FY 2011 Secretary of Defense

ENVIRONMENTAL AWARDS

Vandenberg AFB Natural Resources Team / Natural Resources Conservation – Team

BACKGROUND

Vandenberg Air Force Base (VAFB), the third largest US Air Force installation, is home of the 30th Space Wing. Remotely located on California's Central Coast, the installation provides America's only capability to launch military and commercial satellites into polar orbit and conduct intercontinental ballistic missile testing without over-flying populated areas. The 30th Space Wing also operates the Western Range consisting of instrumentation sites along the California coast providing a vast array of space and missile tracking equipment and is also home to Missile Defense Agency test and operations programs. These critical, national security missions are all accomplished within Vandenberg's 99,604 acre national park-like setting by a combined military, civilian and contractor workforce of over 11,000 people.

Secretary of Defense Environmental Award nominee for Natural Resource Conservation – Team is VAFB's 30th Civil Engineer Squadron, Natural Resources Team. The Team includes four biologists, a botanist, a physical scientist and a rangeland manager. From left to right are Luanne Lum, Lauren Wilson, Rhys Evans, Tracy Curry, Samantha Kaisersatt, Darryl York and Tim Belton.

The base and its 45 miles of scenic California coastline is home to 53 species of mammals, 315 species of birds (136 of which have been known to breed on VAFB), 17 species of reptiles, 10 amphibian species and more than 850 plant species – all of which are managed under the base's Integrated Natural Resources Management Plan (INRMP). The VAFB INRMP is the foundation for sustaining military operations and delivering mission capability, while assuring the preservation of the irreplaceable natural resources and pristine natural setting of Vandenberg. Indicative of the INRMP's success are fifteen federally-listed threatened and endangered (T&E) species that find refuge and sanctuary on the base.

The Natural Resources Team is part of the Environmental Section of the 30th Civil Engineer Squadron's Asset Management Flight. This dedicated team includes Tim Belton, Rangeland Management Specialist; Tracy Curry, Physical Scientist; Rhys Evans, Natural Resources Lead; Samantha Kaisersatt, Biologist; Luanne Lum, Botanist; Lauren Wilson, Biologist; and Darryl York, Conservation Element Chief.

POSITION DESCRIPTION

The Natural Resources Team is charged with protecting and preserving a diverse collection of habitat types and ecosystems -that are home to terrestrial, marine and avian animal species potentially impacted by mission operations. This includes approximately 7,847 acres of wetlands, 1,863 acres of unique sand dunes, and 469 miles of natural streams in addition to the enormous open space buffers required for launch operations that must also be managed for recreational access. The Team also manages sustainable use of over 28,000 acres of rangeland used by Federal Correctional Complex, Lompoc, for both cattle grazing and dry land farming. During project development and construction activities, team members are responsible for reviewing and analyzing project impacts on natural resources and habitat for the 15 T&E species addressed in the INRMP, often involving consultation with the US Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) for compliance with the Endangered Species Act (ESA). Launch operations are supported by completing monitoring and reporting required by the ESA and the Marine Mammal Protection Act (MMPA). A robust Wildland Fire management program keeps staff very busy before and during California's fire season working with DoD's only full-time wildland fire team, the "Hotshots". Natural Resource Team members are also integral to the success of the Conservation Law Enforcement program. Responsibilities include executing the base hunting program, and surveillance of protected areas closed to recreational access.

AWARDS AND SERVICES

The Natural Resources Team was recognized by the 16-Federal agency Coastal America Partnership, winning the National Coastal America Award in November 2009. This award recognized the Team's innovative ecosystem-based management approach to an endangered California least tern colony and other natural resources located on the base.

The Natural Resources Team also won the 2011 General Thomas D. White Award for Natural Resources Conservation in the Team category in recognition for the best natural resources program in the Air Force.

Several team members are also certified wildlife biologists and active in The Wildlife Society and the California Native Plant Society.

ACCOMPLISHMENTS

The Vandenberg AFB Natural Resources Team manages and protects an irreplaceable diversity of rare and sensitive natural resources through diligent INRMP implementation that ensures the base's ability to execute space and missile launch operations. Pioneering approaches to habitat restoration and natural resource compliance resulted in remarkable cost avoidance and accelerated project schedules. Collaborative relationships with State and Federal agencies and non-profit organizations are a program cornerstone and marked by positive relationships with USFWS, NMFS and CDFG. Because of VAFB's Beach Management Plan local community interest is high and fostered by a robust public outreach program. These accomplishments demonstrate why the Natural Resources Team was recognized as the most outstanding Natural Resources Team in the United States Air Force for FY 2011. Vandenberg's Natural Resource Team excellence is apparent in the following accomplishments:

- Recognition by the Coastal America Awards Program for the outstanding efforts to restore and protect the coastal environment. They were commended for the innovative ecosystem-based management approach applied to an endangered California least tern colony and other base natural resources.
- Negotiation of a comprehensive Programmatic Biological Opinion (PBO) with the U.S. Fish and Wildlife Service (USFWS) covering impacts from 16 recurring base activities on 15 endangered species. Thirteen formal consultations have been initiated under the PBO resulting in an average 12–day turnaround from USFWS – a 90% improvement over the normal 135-day consultation period. Annual cost savings are estimated at $200K.
- Collaboration with USFWS, California Department of Fish and Game and the California State Lands Commission to restore western snowy plover breeding habitat with funds from an oil spill settlement. These funds ($2.4M) were leveraged to engage in four extensive habitat restoration projects covering approximately 440 acres of coastal dune habitat.
- Partnership with the USFWS and Channel Islands National Marine Sanctuary to provide high school students an opportunity to study marine biology along Vandenberg's coastline.

Overall Natural Resources Conservation Management

Objective 1.3 of the 2007 Defense Installations Strategic Plan (DISP) requires management of the land, water and air resources to sustain installation capabilities for missions to satisfy readiness requirements. In 2010, VAFB realized this objective with final approval of the INRMP following a multiyear negotiation and collaboration with three regulatory agencies. The first annual update was accomplished in FY 2011 and approved by all parties, ensuring that the INRMP will continue to support this DISP objective. Since finalization, the INRMP was successfully used as the basis for three critical habitat exemptions proposed by USFWS for species on VAFB that would have impacted over 2,000 acres of operational area.

In September 2011, the Natural Resources Team culminated an intensive three-year long collaborative effort with USFWS by completing a comprehensive PBO. This document addresses 16 routine and recurring missions and related support activities on VAFB and impacts to the 15 T&E species from these activities. Already, 13 formal ESA Section 7 consultations have been initiated under the PBO. Consultations that typically required 135 days to complete are now averaging 12 days under the PBO, a 90% improvement in wait time. Further, both Air Force and USFWS administrative staff time was reduced by 60%. PBO cost savings are estimated at $200K per year through elimination of redundant reports, field surveys, and unnecessary report writing. The impact to the mission and support activities is tangible; project proponents no longer have to wait months for a USFWS biological opinion to proceed with a mission or support related project. A recent environmental assessment by Air Force Space Command

staff and various environmental subject matter experts recognized the PBO as a "Best Management Practice", thus ensuring dissemination and sharing of this accomplishment beyond VAFB.

The VAFB team employs an ecosystem based management approach to natural resources management that received national attention in 2010. VAFB natural resource managers teamed with biologists from USFWS, PRBO Conservation Science, and the Western Foundation of Vertebrate Zoology in developing a cutting edge management approach that conserves VAFB's coastal habitat and works toward the recovery of the endangered California least tern. The least tern breeding colony on VAFB is one of only three colonies between Monterey and Point Conception and is critical in the recovery of the species.

The Coastal America Partnership, a 16-federal agency collaborative dedicated to preserving coastal ecosystems, recognized the Natural Resources Team in November 2009 with the National Coastal America Award. On March 18, 2010, Secretary of the Interior Ken Salazar commended VAFB's Natural Resources Team, stating:

"Your team applied innovative ecosystem-based management for the endangered least tern while promoting the health of an entire coastal environment. Successful conservation and preservation of the Nation's resources would not be possible without the determination and dedication of people such as you."

VANDENBERG AFB, CA: Mr. Darryl York, wildlife biologist, looks out over the work his team has done to preserve an endangered species, the California Least Tern. Mr. York was a part of the Purisima Point Least Tern Management Team that earned a National Coastal America Partnership Award in FY2010 for their ecosystem-based management approach in protecting the California least tern.

Mission Enhancement

VAFB's coastline provides important habitat for four species of marine mammals (Northern elephant seal, Pacific harbor seals, California sea lion, and the Southern sea otter). These species are protected under the MMPA and the ESA from any form of harassment; launch operations from VAFB do constitute a form of harassment under the MMPA as determined many years ago by NMFS.

A Letter of Authorization is routinely issued by NMFS allowing such harassment but also stipulating monitoring requirements to quantify impacts to marine mammal populations. The Natural Resources Team developed a rigorous monitoring program for these species before, during and after launches, not only at select locations along VAFB's 45-mile coastline, but on the Northern Channel Islands as well. Over 12 years of monitoring data shows no significant adverse effect to any of these species from launch activity demonstrating to the regulators as well as the public that VAFB's critical national defense mission can be accomplished in harmony with environmental protections. In 2010, through close collaboration with NMFS and presentation of this data, these findings supported reduced monitoring requirements, saving the Air Force approximately $65K/year in associated monitoring costs.

Team members worked with base engineers to facilitate the timely replacement of the base's two, 4-million gallon water storage tanks that provide water to launch operations and related critical infrastructure fire safety systems. When unexpected project funding materialized to initiate this tank replacement project, two listed T&E species near the project area presented a challenge to accelerated project schedules due to the potential for lengthy USFWS consultation. The Natural Resources Team mobilized and conducted biological surveys, negotiating with the USFWS to expedite the necessary consultations, thus salvaging a $5M project.

The Natural Resources Team aggressively supported three critical infrastructure projects involving demolition and replacement of 49 miles of dilapidated and failing overhead powerlines that provide power to VAFB launch complexes. Team members completed biological field surveys along the entire project corridor and identified four endangered species. Using in-house resources to prepare biological assessments, the Team avoided $60K in contractor costs. Members of the Natural Resources Team effectively negotiated with the USFWS during the consultation process to ensure that work could proceed, and effected species were protected while conserving the base's natural resources.

The Natural Resources Team also manages launch-related activities at the VAFB boat harbor, home to an abundance of marine life. The harbor is used to deliver stages of the Delta IV for launch out of Space Launch Complex 6 (SLC-6), requiring routine dredging operations to accommodate the arrival of the Delta Mariner. Dredging operations

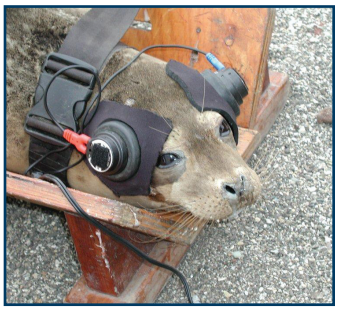
require possession of a Clean Water Act Section 404 permit, so in addition to monitoring for both ESA and MMPA compliance, the Natural Resources Team is responsible for satisfying all of the 404 permit conditions related to dredging. Following several months of data collection at the harbor in 2010, USFWS and NMWS were consulted on completion of kelp mitigation requirements that resulted in saving over $90K for unneeded mitigation adjacent to the existing breakwater in the harbor. Dredging operations were twice supported by the Team allowing delivery of the launch vehicle and directly supporting the space-lift mission at SLC-6.

Land Use Management

Team members worked with USFWS, the California Department of Fish and Game (CDFG) and California State Lands Commission (the Torch Council) to restore Western snowy plover breeding habitat with funds from an oil spill settlement. These funds ($2.4M) were leveraged to engage in four extensive habitat restoration projects covering over 495 acres. With Natural Resources Team oversight the DoD's only full time wildland fire crews, the VAFB "Hotshots", used prescribed fire to treat coastal dune habitat covered with invasive plant species.

As a follow-up to prescribed burns, herbicide treatment was used. Innovative herbicide formulations were developed during this process that lessened the need for repeated chemical treatments, thereby adhering to DoD guidance to reduce pesticide usage. These important findings were made available to other land managers during the 2012 Western Snowy Plover Range-wide Meeting so reduced pesticide usage could be accomplished throughout the species range.

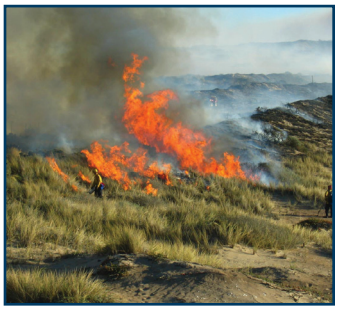
The Natural Resources Team expertly manages one of the largest and most dynamic range and agricultural outlease programs in DoD. In compliance with the Taylor Grazing Act, approximately 23,500 acres of land on VAFB is used for grazing via a Memorandum of Understanding (MOU) allowing an outlease program with the Federal Bureau of Prisons, Federal Correctional Complex (FCC), Lompoc. In exchange for land lease, over 6.5K man-days per year in labor are available to the base to include work on natural resource conservation projects. The team's rangeland manager recently updated this agreement with FCC Lompoc and was able to reopen 10,000 acres related to the munitions cleanup program that were formerly closed for grazing, thus ensuring continued benefits to the base for labor compensation. Cost savings to the base to date is estimated at approximately $1.0 million in labor compensation from this unique agreement.



The Letter of Authorization issued by the National Marine Fisheries Service regarding impacts to marine mammals from VAFB launch activity requires auditory brainstem response testing. This Pacific harbor seal was tested during a launch and showed no adverse effects from launch noise, and was released unharmed.

Forest Management

Because of VAFB's unique coastal environment there are no "commercial" stands of trees, but rather a distinctive mix of scattered dense stands and windbreaks of eucalyptus, a Monterey cypress forest of about 200 acres, several hundred acres of Bishop pine forest, and approximately 3,500 acres of coast live oak woodland. These forests provide unique habitats for VAFB and are managed within the INRMP to ensure their continued health and contribution to the ecological diversity of the base. In 2010, the Natural Resources Team worked with foresters from the Los Padres National Forest to assess the overall health of VAFB's forests. The outcome was a glowing report on VAFB's forest health; Pitch canker, a fungal disease introduced to California in the 1980s, was not found in the native Bishop pines and the all-important oak woodlands are free of the microbe causing "Sudden Oak Death" that unfortunately is now found through many counties in central and northern California. This disease free report from the U.S. Forest Service provides more evidence that the Team's forest management approach in the INRMP is working to conserve these unique resources.



VAFB "Hotshots" in collaboration with the Natural Resources Team treated over 495 acres of invasive plant species with prescribed fire. This burn helped restore coastal dune habitat on VAFB to a suitable condition for Western snowy plover nesting.

Fish and Wildlife

Twelve miles of VAFB beaches are designated Western snowy plover breeding habitat. Beach access is restricted 7 months per year and the plover population intensely monitored by the Natural Resources Team. This recently banded chick is part of the remaining 20% of the plover population; banding allows the Team to monitor breeding success and survival.

The Natural Resources Team manages over 20% of the remaining population of the Western snowy plover, and oversees the largest continuous stretch of breeding habitat (12 miles) for the species throughout its range. Plover habitat protection and management is a federal regulatory requirement codified by the USFWS in VAFB's Beach Management Plan, in recognition of VAFB's critical role in the survival and recovery of this species. The successful and sustained implementation of this plan resulted in a five-fold increase in the VAFB plover population since the time conservation measures were first implemented in 1994. This success continued into 2011 when the number of breeding adults increased in number 24% from 2010 data. The Team dedicates more resources to this species' protection and recovery than any other land management agency, as demonstrated by the intense surveillance of 9,000 acres of breeding habitat a minimum of three times per week during the breeding season. In addition, the Team's ambitious banding program ensures 50% of all chicks hatched on base are color banded in an attempt to monitor breeding success and guide responsible predator management activities. These predator management activities responsibly reduce predation of snowy plovers from voracious ravens and occasional coyotes while preserving the ecological integrity of surrounding lands. The Beach Management Plan also captures the essence of multiple use land management where endangered species are protected while allowing public recreational access. Due to the success of the plan, USFWS recently agreed to plan revalidation through 2014 with no significant changes, saving valuable staff time and resources on plan development.

The Natural Resources Team is currently engaged in a comprehensive program to assess the risk to migratory birds (primarily raptors) from electric line electrocution. Over 394 miles of electric distribution lines were surveyed and evaluated to determine electrocution risk. This project not only keeps the Air Force in compliance with the Migratory Bird Treaty Act, but also prevents a leading cause of the base's wildfires; electrocuted birds often fall into dry vegetation and start wildfires, quickly threatening critical infrastructure and compromising VAFB's ability to execute its mission.

The Natural Resources Team has monitored seabird populations along VAFB's coastline for over 10 years. This long-term initiative provided valuable data that was used by the USFWS to evaluate the recovery of the Brown pelican and eventually led to the delisting of this species. The delisting has allowed scarce resources to be diverted elsewhere on base and the Team was able to focus efforts on recovery of the other 14 T&E species. VAFB's seabird monitoring database is also being used by the Torch Council. This multi-agency partnership is evaluating the long-term impacts of an off-shore oil spill on coastal ecosystems. The database provides insight into the population trends of various seabird species that would not otherwise be available to other State and Federal biologists.

Invasive Species Control and Pest Management

Over 200 invasive plant species are known to occur on VAFB. The Natural Resources Team employed a multi-tiered approach to meet the challenges presented by these plants including continuous monitoring for new invasive plants, prioritizing treatment to areas posing the greatest mission risk (e.g., dense, fire-prone stands of invasive grasses), and follow up with restoration projects to progressively move the areas to a natural state.

An example is the removal of invasive Jubata grass in and around VAFB's airfield. The Natural Resources Team conducted extensive wildlife surveys demonstrating these dense stands of Jubata provided cover for a variety of wildlife and nesting birds, a problem recognized by the Bird Air Strike Hazard (BASH) team. The Natural Resources Team responded by instituting an aggressive campaign to remove this invasive plant using mechanical and chemical controls. The BASH concern was ameliorated by the Natural Resources Team's swift and decisive invasive species control actions.

The Natural Resources Team also collaborates with CDFG in development of a comprehensive Invasive Plant Species Management Plan that rapidly locates, identifies and eradicates populations of incipient invasive plants before they spread onto public and private lands. This collaborative effort saves thousands of tax payer dollars by stopping the spread of invasives before large-scale infestation occurs. A fine example of this collaborative approach

was CDFG personnel notifying the Natural Resources Team that a population of highly invasive mustard species was located on a shared VAFB/State Lands border. The Natural Resources Team immediately responded and removed the population, saving thousands of dollars which otherwise would be spent on long-term/basewide eradication efforts.

Conservation Education

Team members committed over 150 hours to volunteer work with local youth groups, schools, non-profit organizations and universities. The Team targets all age groups with presentations, field trips and organized tours to study native pollinators and other insects.

Staff biologists also presented lectures to university classes regarding natural resource careers, and informed local civic organizations on the base's unique natural resources. Members of the Natural Resource Team also led tours to the base's monarch butterfly wintering roosts. These roosts are designated "Endangered Species Habitat" by Santa Barbara County and are protected from disturbance. Annually, the Team escorts local school groups to these overwintering roosts so this spectacular aggregation of native butterflies can be enjoyed.

The Natural Resources Team also partnered with the USFWS and Channel Islands National Marine Sanctuary in providing access to the base's intertidal zones for "high-achievement" students from local high schools studying marine biology. The students learn how to establish transects and collect data in a marine environment. While providing an excellent learning opportunity for local students, this data is also used by the Natural Resources Team to better manage the base's coastal environment.

Public education is an important and recurring activity for the Natural Resources Team. From pre-schoolers to retirees, military members and their dependents, the Team reaches all levels. Here, staff biologist and rangeland manager Tim Belton teaches local school children how to catch, study and release invertebrates in their own backyard.

Community Relations

Public outreach and fostering good community relations go hand-in-hand for the Natural Resources Team. Team members are active in a variety of conservation organizations throughout the region including participation at meetings of the Western Snowy Plover Recovery Team, the California Native Plant Society, and The California Least Tern Recovery Team. Team members organized and chaired formal technical sessions at meetings of The Wildlife Society in several locations across the country. During outreach activities, the Team promotes sound stewardship practiced at VAFB.

Public access to Pacific coastline and beaches is sacrosanct in California and VAFB's public access beaches are no exception. From March through September every year, the breeding season for the Western snowy plover, the Natural Resources Team must implement federal regulatory requirements that restrict recreational access to over 12 miles of VAFB beaches. The Team ensures continued public access, public safety and good community relations through careful work with base legal staff and Conservation Law Enforcement on beach signage and decisions on beach and other recreational area closures. Team members routinely engage local media on controversial beach restrictions and manage beach closure actions, including development and posting of signs. Through vigorous public awareness campaigns, the Team maintained public beach access for 365 days last year while balancing public safety and community relations.

Environmental Enhancement

A recent partnership between VAFB and the Mission La Purisima State Park provided outstanding mutual benefits. VAFB received help managing overgrown tule reed and willow stands along the shores of the Pine Lakes recreation area and in return the Mission received hard-to-find construction materials for their volunteer-organized project to construct a Chumash, Native American communal-sized tule hut using all traditional materials and methods. The collaboration improved fish habitat and fishing for base personnel and added an extremely impressive new feature to the Mission La Purisima State Park, all at no cost to either the Air Force or the State of California. An additional benefit of this collaborative endeavor was the Natural Resources Team support of the "Take Me Fishing" program. The areas where willow and tule were removed provided fishing access for children of military families. Over a dozen VAFB families were given free fishing rods and reels at this event. This program encourages military personnel to spend quality "outdoor time" with their children while engaging in sustainable natural resources recreation.