annually and approximately 150 ongoing regulatory permits or consultations being tracked.

MITIGATION TECHNICAL ADVISORY GROUP

In 2021, recognizing the need for a planning group that was focused on temporary and permanent impacts associated with construction, training, and less deliberate activities such as wildfires, the Environmental Security Department stood up a Mitigation Technical Advisory Group (MTAG). The purpose of the MTAG is to take a more holistic approach for on- and off-base mitigation options and to better support planning and decision making by the existing to Environmental Impact Working Group (EIWG) and Environmental Impact Review Board (EIRB). Added benefits from the MTAG have been improved coordination with the MCB CAMPEN Public Works Department and Facility Engineering Acquisition Division to increase efficiency of contract modifications necessary for mitigation



Development and implementation of the innovative Coastal California Gnatcatcher Recovery Crediting System will support gnatcatcher recovery through off-Base conservation while increasing on-Base training flexibility.

purchases by identifying an additional contractual pathway for completing mitigation purchases and coordinating with local mitigation banks. During FY-21 and FY-22, the MTAG oversaw mitigation actions for over 11 military construction (MILCON) projects. The mitigation actions associated each MILCON range in complexity from purchase of wetland credits to establishment of a conservation fund for riparian habitat to benefit Arroyo toads as an offset to impacts from the Santa Margarita River Conjunctive Use Project.

READINESS AND ENVIRONMENTAL PROTECTION INITIATIVE

Although a majority of the region surrounding MCB CAMPEN is already heavily urbanized, base staff have been able to establish creative means to access and utilize funding available from the Department of Defense's (DoD) Readiness and Environmental Protection Initiative (REPI) during the past decade. The challenges of limited available land and high costs, have not hindered the ability of staff to collaborate with local partners and agencies to find ways to avoid land-use conflicts near installations and address regulatory restrictions that inhibit military activities. MCB CAMPEN staff worked cooperatively with the USFWS Carlsbad Fish and Wildlife Office (CFWO) to develop a Recovery Crediting System (RCS) for the federally threatened Coastal California Gnatcatcher. This innovative RCS program used DoD REPI funds to conserve and manage off-Base properties occupied by gnatcatchers in exchange for increased Marine Corps training flexibility on each of these installations. A Memorandum of Understanding between the Marine Corps and CFWO for this RCS was completed in late 2021 and is the first RCS developed by the Marine Corps, and one of the first developed in the entire United States. Via these efforts, over 800 acres of gnatcatcher habitat (coastal sage scrub) has been conserved.

EMERGENCY OIL SPILL RESPONSE

The 17 miles of undeveloped shoreline of MCB CAMPEN is not only a key feature of the base, but also the longest stretch of undeveloped coast in all of Southern California. In October 2021, when crude oil from a 25,000 gallon spill in Los Angeles County began was observed drifting towards Orange and San Diego Counties, the Environmental Security Department staff proactively increased their regular patrols and site visits to the bases shoreline and estuaries. Additional measures were taken to protect estuaries and other sensitive habitats by deploying spill containment booms via close coordination with the California Department of Fish and Wildlife's Office of Spill Presentation and Response (CDFW OSPR). When spilled oil began to wash ashore MCB CAMPEN's beaches on 5 October 2021, staff further integrated with the Incident Command Center by attending daily conference calls and providing significant staff support to escort Shoreline Cleanup Assessment Teams (SCAT) provided by the responsible party for the spill. By serving as lead escorts for the SCATs, the process of removing spilled oil was streamlined and allowed the base staff to share knowledge and expertise of the shoreline. Regular SCAT activity escorting continued until 17 December 2021 ensuring that potential impacts to coastal habitat and wildlife were properly addressed. Following the completion of actions associated with the October 2021 spill, MCB CAMPEN staff continue to work with the CDFW OSPR to ensure improve state-level spill action plans by applying lessons learned from the event.

SPECIES AND HABITAT ENHANCEMENT

STEPHENS' KANGAROO RAT RECOVERY PROGRAM

The threatened Stephens' Kangaroo Rat (SKR) occupies a significant portion of training areas for artillery and mortar firing points, and mounted vehicle gunnery ranges on MCB CAMPEN, presenting a unique challenge given the high intensity and frequency of use at these specific training sites. MCB CAMPEN staff provided expertise on a multi-year effort with the USFWS and USGS to develop a regional SKR Management Plan. The efforts from MCB CAMPEN and partners throughout the region were realized in the reclassification of the SKR from endangered to threatened under the ESA in March 2022. A three 3-year effort began in July 2021 that included widespread vegetation thinning, vegetation management at a soil de-compaction site, erosion control, artificial burrow placement, and improved connectivity to Naval Weapons Station Fallbrook. A prescribed burn conducted in May 2020, removed thatch of non-native annual grasses allowing native grasses to re-establish. Concurrent to habitat enhancement, monitoring for SKR indicated the species has remained relatively stable since 2015. Finally, the purchase in FY-20 utilizing REPI funds, of the 955-acre Montecito Ranch was a regionally important action in the overall reclassification from endangered to threatened.



Monitoring of Stephens' Kangaroo Rat in late-2020 supported data that the population on MCB CAMPEN has remained stable since 2015 and supported the overall reclassification of the species from endangered to threatened in 2022.

VERNAL POOL GROUP 68 RESTORATION AREA

Much of the success of the MCB CAMPEN Environmental Security Department is the ability to address long-term issues that from decades prior have resulted in degraded habitat. In FY-22, staff began a multi-phased effort to restore a 59-acre site previously characterized with thriving vernal pool hydrology. This area, referred to as Vernal Pool Group 68 is home to two endangered fairy shrimp species (San Diego Fairy Shrimp and Riverside Fairy Shrimp) and multiple endangered plants. Faced with the challenge of multiple drought years resulting in vernal pools remaining dry, staff developed a comprehensive plan to reduce site access and removal of non-native vegetation impacting the natural flooding regime. The



In an area previously disturbed by military training over a decade ago, long-term planning efforts came to fruition with the initiation of restoration of a 59-acre complex of vernal pools. Initial steps were taken to protect the area by emplacing boulders along roads to limit unnecessary off-road driving.

endstate of the restoration effort is to ensure vernal pool hydrology supports fairy shrimp life cycle during appropriate weather conditions. In FY-22, phase 1 of the restoration began with the installation of boulders along road edges to prevent off-road driving and invasive weed control.

Subsequent efforts will include re-contouring of vernal pools, planting native plants, and continued invasive weed control. Throughout all efforts, environmental staff work closely with Range and Training Area planners to ensure that military training continues in designated areas without conflicts from restoration work.

INVASIVE AND EXOTIC MANAGEMENT

Invasive species is the one the greatest threats and biggest challenges to MCB CAMPEN ecosystems. The base operates several aggressive invasive species management programs that through adaptive management have resulted in significant habitat improvements. The base's Early Detection Rapid Response (EDRR) initiative is a proactive program that incorporates roadside mapping and monitoring with a concurrent rapid response treatment. The biggest cost savings realized in the EDRR program is that it is meant to stop infestations before they get too large and costly to control. During the 2021 treatment year, 38 highly invasive plant species across 403 acres of impacted habitat were treated across the base. Focusing on trees and wooded sections of the base, a forest pest program monitors, detects and treats if necessary the three new emerging invasive beetles that are killing live oak and riparian trees in the region. Although invasive beetles are just outside the Base there have not been any reports of detection.

In a program that has been occurring since 1983, the base's brown-headed cowbird trapping and removal program remains effective by removing birds that parasitize nests of the endangered Least Bell Vireo (LBV). In the base's 40-year program, more than 14,200 cowbirds have been removed which has nearly eliminated cowbird parasitism of the LBV. Invasive plant removal combined with brown-headed cowbird trapping has helped the LBV increase from 64 in 1983 to 700-900 territories in recent surveys.

For the eight different watersheds that drain from MCB CAMPEN to the Pacific Ocean, a comprehensive effort to ensure that watersheds that regularly flow are eradicated of exotic aquatic species is ongoing. In FY-21 and FY-22, five of the base's watersheds were monitored for removal of exotic aquatic species, which can include non-native fish, bullfrogs, crawfish. Average annual non-native removal is upwards of 15,000 individuals. In the base's largest watershed, the Santa Margarita River, all non-native fish removed that have value for recreational fishing were translocated to Lake O'Neill.

Along the base's coastline, extensive efforts are made annually to improve dune habitat that significantly benefits nesting endangered shorebirds. A Coastal Dune/Beach Program focuses on continued treatment in coastal dune habitats in an effort to remove decades of accumulated thatch. In FY-21, approximately 35 acres of dune and strand habitat were treated, including habitat within the California least tern and western snowy plover nesting areas. In addition to treatment for years overgrown thatch, targeted restoration occurred on 3 acres of dune and strand habitat, which involved a combination of thatch removal and sand replenishment.

SUMMARY

The accomplishments of MCB CAMPEN natural resource programs greatly benefit its Marines, Sailors, tenant organizations, and civilians who work and live on the Base. MCB CAMPEN's versatile and robust natural resources program illustrates innovative and cost saving accomplishments that reduce constraints and sustain an ever-expanding military training mission. Both base personnel and



Overlooking the Santa Margarita River Basin, MCIWEST-MCB CAMPEN and USFWS Senior Leadership celebrate selection as recipient of the 18th USFWS Military Conservation Partner of the Year Award on 17 October 2022. This was the first time that an individual Marine Corps base has received this all-of-DoD award.

surrounding communities continue to benefit from the hard work that improves or maintains several ecosystems supporting a large biodiversity and core Southern California species populations that reside on- and off-base. Through comprehensive and forward leaning environmental planning efforts, focused action on high value species, restoration of habitat, and continuous action against non-native species, MCB CAMPEN strives to set the standard for natural resource management and conservation in the DoD. Across all internal and external stakeholders, MCIWEST-MCB CAMPEN is proud of its leadership and management of the natural resources entrusted to it as it finds solutions to address and balance the demanding requirements of military training and natural resources stewardship.