NAVAL SUPPORT ACTIVITY MONTEREY

Natural Resources Conservation Team
2013 CNO Award Nomination

INTRODUCTION

Naval Support Activity (NSA) Monterey is located in Monterey, California, and hosts a diverse array of Navy and Department of Defense (DoD) activities and personnel alongside a complex variety of natural and cultural resources. The installation is home to 17 tenant commands with over 4,000 military, civilian and foreign national personnel. Tenant commands include the Naval Research Lab Marine Meteorology Division and the Fleet Numerical Meteorology and Oceanography Center (FNMOC). The largest tenant is the Naval Postgraduate School (NPS), a research and educational institution that confers over 1,500 graduate degrees per year to officers from all branches of the U.S. and foreign militaries as well as civil servants from federal, state and local governments.

NSA Monterey encompasses 9 separate and unique properties and Special Areas: Main Grounds, Dunes/ Research Area, Point Sur Facility, La Mesa Village Family Housing, Navy Annex, Laboratory/Recreation Area, Camp Roberts, and Naval Industrial Reserve Ordinance Plant facilities at Sunnyvale and Santa Cruz, CA. These areas encompass approximately 950 acres of land, 160 buildings and 19 million square feet of enclosed space.

Bordering the Monterey Bay National Marine Sanctuary, and as stewards of four federally threatened or endangered species and several rare ecosystems, the Natural Resources Conservation Team (NRCT) has the weighty responsibility of balancing one of the world's most ecologically diverse areas with growing mission demands, community encroachment and the Navy's new economic reality.

<u>The NRCT is responsible for all management associated with natural resources, including:</u>

- Supporting the military mission;
- Implementing management strategies outlined in the installation Integrated Natural Resources Management Plan (INRMP);
- Requesting funds annually and implementing INRMP projects;
- Increasing educational natural resources awareness;
- Meeting legal responsibilities and DoD/Navy Policy;
- Pursuing partnership opportunities to achieve INRMP ecosystem management goals; and
- Using the INRMP to meet Environmental Management System (EMS) goals.

The NSA Monterey Natural Resources Conservation Team (from left to right): Kevin Forrest, Environmental Engineer; William Baier, Environmental Protection Specialist; Katherine Stevenson, GIS Analyst; Gaye Gandia, Quality Assurance Specialist; Johanna Turner, Installation Environmental Program Director; Mike Bennett, Facilities Support Contract Specialist; Vicki Taber, Natural Resources Specialist; Boyd Sanderson, Facilities Operations Specialist; Todd Wills, Natural Resources Specialist; LCDR Oscar Antillon, Public Works Officer.

Team Activism

Team members are active in organizations that support natural resources conservation efforts, including:

- Todd Wills is President-Elect for the National Military Fish and Wildlife Association (NMFWA), develops the monthly NMFWA Herpetological Working Group newsletter and is an adjunct instructor for the CECOS sponsored DoD Natural Resources Compliance Course;
- Todd Wills and his wife are integral members of The Otter Project monitoring network;
- Vicki Taber volunteers as an instructor at Rancho El Chorro Outdoor School;
- NRCT members volunteer at the California Coastal Cleanup Day and encourage other volunteers from tenant commands;
- The NRCT produces the installation *Environment Matters* newsletter*;*
- Characteristic of members' effective outreach, consulted with personnel at Fort Drum, NY, on creating a fishing program on the installation;
- Worked with local expert and U.S. Army National Guard at Fort Indiantown Gap, PA, to plan effective butterfly conservation; and
- Members stay abreast of current issues by working with DoD Partners in Amphibian and Reptile Conservation (PARC), DoD Partners in Flight, and the DoD Pest Management Board.

Natural Resources Conservation Management

To communicate Natural Resources (NR) concerns and successes basewide, the NRCT has effectively used the installation Environmental Management System (EMS) Executive Steering Committee, which is chaired by the CO and made up of senior leadership. As part of their quarterly meeting, natural resources information such as endangered species impacts from mission encroachment and pollution prevention is presented for dissemination to the entire installation, including tenant commands.

A complete rewrite of the installation's INRMP was completed in 2013. The update was a result of the 2009 review for operation and effect with the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW). The NRCT is committed to meeting the goals and objectives of the INRMP by pursuing alternate methods to offset the approximately $120K spent annually for INRMP implementation. One of the most effective cost reduction efforts involves partnering with local organizations.

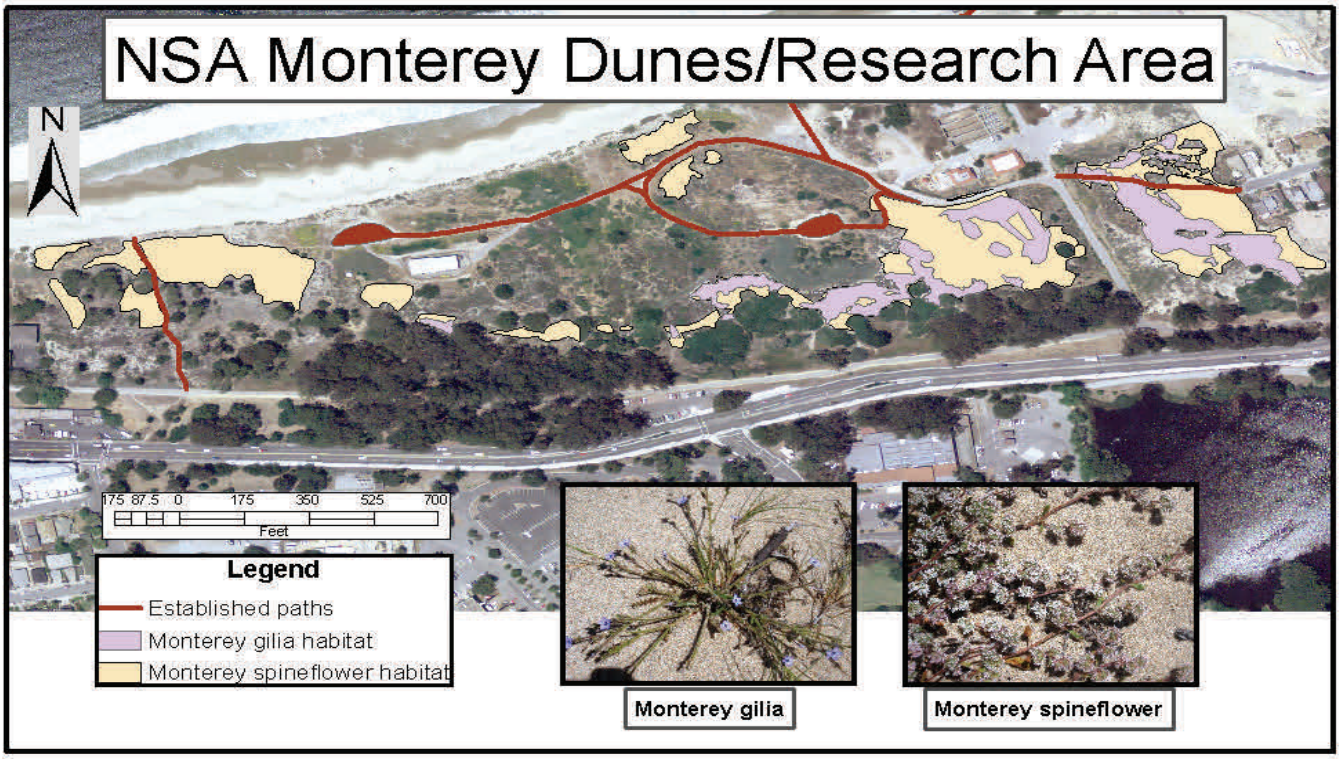
To better evaluate the productivity and composition of NSA Monterey's water bodies, the NRCT implemented a Lake Management Plan that was developed by a California State University Monterey Bay (CSUMB) student intern as her Capstone Project. The plan includes projects and goals for re-establishment of native vegetation in and around the lake, enhancing habitat quality for wildlife, and the creation of landscape-based barriers and corridors to direct resident Canada geese away from high-profile areas. This partnership resulted in a $40K savings.

In the past NSA Monterey, like most Navy installations, has relied on contractors to update the INRMP based on annual INRMP reviews for operation and effect with the USFWS and CDFW. Implementation of the installation EMS has led to a new management process that promotes periodic in-house updating of the INRMP. Besides producing a more relevant and up-to-date document, this change saves $25K on annual updates and $120K on the planned five-year full revision.

The NSA Monterey Dunes/Research Area consists of 55 acres of undeveloped coastal dunes with 2,423 feet of shoreline bordering the Monterey Bay National Marine Sanctuary. This property is the only area within the City of Monterey that has an intact native dune ecosystem. The NRCT implements INRMP projects that keep the area in pristine condition while providing a recreational and educational resource to service members and the public.

Under a lease agreement with NSA Monterey, the Salvation Army parks a kitchen truck to serve meals to homeless people in a parking lot on the Dunes/Research Area. This has created a mutually beneficial partnership where the homeless people contact Base Security to report instances of people trespassing into off-limits areas. This has reduced impacts to endangered species and fragile habitat as well as almost eliminating "tagging" and other unlawful activities.

The restored NSA Monterey mid-dunes host an abundance of native plants that provide food and shelter for birds, insects, reptiles and small mammals, as well as creating prime habitat for two listed species and seven species of conservation concern. Non-native eucalyptus trees in the background are retained along the back dune to prevent erosion and sand moving onto roadways.



Endangered Species Protection

NSA Monterey has three federally listed plant species: Monterey spineflower, Yadon's piperia and Monterey gilia. The team works with stakeholders, including the USFWS, to implement management strategies that are in compliance with the Endangered Species Act and requirements of a 2001 Biological Opinion (BO). Strategies include removing invasive species as well as common native species that encroach on protected habitat, developing interpretive signage and conducting annual surveys using in-house manpower and expertise.

A five-year USFWS review for the endangered Monterey spineflower and associated critical habitat was conducted in 2012. The NRCT submitted a full report on the installation's population and conservation measures, ensuring an INRMP-based exemption status renewal.

The threatened California red-legged frog is found on property adjacent to the Point Sur and NIROP Santa Cruz areas. In 2011, the newly-formed NRCT was made aware that critical habitat had been designated on these Navy properties for the frog. As a result of coordination with the USFWS, habitat on these properties is now being managed to benefit the species. By implementing projects like annual frog surveys and the planned FY14 wetland restoration project at NIROP Santa Cruz, the NRCT is demonstrating to the USFWS that the NSA Monterey INRMP provides a conservation benefit for the species and that critical habitat is no longer warranted.

In 2012, the USFWS proposed a revision to Critical Habitat for western snowy plover that included 1,500 feet of coastline on NSA Monterey property. Installation staff worked quickly with USFWS, California Department of Fish and Wildlife and the City of Monterey to develop conservation goals and objectives for western snowy plover to be incorporated into the installation INRMP. These goals and objectives led to an integrated ecosystem management-based strategy that was approved by the USFWS and led to the NSA Monterey dunes being excluded from designation. Subsequent surveys documented that there are no western snowy plover or suitable habitat on the installation. Base staff met with the USFWS snowy plover expert to walk the area and were able to gain concurrence on decreasing survey frequency for the birds from annually to every five years, a savings of $120K.

The federally listed Smith's Blue Butterfly (SBB) was last recorded on the NSA Monterey dunes in 1982. In 1990, NSA Monterey began restoring the dunes' native ecosystem as a joint project with the City of Monterey. This restoration has led to large, stable populations of the native buckwheat that is critical to the SBB. In 2013, researchers notified the NRCT that SBB were observed within 1/4 mile of the NSA Monterey fence line. To prepare for the potential return to base property, the NRCT is proactively working with the USFWS and SBB researchers to develop ecosystem based management strategies that will provide benefits to the species.

Mission Enhancement

NSA Monterey is a multi-function organization dedicated to providing responsive, high quality base operations support to enable tenants to accomplish their mission. By building and nurturing effective relationships with local communities, the NRCT enhances quality of life and facilitates responsible civic partnerships.

NPS uses the installation's beach and lake areas for experiments ranging from wireless underwater communication to sediment transport and rip current measurement. The historic Main Grounds landscape is used for various other research and educational experiments including unmanned vehicle research and development. Balancing mission requirements with ecosystem health is becoming more complex as technology advances and NPS research programs grow, but both the NRCT and installation leadership are committed to the advancement of both our mission and our natural resources.

The NRCT is an active participant in meeting mission and sustainability goals. This contributed significantly to the installation winning the **2012 CNO Environmental Award for Sustainability at a Non-Industrial Installation**, and being selected as the **CNRSW nomination for the Commander-In-Chief's Installation Excellence Award**.

"At NSA Monterey, we take our commitment to the environment very seriously as we carry out our daily responsibilities and plan for a sustainable future. My Natural Resources Conservation Team is doing amazing work under challenging circumstances and is to be commended."

CAPT Gerral David

Land Use Management

Nearly all irrigation water on the NSA Monterey Main Grounds, roughly 55 acre-feet annually, comes from Lake Del Monte. The lake is the receptacle for an 1,100-acre water shed, mostly in the City of Monterey. Installation grounds maintenance and associated land management was severely curtailed during FY12 and FY13. Reduced grounds maintenance funding and regional drought has forced many areas of the base to be removed from irrigation. This abrupt change in water regimen has been positive where native or drought resistant species are well established. However, historic and other exotic species have been and continue to be lost. Improved landscape management including tailored water regimens, correct pruning, soil management, and judicious plant selection and placement have been implemented in partnership with our contracted grounds maintenance crew. The result is a changing yet still flourishing garden-like landscape that has been the hallmark of the property's history for over 130 years.

Over the last two years, the NRCT has had significant influence in construction planning and design. A new Marine Meteorology Center was completed and satisfied the requirements for **LEED Gold** certification. The new building has a useable and aesthetically pleasing landscape that replaced large unused turf areas and was designed using 90% native plants, many of which provide food for pollinators and birds. This garden area was irrigated using reclaimed storm water for one year, after which minimal fertilizers, pesticides, or mowing and no irrigation are required.

Urban Forest Stewardship

NSA Monterey Main Grounds and Navy Annex have 20 acres of Monterey Pine and Coast Live Oak ecosystems that are managed for wildlife, soil erosion, and recreation. In partnership with the City of Monterey Arborist, the NRCT identifies trees to be removed due to disease and recommends replacement species. Contract tree removal occurs primarily in the fall to avoid bird nesting season disturbance. To minimize costs and prevent spreading disease, trees are chipped onsite and the mulch used near where the tree once stood.

As a cost saving measure and to offset the significant number of trees being lost on the installation and

surrounding areas due to pathogens, the NRCT uses a greenhouse to grow oak, cypress, and pine trees. Healthy seedlings are removed from inappropriate areas and transplanted where they have room to mature.

Fish and Wildlife

NSA Monterey is an important stopping point along the Pacific Flyway for migratory birds and as such requires special attention to management. Lake Del Monte represents one of the few freshwater bodies along the Monterey Bay coast for rest and feeding of migrating birds. The installation's forested areas cover 13% of Main Grounds and are preserved and managed for migratory birds and other native species. Management examples include planting understory vegetation and leaving tree snags in place for cavity nesters.

NRCT members collect migratory bird data to assist in compliance management with the Migratory Bird Treaty Act. Data is collected and loaded into eBird an online bird information repository managed by Cornell University Lab of Ornithology. Information collected provides a rich data source for bird abundance and distribution studies. This data can be integrated into the INRMP and used as a tool for vegetation management based on bird preference.

As a team building exercise and in support of a DoD-wide Amphibian Survey project looking at the potential presence of the emerging disease chytridiomycosis, members of the NRCT collected California newts from a stream at the Santa Cruz facility and ran cotton swabs over them to collect bacteriological samples. The swabs were then sent to researchers at Indiana State University for inclusion in their study dataset. The results of the survey indicated that none of the amphibian species tested on NSA Monterey lands were infected.

High-quality bird habitat has had the unintended consequence of creating a safe place for non-migrating Canada geese, which have become a nuisance on the installation. Based on other military installations' input and scientific research, several tactics have been implemented to reduce unpleasant impacts. The first involved discussing a management strategy with the USFWS and receiving a depredation permit to oil eggs, significantly reducing the number of goslings hatched each year. The second was using trained dogs to "harass" the geese in high-profile areas, encouraging them to stay near the lake and other natural areas. Third is the lake re-vegetation plan that will block views and

Natural Resource Specialists Todd Wills and Vicki Taber swab a California newt in support of an Indiana University study of amphibian diseases.

easy access from the lake and channel geese to natural areas where there is suitable food.

Invasive Species Control and Pest Management

The NSA Monterey Integrated Pest Management Program continues to build upon the management strategies that previously resulted in a 61% decrease in pesticide use coming into 2012. The continued reduction in pesticide usage is attributed to consistent application of integrated pest management, application of Navy best management practices, and focusing on the goals and objectives of the installation Pest Management Plan.

In compliance with a 2001 BO from the USFWS, dunes habitat with listed plant species is carefully managed including pedestrian control and invasive plant removal. FY13 marked the first year woody native plants were removed from edges of habitat areas to forestall natural habitat succession and protect the open sandy areas need by the species. Threatened and endangered species' habitat is weeded annually by both contractors and the NRCT.

Community Outreach

To better engage base personnel and the general public on natural resource features, informational signage has been used throughout the installation. Signs located on the shore of Del Monte Lake and along the dunes walkways illuminate the wildlife species found and provide general information on both common and federally listed species. A combination of symbolic fencing (500 feet established in 2013) and informational signage is being used as a cost effective method to educate the public and prevent their wandering off developed walkways into areas of federally protected plants.

As part of an educational event, CSUMB faculty provided native botanical tours through the dunes property. The NSA Monterey dunes property is well known for having a rich and diverse complex of flora remaining in very few places along the Monterey Bay. Through educational events like this, the NRCT is able to showcase the success of the management strategies being implemented.

In the past two years NSA Monterey hosted Earth Day celebrations showcasing the impressive array of environmental organizations, government entities, and green businesses in the Monterey Bay community. Guided by the Navy theme "Partnering for a Greener Future", 50 environmentally focused organizations, including the Bureau of Land Management, National Oceanic and Atmospheric Administration National Marine Sanctuary, U.S. Coast Guard, and U.S. Army representatives from the Presidio of Monterey, came to NSA Monterey and shared experiences and issues that shape today's environmental landscape. Over 500 base personnel attended this event, which raised environmental awareness and highlighted environmental issues our military students will face during their military careers and beyond.

Andrew Breaux of the Bureau of Land Management's Fort Ord National Monument highlighted the power of partnerships at the NSA Monterey Earth Day 2012 event .

Rear Admiral Jan Tighe, Interim NPS President, and Captain Gerral David, NSA Monterey CO, commemorate Earth Day 2013 by planting native trees next to the historic Arizona Garden.

Conclusion

NSA Monterey's Natural Resources Conservation Team is leading the way in natural resources management. While relatively small at 950 acres, NSA Monterey faces the same issues that affect larger bases including endangered species protection, sustainability of operations, and encroachment .

With a stated goal of enhancing the quality of life for installation personnel and the larger community, leadership and the NRCT is working toward increasing public access and natural resource appreciation. Team members are aggressively identifying and pursuing partnership opportunities to meet INRMP goals and objectives, strengthen community relationships, and reduce project costs.

By integrating the natural resource program with chain-of-command decision making, installation staff are able to embrace and further the interests of the community, environmental organizations, and military staff and families.