



Marine Corps Base Camp Smedley D. Butler, Okinawa Japan

“Partnering for a Greener Future”

INTRODUCTION/BACKGROUND

Marine Corps Base Camp Smedley D. Butler (MCB Butler) is a dynamic collection of installations and training areas dispersed throughout Okinawa, Japan. This creates many unique environmental challenges that require creativity and flexibility to excel as environmental leaders in the Pacific.

MCB Butler is the base support and provides training areas for III Marine Expeditionary Force (III MEF). III MEF is a Marine-Air-Ground Task Force, rapidly-deployable to conduct operations across the spectrum from Humanitarian Assistance to Amphibious Assault and High Intensity Combat. MCB Butler is now the command support element for Marine Corps Installations Pacific (MCIPAC), which encompasses all Marine Corps Installations in Hawaii, Japan and Korea. MCB Butler supports over 32,000 active duty military and civilians and encompasses more than 45,000 acres. MCB Butler provides unique training opportunities in various environmental habitats: from the last Jungle Warfare Training Center (JWTC) within the DoD, to the only US controlled live fire ranges in Japan. There are over 3,000 species of flora and fauna, of which approximately 260 are rare, threatened or endangered, and hundreds of archeological sites can be found on MCB Butler. Because of the various types of training and facilities supported by MCB Butler, the environmental program is constantly focused on supporting military readiness while balancing environmental sustainability.



The island of Okinawa, Japan is a key training location for the Marine Corps. MCB Butler’s innovative soil erosion efforts have been instrumental in protecting this vital coral habitat.

As environmental leaders, it is our mission to support our customers and to be conscientious stewards of the Japanese lands entrusted to us. As a team, we integrate a customer-oriented attitude into our daily plans, programs, and operations, and motivate our personnel to protect the environment. We support the Marine Corps mission by having an aggressive and innovative environmental program that allows for a collaborative environmental stewardship between the US and Japanese governments.

ENVIRONMENTAL QUALITY ACCOMPLISHMENTS

1. Environmental Management System (EMS)/ Training

Using in-house staff and resources, MCB Butler maintains and fully implements an EMS that has exceeded DoD requirements by creating a regional EMS that incorporates installations in

three different countries: Japan, Korea and the U.S. Our management review board is chaired by our Major General and attended by senior leaders from all Marine Corps installations within Japan, Korea and Hawaii. This allows for sharing challenges and successes and for visibility of EMS objectives and targets throughout the region.

EMS objectives and targets are developed with the support of a cross-functional team (EMS Core Team); which includes Major Subordinate Command Representatives and tenant commands, and are approved by the Commanding General and senior staff. In FY12 MCB Butler exceeded EMS targets to include:

- Improve the Authorized User List (AUL) program to reduce the impact of HAZMAT storage and usage.
 - Accomplishment: We achieved nearly 50% reduction in expired HAZMAT. MCB Butler completed a Lean Six Sigma project to reduce disposal expired HAZMAT. New AUL approval form and database was developed. AUL committee was formed to review and approve AUL requests.
- Reduce the impact of solid waste generation
 - Accomplishment: Exceeded FY12 target of 44%. Achieved a 59% diversion rate.
- Reduce vehicle air emissions and fuel consumption
 - Accomplishment: Exceeded FY12 target of 3%. Achieved 4.8% reduction.

The MCB Butler’s EMS program was one of the four highlighted EMS success stories identified in the 2011 DoD Strategic Sustainability Performance Plan. Due to the success of our EMS program and our EMS expertise, other DoD installations in the Pacific region routinely request our assistance to improve their EMS programs.

Several policies, procedures and base orders were completed and updated by in-house staff saving the Marine Corps thousands of dollars in contracting costs. Some of these significant plans are listed below:

- Hazardous Waste Management Plan
- Spill Prevention Control and Countermeasure (SPCC) Plan
- Environmental Compliance and Protection Standard Operating Procedures
- Comprehensive Environmental Training and Education Program (CETEP) Plan
- Stormwater Pollution Prevention Plan
- EMS Manual

Our EMS policies and procedures are developed with the practice owners, and are implemented with top-level-down support. All our procedures and training are translated into





미해병대 태평양기지사령부 환경정책 성명서

자연환경은 미해병대 태평양기지사령부 (MCIPAC)의 임무에 부여된 중요한 자산입니다. 미해병대 태평양기지사령부는 친환경적이고 효율적인 자연자원 관리 및 지역사회의 관심사항을 임무수행 활동에 포함시켜 살인죄 나감으로써 해병대를 더욱 강화시켜 나갈 것입니다. 이를위해, 우리는 우리 각할 지역내의 토지, 물, 대기 및 문화적 자원 및 보존을 추구하고 다음의 사항들을 시행해 나갈 것입니다.

- 환경관련 법률, 정부의 기준 및 규정과 정책을 준수합니다.
- 자원소비 감소 및 재활용을 통하여 공해 예방을 시행합니다.
- 자연자원을 보호하고 문화자원을 보존합니다.
- 지속적으로 신뢰해 나갑니다.
- 임무 수행의 위험성을 최소화 시킵니다.
- 모든 연방조지들이 환경에 미칠 영향에 대하여 적절한 검토를 시행합니다.

해병대의 위상은 과결태세 준비로 입증되고, 임무태세 유지 및 강화와 훈련환경 접근에 중요한 열쇠는 환경적 순응입니다. 미해병대 태평양기지사령부는 효과적이고 효율적인 환경관리체제(EMS)를 통하여 환경에 대한 임무를 증진시킴으로써 환경에 대한 책무를 완수합니다.

Semper Paratus.

 PETER J. TALLERI
 Major General, U.S. Marine Corps
 Marine Corps Installations Pacific
 피터 제이. 탈러리
 소장, 미 해병대
 미해병대 태평양기지사령부

EMS-01.5 Dec 2011

Marine Corps Base Camp Smedley D. Butler, Okinawa Japan

MCIPAC Environmental Policy Statement is provided in English, Japanese and Korean.

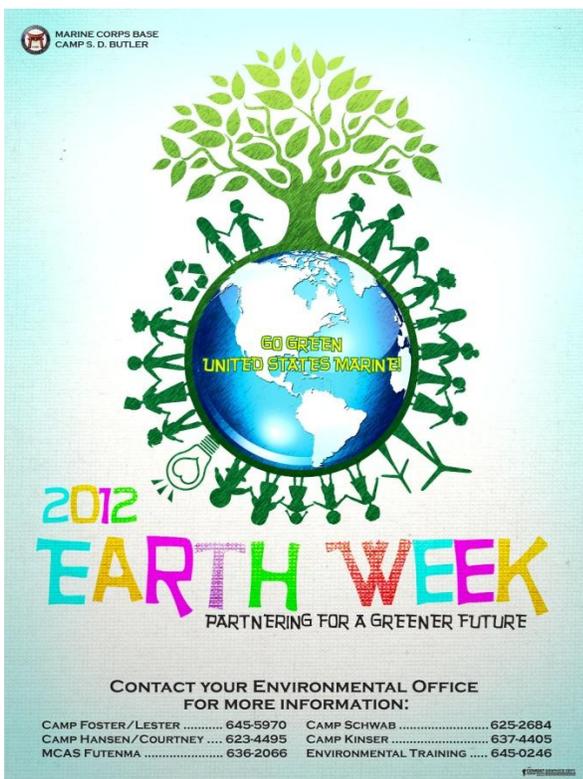
Japanese and made available on the MCB Butler EMS SharePoint site for the Japanese workforce. The MCIPAC environmental policy statement, signed by the MCIPAC Commanding General, provided in English, Japanese and Korean, is widely distributed, displayed and communicated via new employee orientations and all in-house training classes.

MCB Butler provided comprehensive environmental training and general awareness training to over 26,000 military and U.S. and Japanese civilians in FY11 and FY12 resulting in significant cost savings through avoiding expensive travel outside of Okinawa. MCB Butler has taken great strides in meeting the challenge of providing cost effective and appropriate environmental training for all U.S. and Japanese personnel enabling them to achieve full compliance with the environmental requirements on Okinawa.

Our Environmental Compliance Course (ECC), part of the CETEP, is a mobile in-house training class offered in both Japanese and English aimed at providing training to personnel and their supervisors assigned to duties involving actual or potential exposure to hazardous waste (HW). The recent restructuring of the ECC has allowed us to reduce the amount of duplicated training by incorporating established online courses from MarineNet and Navy Knowledge Online. By incorporating online training into the ECC, we have been able to reduce the amount of in-class time required to achieve certification, thereby increasing the number of course we offered. We also provided Japanese Freon Recovery Certification and Recertification courses for Japanese employees on Okinawa and Camp Fuji.

MCB Butler sponsored numerous external training courses throughout FY11 and FY12. These courses provided opportunities for continuing professional education for personnel on Okinawa. MCB Butler partnered with other government agencies and contractors to provide the following

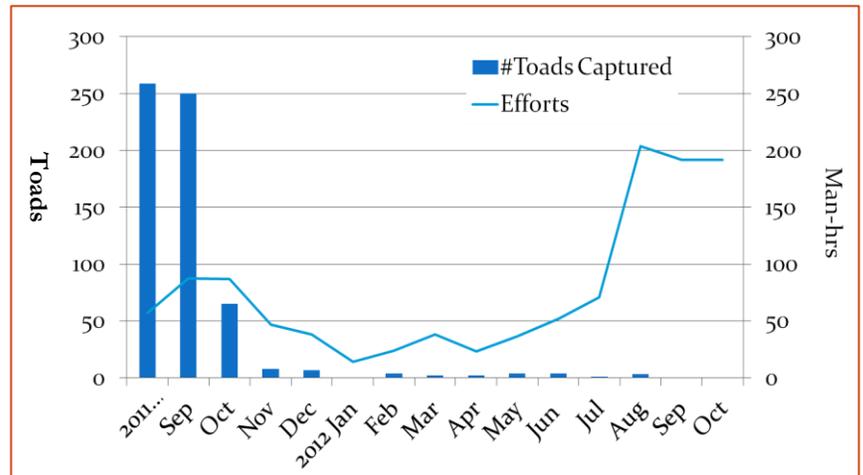
training courses: Overseas Hazardous Waste Facility Operations and Overseas Hazardous Waste Generator training, NAVFAC Facility Response Team Training, Hazardous Waste Operations and Emergency Response (HAZWOPER) 40-hour initial and 8-hour refresher, and Incident Command System (ICS) 300 and 400 courses provided by the US Coast Guard. In FY11, MCB Butler supported Spill Prevention Control and Countermeasures (SPCC) and Aboveground Storage Tank/Underground Storage Tank training for project managers and employees managing bulk fuel tanks. MCB Butler also provided Wastewater Treatment Plant Energy Optimization and Waste Water Operator training and American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) training for planners and designers on Marine Corps installations on Okinawa.



2. Management of Cultural and Natural Resources

Invasive species control plays a vital role in the protection of natural resources at MCB Butler. In August 2011, the Cane Toad (*Bufo marinus*), native to Central and South America, was identified on Camp Kinser. This species is one of the world's most notoriously invasive animals because of its poisonous glands and voracious appetite. The Cane Toad is also listed as an invasive species in the Japan Environmental Governing Standards.

Through the swift action of MCB Butler's environmental staff, numerous toads were initially captured in the vicinity of the first known sighting. Environmental staff recruited local volunteers including Airmen and Marines, local Japanese officials and university professors to assist in the survey and collection of the cane toads. By the end of 2011, a total of 589 toads were captured by our staff and team of volunteers.



Number of Cane Toads caught throughout FY 11-12 in comparison to the amount of effort (in man-hours).

Environmental efforts also included identifying and monitoring ponds and ditches, which could be used by toads as breeding sites. No eggs, tadpoles or toadlets have been sighted, indicating that the capture of toads has been effective. Because no signs of breeding had been found and by 2012 only small numbers of the toad were captured, it appears that the toad population has been successfully suppressed on Camp Kinser making this effort a notable invasive species control initiative.

The success of MCB Butler's cane toad eradication efforts was a direct result of: (1) responding quickly; (2) maximizing in-house staff for weekly toad surveys; (3) publicizing to the community promptly; and (4) developing effective data and mapping systems to track progress.

Other natural resources successes include our erosion control and slope stabilization projects. During FY11 and FY12, more than 20 erosion control projects were completed. Projects included soil nailing and aerial hydroseeding which use green solutions to prevent soil runoff from reaching Okinawa's beautiful reef ecosystems. As a result of our extensive erosion control program, Marines can continue to use our robust training areas for live fire and jungle warfare training.

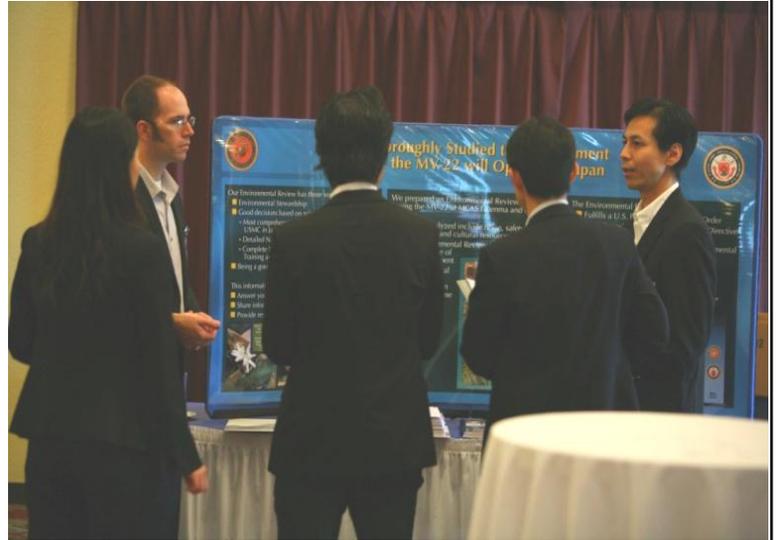
MCB Butler is the only DoD installation in Asia which maintains archeologists on staff. We currently have one U.S. and one Japanese local archeologist, who also provide support to other U.S. installations in Japan and Korea. Having our own archeologists allows us to develop projects quickly, eliminating the need for outside contractors to conduct archeological work. Our archeologists also work closely with the local Board of Education (similar to the State

Historic Preservation Office in the U.S.) allowing our archeologists to approve cultural clearances at MCB Butler sites. MCB Butler conducted eight major archaeological test excavations and numerous archeological test digs throughout FY11 and FY12. Test digs at Ie Shima Training Facility, one of our auxiliary landing fields, unearthed a layer containing archaeological artifacts dating back nearly 2,500 years. The survey succeeded in determining lateral extents of culturally important areas that should not be disturbed. We also performed cultural resources inventory surveys for the entire boundary of Ie Shima Training Facility in February 2012, covering nearly 2,000 acres and resulting in the identification of 36 locations of archaeological, folkloric and historic cultural resources.

3. Community Outreach

MCB Butler completed an extensive environmental review of the high-profile basing of the MV-22 aircraft in Japan. Completion of this environmental review was required to support the successful and timely arrival of the MV-22 aircraft to Japan. The culmination of a two year process, which included significant collaboration with the Government of Japan, was the first of its kind for a DoD component within Japan.

MCB Butler successfully supported the Government of Japan by responding to all inquiries received from Japanese media and local government officials.



MCB Butler Staff at the MV-22 Informational Meeting with Government of Japan officials.

Following the completion of the environmental review, MCB Butler held the first of its kind informational meeting for Government of Japan senior leaders. Numerous posters and subject matter experts provided information on the environmental review findings, noise analysis, safety, and other environmental issues. MCB Butler and III MEF provided in-house experts as well as interpreters for each of the seven posters to help facilitate communicating technical and environmental terms.

The end product of the MV-22 Environmental Review was a milestone for MCB Butler and an example of the Marine Corps' commitment to continued environmental stewardship and support of the U.S.-Japan alliance.

The successful Camp Kinser Cane Toad eradication project began with a strong public outreach campaign which included the distribution of flyers, televised public service announcements and Camp Kinser's Facebook updates to our local community. Through continued meetings and collaboration with the Japanese Ministry of the Environment, Okinawa Prefectural Government, and local city officials, we have been able to continue to reach our goal of controlling the invasive toad population on Camp Kinser. The Ministry of Environment and local universities have joined in the surveys and are very pleased with the results of our joint efforts.

Cane Toad (*Bufo marinus*) is still on Kinser

Since August of 2011, when the first cane toad was found on Camp Kinser, a total of 605 toads have been captured on the Camp as of June 2012. Because only 2-4 toads were captured each month in the last few months, it is predicted that the majority of the cane toad population has been removed, but a small number of the toads are still left on the Camp. Because one female is capable to lay more than 10,000 eggs, a pair of the toads can easily reproduce the same or more number of offspring we have caught so far. We must get rid of all from the Camp before they breed.

**If you see or capture any cane toads, please contact
Camp Environmental Office at 637-4405/1815!!!**



Warning: The cane toad releases a **toxin** from its glands behind the eyes as a defense mechanism. This white milky toxin can kill or harm animals (native predators, small animals including domestic cats and dogs). Humans can get skin and/or eye irritation from handling the toad. When capturing cane toads, latex gloves should be worn.

Please do not transport any cane toads to other Camps or off-base for any reason!

EMP 13.7.1 Jul. 2012

MCB Butler's Cane Toad community awareness flyer.

Besides outreach with the local Japanese community, MCB Butler also conducts outreach to on-base personnel. Due to heightened interest regarding the presence of radon gas on Okinawa, MCB Butler took the lead to develop an outreach program aimed at communicating radon gas sampling techniques, results, and mitigation procedures. Along with the U.S. Department of Energy (DoE) and the U.S. Naval Hospital Okinawa, MCB Butler conducted twelve Open House Forums with educators, parents and students at Department of Defense Dependant Schools (DoDDs).

The Open Houses were conducted using subject-matter experts, informative posters and handouts in a welcoming environment. Five Open House Forums, following the same format, were conducted for base personnel at the camps. Japanese-speaking staff members were available to answer any questions from our Japanese workforce. In order to ensure that the schools were mitigated in a timely manner, MCB Butler assisted DoDDs by including them in our DoE testing and mitigation contract. These efforts demonstrate MCB

Butler's commitment to ensuring timely, accurate and complete information on our radon program to MCB Butler personnel and their families.

4. Waste Reduction Efforts

Our recycling program has been instrumental in reducing the amount of solid waste that is disposed of on Okinawa. In FY12, MCB Butler set a target to divert 44% of non-hazardous solid waste from the waste stream. This target was exceeded with a 59% diversion rate achieved by working closely with local solid waste contractors and through the combined effort of all Marine Corps personnel on Okinawa. The MCB Butler Recycle staff collected 4.5 million kilograms of recyclables in FY11 and FY12 from nearly 700 locations throughout Okinawa. A unique aspect of our recycling program is that our staff goes the extra mile to collect recyclables from inside facilities and workspaces. The recycling program for FY11 and FY12 generated nearly \$2 million in proceeds.

To minimize the excess procurement of hazardous materials (HM) and unnecessary hazardous waste (HW) disposal, MCB Butler used Lean Six Sigma to evaluate the HM Authorized Use List (AUL) process. A new AUL process was developed and implemented and an AUL committee was established to review and approve AUL requests. Through this process, MCB Butler achieved nearly a 50% reduction in expired HAZMAT in FY12.

MCB Butler currently has two systems for recycling antifreeze. Our deionization system processes used antifreeze of greater than 25% glycol content at approximately 300 gallons per hour, resulting in purified coolant. By using this process we can adjust the glycol/water ratio to the specific needs of the requesting unit. The other process used to recycle antifreeze is a

distillation system. This system treats coolant that is less than 25% glycol and allows for the collection of distilled water and glycol. Our antifreeze recycling program provides certified mixed coolant back to the requesting units in both 55 gallon and 25 gallon drums through our HAZMIN Center free of charge. The drums that are used for the recycled coolant are reused, reducing the base cost for purchasing new drums. In FY12, these systems greatly reduced the costs associated with procuring new glycol and disposal by more than \$200,000.

5. Drive Green Campaign

The Green Line (TGL) is an integral element of the MCB Butler Drive Green Campaign, providing alternative means of transportation support to III MEF and MCB personnel. TGL carries over 750,000 passengers per year on its 11 core routes. This equates to approximately 2,100 passengers per day riding the 23 Green Line busses. This program greatly reduces the number of vehicles on the congested roads of Okinawa, effectively reducing the amount of fuel consumption and our greenhouse gas emissions.

MCB Butler was also one of the first DoD installations to develop an Anti-Idling base order for its government vehicle fleet. In addition, we are continuing to “right size” our fleet, ensuring that the right size vehicle is assigned for the right job. This includes ensuring that the number of vehicles in our fleet is the “right size” to accomplish our mission requirements. Many of our vehicles are now hybrids or have 660cc engines to maximize fuel efficiency. We currently have 24 electric vehicles within our fleet and 24 electrical charging stations around our installation. MCB Butler is committed to “greening the fleet.”

CONCLUSION

Despite the challenges of being in a remote overseas location with a unique environmental and political climate, MCB Butler has been a leader in enhancing environmental quality while sustaining the Marine Corps’ ability to effectively train and maintain readiness. Our outstanding waste minimization efforts are especially important because of our remote location and limited landfill space. Our solid waste reduction achievements have been recognized by the Okinawa Prefectural Government. We continuously strive to ensure that our program supports military readiness – examples include our ability to complete numerous plans and environmental analyses by in-house staff, our robust environmental training, and our extensive natural and cultural resources conservation programs that are critical to training effectiveness.



The Green Line offers an environmentally friendly mode of transportation for service members and civilians on Okinawa.