ENVIRONMENTAL QUALITY – INDUSTRIAL INSTALLATION, OVERSEAS
MCB CAMP S.D. BUTLER, OKINAWA, JAPAN
JANUARY 2007

INTRODUCTION

Marine Corps Base Camp Smedley D. Butler (MCB Butler) is a very unique and complex overseas installation. MCB Butler consists of numerous camps located throughout the islands of Okinawa and Ie Jima; we have a training camp at the base of Mt. Fuji in mainland Japan; and we control the only remaining Jungle Warfare Training Center (JWTC) in DoD. The total acreage of the MCB Butler facilities and training areas is 45,276 acres and is occupied by approximately 14,000 military personnel, 6,000 civilian workers, and over 9,000 dependents in base housing. These facilities and personnel allow MCB Butler to support III Marine Expeditionary Force (MEF) so that they can accomplish their military mission to provide peace and security in the Far East. Our installations host over 3,000 species of flora and fauna, of which approximately 260 are rare, threatened or endangered, and we have archaeological sites that are over 6,000 years old. The Commanding General and the Base staff are committed to protecting and preserving the land entrusted to us by our Japanese hosts.

BACKGROUND AND PROGRAM SUMMARY

MCB Butler's commitment to sustaining and enhancing operational readiness while complying with environmental laws, preventing pollution, and improving environmental performance is evident in the emphasis we place in our Environmental Management System (EMS). The success of our EMS lies in our base-wide support from our workers in the maintenance shops, to Marines in our training areas, to the MCB Butler Commander and her senior staff.

At the request of our Commanding General, our EMS procedures were updated to provide quarterly briefs on our continual environmental improvement. Our EMS Manual tasks the EMS Core Team and the Commander's Environmental Management Review Board (CEMRB) to meet and discuss environmental issues on a regular basis. Our Core Team guides the implementation and maintenance of our EMS and ensures appropriate participation of all commands, units, and tenants in the EMS. Our CEMRB adopts and implements environmental policies and is chaired by the Commanding General and includes senior staff members for MCB Butler and its tenants. Our EMS was developed in partnership with the US Environmental Protection Agency (US EPA) and was fully implemented by 31 December 2005 in accordance with E.O. 13148. To accomplish this, we inventoried all our practices and identified aspects and environmental impacts associated with these practices. We completed risk prioritization ranking and established Objectives and Targets based on the risk prioritization. In addition, we completed Environmental Action Plans for each Objective and Target. We prepared Standard Operating Procedures (SOPs) for numerous processes that impact the environment. We developed an ongoing EMS training plan and implemented awareness training at all levels. EMS training has been added to our Welcome Aboard Briefs and our English and Japanese Environmental Compliance Courses.

In 2006, we progressed into the maintenance phase, hired a full-time EMS Coordinator and assigned an EMS Assistant to maintain and work with staff members to expand and promote the program. In addition, we have met every EMS requirements set by Executive Order and Marine Corps guidance. Through EMS, one major goal that we identified was the need to evaluate our Hazardous Material Authorized Use List (AUL). By setting and meeting objectives and targets, we successfully reduced our AUL by 27% with a cost savings of over $500,000 in FY06.

Our audit procedures are second to none. Our Environmental Compliance Evaluation (ECE) Plan outlines our compliance requirements and EMS conformance audit procedures. In 2005, we asked HQ EPA and Regions VI and VIII to evaluate our environmental compliance. At MCB Butler's request, EPA performed our ECE Self Audit which included an EMS conformance audit. In 2006, HQMC conducted our ECE and EMS audits. To ensure high levels of compliance and in order to stay up to date on current trends in the environmental field, EPA will conduct our ECE Self Audit and evaluate our EMS in 2007.

Training

MCB Butler hosted 40-hour HAZWOPER courses that were conducted by the Coast Guard for all four services in Okinawa. The course provided personnel who respond to potential hazardous substance incidents with the initial health and safety information they need to perform their duties safely. These courses support our spill response capabilities and enhance our ability to handle potential WMD terrorist threats.

MCB Butler conducted more than 100 classes in various specialized subjects in the last two years. In-house personnel have trained more than 3,000 Marines, Civilians, and other DoD personnel in areas such as Environmental Compliance, EMS, and Performing Sanitary Sewer Surveys. The Environmental Compliance Course developed by our staff was provided in both English and Japanese.

In addition to in-house training, we hosted numerous cost-effective courses to receive training from experts working in various fields of environmental stewardship and compliance. For example, the US Forest Service provided a road design and maintenance class for USMC Combat Engineers and SEABEES to improve their ability to construct unpaved roads with better erosion control measures. Green Procurement training was provided by the US Army to ensure that only environmentally preferable products and services are purchased. The Green Procurement Course was attended by over 200 credit card holders and procurement officers. In addition, the US Navy provided training in Health and Environmental Risk Communication as well as Advanced and Basic Environmental Law, while the US Coast Guard provided Spill Response and Incident Command training. Our courses are regularly attended by personnel from all four services and the US State Department.

Community Relations

Several courses have been provided by MCB Butler staff to local tacit farmers to provide guidance on Okinawan farming regulations and erosion control. More than 120 farmers have attended courses over the last two years. Providing this type of training shows that MCB Butler is concerned with all operations on the base that may affect the environment.

ENVIRONMENTAL QUALITY ACCOMPLISHMENTS

POLLUTION PREVENTION AND WASTE REDUCTION EFFORTS

Stormwater Installation Projects

MCB Butler determined a need to alleviate stormwater discharges on Camp Foster, which has four major rivers passing through the Camp and is also located less than 500 meters from the

East China Sea. Several locations were determined to have a high potential for stormwater pollutant discharge including military vehicle maintenance facilities, large vehicle parking areas, an automotive vehicle recovery facility, and an auto hobby shop. In addition to the environmental consequences, any amount of oil sheen leaving the Camp triggers negative attention from the local media.

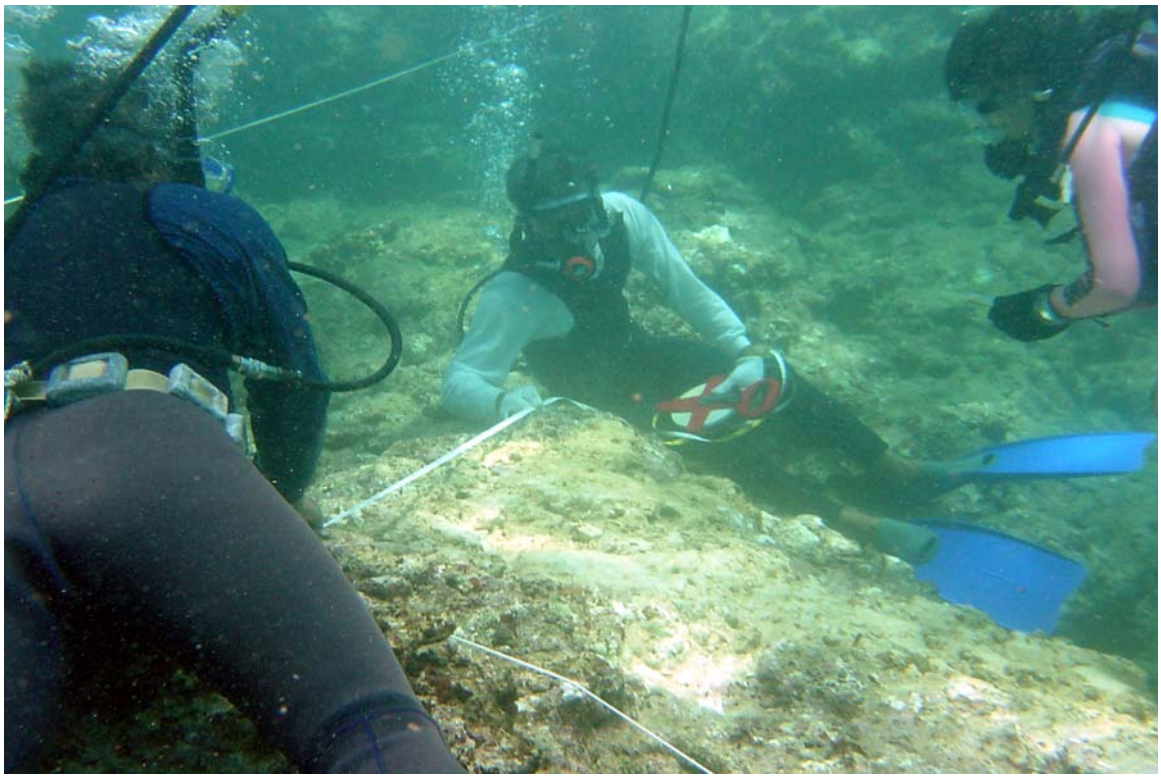
An alternative to the typical oil/water separator (OWS) was investigated to alleviate these stormwater discharges. The traditional OWS is ineffective during tropical rainstorms, allowing pollutants to drain into the rivers and the ocean. The technology we selected allows stormwater pollutants to accumulate and easily be recovered and is effective during tropical storms. In 2005 we installed 10 sediment/oil separators using the high flow diversion weirs.

MCB Butler determined a need to alleviate stormwater discharges on Camp Foster. In 2005, ten sediment/oil separators using the high flow diversion weirs were installed. The diversion weir consists of a fiberglass insert that allows low flows containing stormwater pollutants to accumulate without being re-suspended during high flows.

Environmental Response to Sunken Amphibious Assault Vehicle (AAV)

The Environmental Branch was an integral part of the response and follow-up actions required after an Amphibious Assault Vehicle (AAV) sank off of Camp Schwab on 9 June, 2005 due to mechanical problems while moving from Camp Schwab to Camp Courtney. We worked jointly with the federal Japanese officials and the local Fisheries Cooperative Association to confirm any damage to the coral reefs from the sunken AAV. Two of our Environmental Branch staff members were part of an underwater investigation team that worked in conjunction with the Fisheries Cooperative Association. Our staff collaborated on the dives and the final report which

was written in both English and Japanese. The investigation that was completed was a true joint effort between MCB Butler and the local Japanese government and community.



The MCB Butler Environmental Branch was an integral part of the response and follow-up actions required after an Amphibious Assault Vehicle (AAV) sank off of Camp Schwab on 9 June, 2005. Two of our Environmental Branch staff participated in the underwater investigation. US and Japanese divers are conducting a coral reef assessment.

Recycling

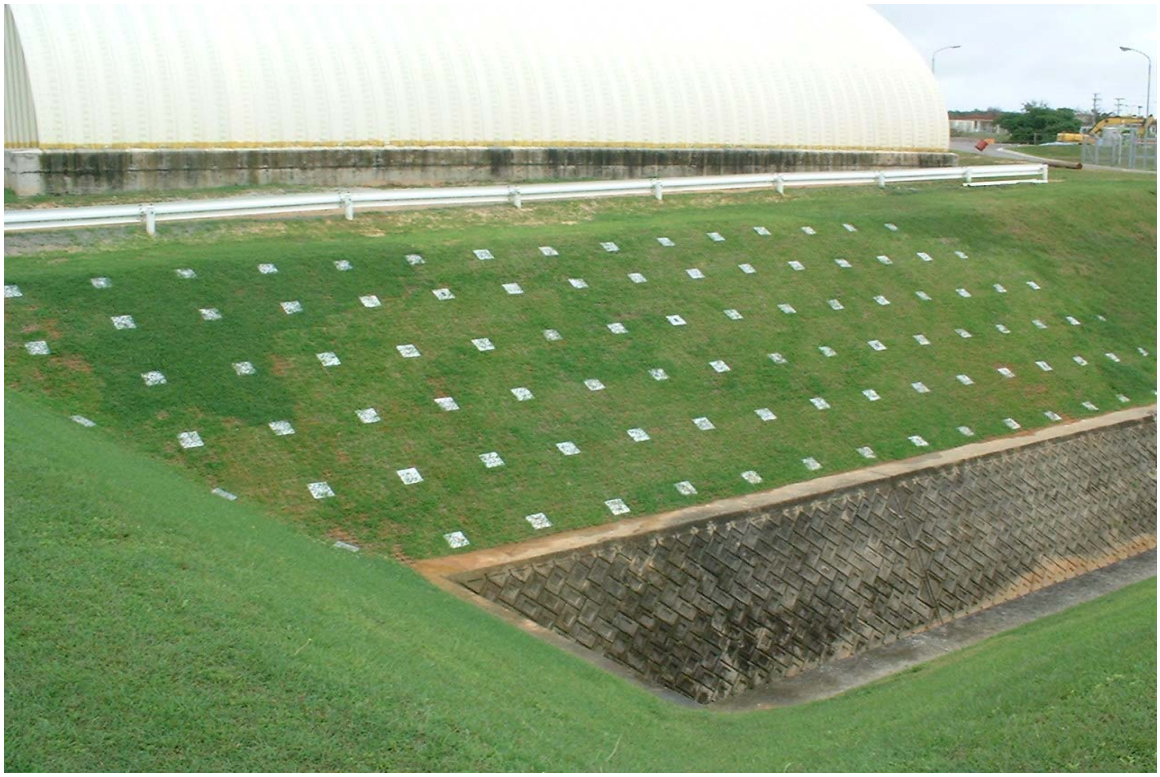
MCB Butler operated the recycling program for all four service components on Okinawa, including all Military Family Housing areas. On a yearly basis this effort reduces over 4,000 tons of solid waste from being disposed of at local Japanese landfills. This also saves DoD over $700,000 a year in disposal fees. This is the largest DoD recycling program in Japan and shows our Japanese hosts that we are serious about conserving landfill space and not wasting resources.

ENVIRONMENTAL PLANNING AND ANALYSIS

Slope Stabilization

A subset of the Natural Resources Program is erosion control and slope stabilization. MCB Butler was a key player in response to the erosion problems caused by record rainfall of 33.49 inches in June 2005, with over 24 inches in one week. The rapid loading of moisture into the top soil layers caused numerous slides and slumps on Okinawa, even boulders were dislodged. Once the underlying soil is exposed due to an initial landslide, any further rainfall results in rapid soil loss. To prevent further erosion and damage, we responded quickly with designs for repair that allowed a short construction period. Since these were unplanned events, cost minimization

was important so that adequate funds were available to fix the problems. It was critical to stabilize the slopes as quickly as possible before any additional significant rain events. To accomplish this requirement, we selected soil nailing as the preferred method to deal with slope failures. We developed innovative designs that were executed quickly and at low cost.



MCB Butler has selected soil nailing as the preferred method to deal with slope failures. As shown above, the repair of the slope at Camp Hansen was timely and cost effective. Soil nailing stabilized this foundation to ensure that the building was spared any permanent damage as the slope was secured.

MCB Butler has been a leader in Okinawa for developing innovative solutions for unpaved roads. MCB Butler has a US Forest Service soil scientist on staff who works with the Marine Corps engineers to develop cost effective solutions to various erosion problems. This is critical for the Jungle Warfare Training Center where the natural habitat is part of training effectiveness. We are proud of the fact that Government of Japan engineers are beginning to utilize some of the technologies we have been implementing.

Geographic Information Systems (GIS)

In 2006 a RAND Corporation study for the Office of the Secretary of Defense cited MCB Butler's GIS services as an example of how to use this technology as a tool for managing training areas, emergency response, and natural resources/watershed management. For example we provide line of site models for gun placements, safety arcs for active ranges, and erosion models for impact areas to our Marines on a daily basis to support their training needs. In addition, our GIS services are critical in planning and analyzing environmental impacts on MCB Butler. Due to our advanced technical abilities of our in-house staff, other DoD services in the Pacific request GIS guidance and products from our personnel.

SUMMARY

MCB Butler understands the importance of protecting the land and resources entrusted to us and ensures that local scientists, environmental organizations, and politicians are aware of our commitment to environmental protection. We invite local groups onto our bases to view our successful and innovative solutions and to discuss solutions to as-yet unresolved problems. Our staff and our innovative solutions have been recognized by RAND Corporation studies sponsored by the Office of the Secretary of Defense.

MCB Butler is committed to supporting our fellow services and partnering with the US Forest Service, US Environmental Protection Agency, and the US Coast Guard in protecting the environment on Okinawa. We have placed an emphasis on educating our Marines, Sailors, US and Japanese civilians, and tenants on the importance of their role in protecting our resources. Through persistent efforts in developing relationships with the diverse scientific and political communities in Okinawa, we have identified common interests, developed relationships, and created partnerships that have made our environmental protection program a leader in the Pacific and a model for other DoD installations to follow.

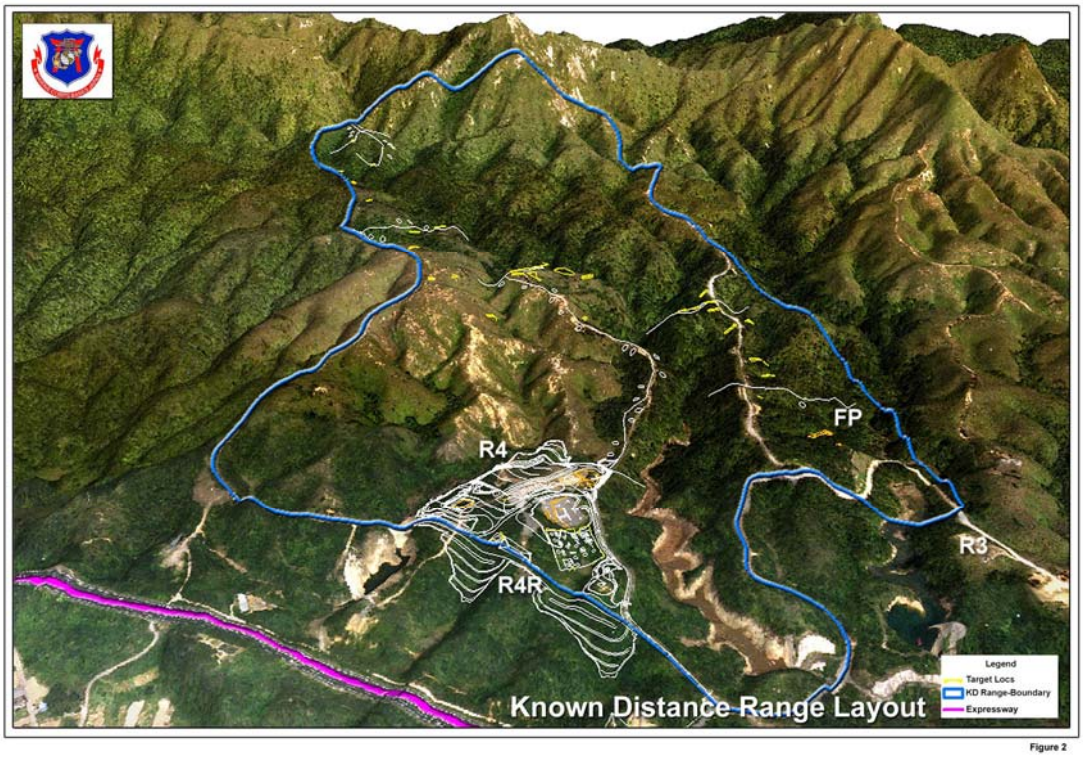


Figure 2

This GIS map is an example of the quality products and analytical tools created by the MCB Butler GIS section. Our DoD-recognized GIS section is critical in planning and analyzing environmental impacts on MCB Butler and its surroundings. This 3-D rendering helps facility planners and active duty personnel develop conceptual models for future facilities.