



NAVAL SUPPORT ACTIVITY MONTEREY

SUSTAINABILITY – NON-INDUSTRIAL INSTALLATION NOMINATION FY12

INTRODUCTION

Naval Support Activity (NSA) Monterey located in Monterey, California hosts a diverse arrangement of Navy and Department of Defense (DoD) activities and personnel, as well as a complex variety of cultural resources. The base is home to over 15 tenant commands including the Naval Research Lab Monterey (NRL) which conducts scientific research and weather modeling, Fleet Numerical Meteorological and Oceanographic Center (FNMOC) which provides 24/7 worldwide meteorology data and support to U.S. and coalition forces, and the Naval Postgraduate School (NPS). NPS is the largest producer of advanced degrees for DoD and proudly graduates about 1,500 students annually from all U.S. military services and international students from over 50 countries.

The NSA Monterey footprint consists of the Main Base, the Dunes/Beach Lab Area, the Point Sur Facility, La Mesa Village family housing, the Navy Annex, the Laboratory/Recreation Area, and the Naval Industrial Reserve Ordnance Plant facilities at Sunnyvale and Santa Cruz, CA.

The 4,035 military, civilian and international personnel at the base provide a diverse background for this predominately academic setting of over 160 buildings enclosing nearly 19 million square feet on almost 1000 acres.



NSA Monterey Main Base and Dunes/Beach Lab Area occupy the site of the historic Hotel Del Monte in Monterey, CA.

COMMITMENT TO SUSTAINABILITY

NSA Monterey has a senior leadership cadre that is committed to sustainable operations. This group meets quarterly as the Environmental Management System (EMS) Executive Steering Committee (ESC), which is chaired by the Commanding Officer (CO). This group is key to the successful environmental decision making through communication and collaborative efforts. NSA Monterey uses an effective and operational EMS program as a tool to identify and manage its environmental aspects. Effective management of environmental media reduces environmental impacts and increases operational efficiency.

NSA Monterey has an aggressive energy conservation program which is overseen by the Energy Working Group. This group, which includes the Installation Energy Manager (IEM), Utility and Energy Manager (UEM), and subject matter experts from Public Works Shops, Facility Management Division, and Engineering, work to ensure every project, meets a high percentage of energy efficiency and that conservation or renewable energy projects make financial and operational sense for the facility. This integrated approach has been key to the remarkable strides NSA Monterey has made toward a more sustainable operation over the past two years.

FACILITY EFFICIENCY

WATER CONSERVATION

As a result of an audit undertaken in partnership with California American Water Company, water conservation projects were identified and prioritized for completion. To date, 95% of buildings including the NGIS and the Navy Lodge have been retrofitted with low-flow plumbing fixtures. As a result, **NSA Monterey has significantly exceeded the EO 13514 goal of using 26% less potable water by the end of 2020.**

Fiscal Year	Potable Water Consumed (KGAL)	Annual Cost of Potable Water Consumed (\$000)	Water Intensity (KGAL/KSF)	% Progress from Previous Year	% Progress from Baseline
FY2012	21,658	\$449	11.42	-34.10%	-35.26%
FY2011	31,532	\$421	17.33	-10.71%	-1.75%
FY2007 Baseline	28,179	\$216	17.63		

“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.”

CAPT Gerral K. David
NSA Monterey Commanding Officer

ENERGY CONSERVATION

Several organizations at NSA Monterey have significant power requirements. These include:

- Navy Gateway Inns and Suites that occupies a building built in the 1920's;
- NPS, a research-focused university with laser, propulsion and other power-intensive labs;
- Two major high performance computing facilities that run 24/7.

Despite these challenges, energy efficiency is maximized through a combination of both small and large projects at NSA Monterey. Smaller energy efficiency projects are generally executed by NAVFAC Public Works (PW) personnel; larger projects are executed through contracts.

Examples of small energy efficiency projects recently executed at NSA Monterey include:

- Over 1,000 incandescent bulbs refitted with compact fluorescent or LED bulbs;
- Fluorescent tubes replaced with LED bulbs;
- Lights in nearly every office, restroom and conference room have an occupancy sensor.

Examples of large energy efficiency projects recently executed at NSA Monterey include:

- Retro commissioning (RCx) project for seven academic buildings, two of which are part of the historic Engineering District;
- HVAC system upgrades including replacing or reprogramming control systems and sensors and full integration with existing Energy Management Control System (EMCS);
- Installing variable-frequency drives (VFD) to allow HVAC systems to run at less than full speed depending on outdoor temperature.

In addition to execution of projects aimed at energy efficiency, NAVFAC PW personnel at NSA Monterey have been pro-active in adopting the Navy-wide culture of energy efficiency. Central to this effort has been communication of possible conservation measures from field personnel to PW leadership.

As of November 2012, the result of this impressive team effort is that **NSA Monterey has met the 2015 EO13423 goal of a 30% decrease in energy intensity**. Despite meeting energy efficiency goals ahead of schedule, NSA Monterey continues to investigate and propose projects to further maximize energy efficiency.

Fiscal Year	Energy Consumed for Goal Facilities (MBTU)	Annual Cost of Energy Consumed (\$000)	Energy Intensity (MBTU/KSF)	% Progress from Previous Year	% Progress from Baseline
FY2012	164,321.03	\$3,762	86.62	-7.44%	-29.65%
FY2011	170,321.00	\$3,898	93.58	-4.92%	-24.00%
FY2003 Baseline	190,355.00	\$3,051	123.13		

OPERATIONS

NEW CONSTRUCTION

NSA Monterey added **two LEED Gold certified buildings** to their facilities in FY11-12.

The first is a state-of-the-art 15,000 square foot Marine Meteorology Center for the Naval Research Lab (NRL) Monterey. The building's roof has photovoltaic arrays and a mounting deck for atmospheric sensors and satellite signal receivers. The basement is a cistern for capturing storm water from the roof for use in toilet flushing. This cistern is also integrated into the non-potable water distribution system, allowing for greater flexibility in meeting non-potable water demands.



Artist's rendering of new LEED Gold-certified Marine Meteorology Center building.

The second LEED Gold certified building is a reconfigurable classroom building providing four high-tech classrooms outfitted with the latest audiovisual and teaching tools as well as an integrated laptop at each student's seat.

SUSTAINABLE LANDSCAPING

Using over **85% native plant material**, landscaping was installed or renovated for three buildings and almost 100 security barrier planters, as required by Installation Appearance Plan. Irrigation in these and other drought-resistant planted areas is removed after a two-year establishment period.

Green waste produced on the base is either chipped in place for mulch, removed for use as mulch in the City of Monterey, or collected for composting at the local landfill.

The installation lies at the lowest end of an 1100 acre watershed that is primarily Monterey communities and golf courses. Stormwater moves from city culverts onto the installation where it is collected in the base's Lake Del Monte. This arrangement provides more than 8M gallons of water for irrigation on the Main Base and golf course. These properties and the Annex, a nearby NSA Monterey special area, are connected by a non-potable water distribution system that allows this water to be moved around as irrigation needs dictate. Nearly 100% of the Main Base irrigation requirement is met with this water that would otherwise flow directly into the Monterey Bay National Marine Sanctuary. Besides meeting irrigation demands, pollution inherent to storm water is prevented from entering the Monterey Bay National Marine Sanctuary.

SUSTAINABLE SOLID WASTE

NSA Monterey achieved a **solid waste diversion of 74%** in FY11 and FY12, decreasing the cost of disposal by 45%. Aggressive training and communication with contractors led to a **97% construction and demolition (C&D) diversion rate**.

Severe space constraints and a high occupancy rate on the Main Base preclude an on-base recycling or composting operation. All recyclable materials are collected in comingled bins to make recycling easy, and these are collected for pickup by a local contractor.

NSA Monterey Supply keeps a running list of reusable office products, toner cartridges, and Navy office furniture available for reissue on a website available to base personnel. Non-supply employees can post their excess office supplies or furniture on the site as well and “rehome” items themselves, creating a “virtual warehouse” that is far larger than what would fit in the under-sized Supply warehouse. Furniture that cannot be reused on the facility is donated to the resale facility located at the local landfill.



NSA Monterey Public Work's Myrna Hill poses with a bale of aluminum cans destined for recycling.

SUSTAINABLE TRANSPORTATION

Dedicated to decreasing their carbon footprint, NSA Monterey participates in the Federal Transportation Incentive Program (TIP) which provides free mass transit passes and vanpools to personnel and students. This encourages the use of mass transit by personnel living near the base as well as those who commute from the Bay Area. By working with the local public transit authority, Monterey-Salinas Transit, bus routes and frequency have been optimized between the Main Grounds and both military housing areas.

Enclosed bicycle storage and pedestrian turnstiles streamline the commute for pedestrian and bike commuters, precluding the use of congested and potentially dangerous base gates. Showers are provided for these commuters at all facilities.

INTEGRATED PEST MANAGEMENT

Integrated Pest Management (IPM) is widely accepted and practiced on the installation, as guided by the 2011 NSA Monterey Integrated Pest Management Plan. Pesticide application is accomplished only by state certified applicators and the lowest toxicity chemicals are selected. Since 2009, **pesticide usage has been reduced from 196 applications to only 81 applications, an impressive 59% decrease**. This change is directly attributable to a successful partnership between base operations, contractor support personnel, and the customer. In addition, best management practices at the NGIS and Navy Lodge such as removing food and food waste from break rooms, using citrus-based cleaners, excluding pests where possible, and routine maintenance, all work in tandem to make IPM a success.

OUTREACH

EARTH DAY

Crucial to the success of the sustainability program at NSA Monterey is outreach and education for the NSA Monterey community. The cornerstone of the education program is the NSA Monterey annual Earth Day Celebration.

Over **50 organizations and agencies participate in the annual Earth Day celebration**. A wide range of topics are presented including: whale ecology, recycling programs, native plant awareness, the benefits of bicycle commuting, and water and energy conservation issues, to name a few.

Part of this annual event is collecting personal and government E-waste for reuse or recycling. Hope Services, which provides janitorial services to the base under a base support contract, collected several tons of household E-waste at no cost to installation personnel. Hope Services collects and sells these items to raise funds for their programs. Base Supply collected government E-waste, processing turn in paperwork on the spot.

Public Works personnel demonstrated energy conservation efforts on the base such as LED lighting and solar energy generation, and explained several water saving devices.

"The Earth Day event that the Navy puts on annually is one of the biggest and best events on the Monterey Bay. I have to admit that I really did not have much of an understanding of what happens inside the fence. Now I see that the Navy is very environmentally proactive."

Christine Russo-Robertson
Monterey Bay Aquarium
Manager

NATIONAL PUBLIC LANDS DAY

For the first time, NSA Monterey hosted a National Public Lands Day event, creating a pollinator garden at the base RV Park. Base employees and families staying at the RV Park long-term turned out to prepare and plant the area with native trees, shrubs and flowers.

COASTAL CLEANUP

NSA Monterey is working with the EPA to create a protocol for recording and characterization of beach debris in preparation for Japanese tsunami debris collection.

During the 27th annual California Coastal Cleanup Day NSA Monterey personnel, NPS students, staff, and families removed over 300 pounds of trash from three miles of shoreline.

TRAINING

Quarterly training is presented by the Installation Energy Manager and includes an update of installation goals and how personnel can help the installation meet goals prescribed by Executive Orders. Training on sustainability practices is given through Navy ECATTS and tailored briefings for individual departments and tenants. The installation hosted a 5-day CECOS Environmental Protection course, training thirty employees.

ADAPTIVE REUSE OF HISTORIC BUILDINGS

The NSA Monterey Main Base and Dunes/Beach Lab Area occupy the site of the elegant and renowned former Hotel Del Monte. Established in 1880 to generate passenger trade for the railroad companies, the hotel was known for its awe-inspiring gardens, resort amenities, and luxurious facilities. In its 132-year history, the Hotel Del Monte has been destroyed by fire and rebuilt twice. The current structure was completed in 1926. The Navy purchased the entire property in 1952 and moved NPS from Annapolis, MD, to Monterey, CA.

Today the hotel and grounds, along with thirteen stand-alone vacation cottages that were added in the late 1920's, function as modern offices and meeting spaces, a 212-room Navy Gateway Inns and Suites, dining facilities, and senior officer housing. This area comprises the provisional Hotel Del Monte Historic District and retains its historic character, yet functions nearly as well as a new facility would.

An FY11 renovation of the first floor of the hotel, now called Herrmann Hall, restored most of the common areas to the aesthetic of the original 1926 era Hotel Del Monte while updating the functionality of the space to modern standards. Offices were rewired for modern power and connectivity requirements, a high-tech VIP conference room was built, and the space was brought into compliance with fire and ADA building codes.

Conversion of the vacation cottages to offices required not only significant building updates, but the replacement of brick pathways that dated from 1926 with ADA compliant concrete walkways. The new sidewalks and ramps were edged with aged brick to maintain the historical character of the cottage area. These upgraded walkways connected the academic area to the administrative areas, greatly assisting in the installation's goal of being a "walking campus". These cottages currently house the NSA Monterey CO and his staff, JAG, and several NPS program offices.

Dating from 1919, the Roman Plunge swimming pool and adjacent Solarium were brought back from near-ruin in FY11/12, earning the base a **2012 California Preservation Award**. The swimming pool had been abandoned and filled in with sand several years ago and the Solarium was surrounded by lean-to storage areas. Through a partnership with the local historic preservation society, a plan was devised and carried out to return the structures and immediate area to their original glory which has provided an ideal venue for MWR and other groups to hold formal and informal events.