

**FY07 SECRETARY OF DEFENSE ENVIRONMENTAL AWARD  
ENVIRONMENTAL QUALITY  
NON-INDUSTRIAL INSTALLATION**

**INTRODUCTION**

**Mission, Population, and Acreage.** Our mission is to provide facilities and services that support combat readiness and promote the well-being, morale, and safety of military and civilian personnel that live and work aboard Marine Corps Base Hawaii. MCBH manages installations on 4,500 acres on Oahu, including Camp Smith, Kaneohe Bay, Marine Corps Training Area Bellows, Manana Family Housing Area, Pearl City Warehouse Annex, and Pu'uoloa Range Complex. We support over 25,000 Marines, Sailors, civilian employees and family members working or living aboard MCBH. Over 10,000 retirees regularly access base facilities.

**Environmental and Geographical Setting.** Hawaii is home to sensitive natural resources with over 25 percent of all United States endangered species found here. Cultural resources significant to native Hawaiians are greatly valued by outspoken advocacy groups. MCBH Kaneohe Bay includes Nuupia Ponds (a protected Wildlife Management Area (WMA) and eligible National Historic Property) and Ulupau Crater WMA, and is the most environmentally sensitive of all MCBH properties. We are surrounded by pristine waters that are of tremendous importance to the lives and livelihoods of many Hawaii residents; consequently, state water quality standards are more stringent than federal ones. Living coral reefs and threatened green sea turtles inhabit these waters, along with endangered humpback whales and Hawaiian monk seals. We face many environmental constraints, such as endangered species habitat, historic sites, digging restrictions and erosion-prone coastlines. Aircraft flight paths are governed by noise impacts and accident risks to adjacent communities totaling 120,000 residents.



**BACKGROUND**

MCBH has uncommon beauty and biological/cultural diversity. In a remote island state with 25% of the nation's endangered species, we face high waste disposal costs, small recycling markets, strict environmental standards, stiff land/water access competition, and strong environmental advocates. Through partnerships, we cut costs, support training, reduce risks, enhance habitats for endangered species, and gain regulator approval and community trust. This is essential for sustaining base operations and providing responsive support to our operating forces to enhance combat readiness, global power projection and quality of life. Environmental compliance and protection is not only the responsibility of the Environmental Department's 30 civilian and military environmental

<b>TEAM</b>	<b>PROGRAMS</b>	<b>STAFFING</b>
Pollution Prevention	HAZMIN, HW, EPCRA, P2 Initiatives, Oil and Hazardous Substances, Training, Inspectors	5 civilians and 9 contractors
Compliance	UST, SPCC, Drinking Water, Storm Water, Wastewater, Noise, PCB, Air, Solid Waste, Recycling, Landfill, Installation Restoration, Munitions Response Program	11 civilians
Conservation	Cultural and Natural Resources, NEPA	6 civilians
Sustaining	Emergency/Spill Response, Environmental Management System, Budget, GIS, Information Systems	2 Marines and 6 civilians

professionals, but of all of MCBH, its subordinate commands, tenants and personnel. The MCBH Commanding Officer issued an Environmental Policy statement that is displayed prominently throughout the base to emphasize the senior leadership's commitment to environmental excellence and stewardship. In December 2007, Headquarters Marine Corps validated that MCB Hawaii successfully achieved full conformance to the 18 elements of the Marine Corps Environmental Management System.

**Environmental Plans and Permits.** MCBH keeps plans and permits updated to allow continued, unrestricted base operations. Our plans and permits are listed below with the date of the latest revision:

<b>ENVIRONMENTAL PROGRAM PLANS AND PERMITS</b>			
Pollution Prevention Plan	Jul 05	Storm Water Pollution Management Plan	Apr 03
Spill Prevention, Control and Countermeasures	Aug 05	Hazardous Chemical/Waste Management Plan	Dec 05
Pest Management Plan	Jan 07	Integrated Contingency Plan	Apr 07
Solid Waste Management Plan	Mar 07	Landfill Operations Plan	Apr 07
NPDES Permit - Water Reclamation Facility	Feb 07	NPDES Storm Water Permit Application	Jul 06
Sanitary Landfill Permit Application	Apr 07	Noncovered Source Air Permit	May 07

**PROGRAM SUMMARY – “Basewide Environmental Management System Integration and Sustainability”**

Our environmental achievements are worthwhile only if we can sustain these efforts through a successful, base-wide Environmental Management System (EMS). In a 13 December 2007 letter, the Commandant of the Marine Corps) congratulated us for achieving EMS conformance to the 18 elements of the Marine Corps EMS.

**Policy.** The Commanding Officer signed our Environmental Policy, emphasizing senior leadership’s commitment to environmental excellence, responsible stewardship, and continual improvements in environmental management.

**Goal Setting & Gap Analysis.** While we have met all DoD and USMC EMS implementation criteria, we will continue to conduct self-audits to identify gaps and set goals to improve our EMS performance. We conducted our first gap analysis in 2004 and completed our latest self-audit and improvement action item list in September 2007.

**Written Implementation Plan.** We established an EMS Implementation Plan of Action and Milestones to implement EMS base wide by 31 December 2005 and have revised it to address ECE and self-audit deficiencies.

**Aspect / Impact Analysis.** We identified and created an inventory list of the industrial work centers whose practices, products and services have the most impact to our environment. We prioritized each practice/aspect based on its impact to our environment and have set targets and objectives to mitigate these impacts.

**Stakeholder Involvement.** We rigorously identified all customers/stakeholders and environmental program regulatory drivers to ensure our environmental objectives and targets address all concerns.

**Training (Awareness, Executive, and Implementation Team).** We provided EMS Awareness training to all Environmental department personnel and established a team to lead MCBH EMS program implementation. We briefed executive staff about EMS and educated them on their roles and responsibilities to assist and support implementation. The EMS Implementation Team completed several phases of EMS implementation courses including Lead Auditor Training and successfully conducted an EMS Review and Internal Audit in September 2007. We also provide monthly EMS awareness training to practice owners and on-site contractors.

**Management Review Process.** We established procedures for our management review process, published it in our MCBH EMS Manual, and conducted our latest Management Review in November 2007.

**Sustainability.** We will sustain our efforts by integrating environmental requirements into all work processes. We revised and edited our Environmental SOP to provide clearer, more concise instructions for base personnel covering all environmental program areas. We will continue to conduct periodic work center inspections, SOP and awareness training, and specialized training. We have had successes and expect that the **best is yet to come.**

**Objective:** Renew non-covered air source permit with reduced regulatory restrictions.

- **Achievement:** Department of Health (DOH) renewed air permit and approved a tracking spreadsheet for more flexible usage of Corrosion Control Hangar coatings and faster DOH review for new coatings.

**Objective:** Reduce erosion impacts while also sustaining and enhancing mission critical training operations.

- **Achievement:** \$1M for completed studies and contracts for two design and one construction project to reduce erosion impacts on Kailua Bay and to sustain and enhance weapons range pistol/ rifle training.

## ACCOMPLISHMENTS

### Pollution Prevention and Waste Reduction Efforts

**Maintaining Permits and Compliance Records.** Complying with regulations governing wastewater generation, storm water discharges, solid waste disposal, and air emissions is essential if we are to maintain our full operational capability, maximize training opportunities and enhance community support. We meet DOH storm water and Water Reclamation Facility (WRF) NPDES permit discharge limits, solid waste landfill permit requirements, and non-covered source air permit emissions limits. DOH/EPA conducted Air, Landfill, Storm Water, Wastewater, UST and Hazardous Waste Compliance Inspections yielding no findings. We obtained DOH five-year permit renewals for the WRF (including a successful appeal to remove unreasonable copper and mercury testing), non-covered source air permit, and submitted renewal applications for Kaneohe Bay Landfill and Storm Water.

### **Sampling / Monitoring Techniques.**

**Permit and Compliance Sampling** – We program automatic samplers to obtain storm water samples and wastewater samples at various locations and frequencies specified by our NPDES permits. In addition, we conduct semi-annual illicit connection surveys and facility inspections, promote best management practices (BMPs), and submit annual reports. We utilize a comprehensive coating usage spreadsheet for air permit compliance. We conduct regular solid waste dumpster inspections to ensure no hazardous waste and excluded materials enter our landfill in violation of our landfill permit. We inspect satellite accumulation areas (SASs) and pollution prevention (P2) equipment to maximize our P2 efforts while maintaining compliance with hazardous waste regulations.

**Soil and Ground Water Sampling** - MCBH currently has 9 former UST sites undergoing investigation, monitoring or remediation. Remedial Investigation and Release Response Reports have been prepared for 7 sites, and actions are being taken to implement groundwater and soil sampling at 5 sites and soil remediation at the 6<sup>th</sup> site. No further action has been recommended for the 7<sup>th</sup> site. MCBH has a project underway to complete Remedial Investigation and Release Response Reports and conduct necessary remediation for the remaining 2 sites.

**Operating Plant / Facility Improvements.** We completed and awarded \$3M in design and construction projects to improve aging and inadequate facilities. Our WRF sludge-drying beds are being lined and repaired to improve dewatering efficiency and groundwater protection. We repaired oil-water separators to reduce the oil levels discharging to the WRF and completed a project to upgrade 7 large-capacity cesspools. We completed a design to reduce landfill erosion to sustain operations and comply with our landfill permit. The new CSSG-3 painting and depainting enclosure will reduce air emissions and improve vehicle maintenance and corrosion control. We installed containment and diversionary structures for the flight line and marina areas and expanded containment sumps for the flight line hot refueling pits to prevent fuel spills from reaching Kaneohe Bay's class AA waters. A newly constructed wetland lined with native plants reduced CSSG-3's vehicle maintenance compound flood risk.

### **Process Change / Source Reduction.**

**Innovative Soil Reuse Strategy** - At a critical phase of a \$50M construction project to replace 212 junior enlisted homes, extensive testing of soil on site, subsurface soil, and stockpiled soil detected chlordane levels above DOH guidance. Since the option to remove and dispose of over 15,000 cubic yards of soil and import clean soil would result in high costs and project delays, we conducted a risk assessment that supported soil reuse on site. Not only did this effective risk assessment strategy **save over \$3M, but it also avoided a 6 month delay in getting new homes to our deserving Marine families.** A risk assessment spreadsheet was developed and shared for use on all future Navy/ Marine Corps housing projects, and will continue to save the government much time and money.

**Pollution Prevention Initiatives** - We initiated the SKF Oil Check program at our largest Motor Pools to optimize oil usage and reduce purchase/disposal/recycling costs and time spent changing oil. We achieved \$20K savings with a fully automated heated paint-stripping tank for aircraft parts, on-site antifreeze recycling and a NoFoam Unit to eliminate Aqueous Film Forming Foam (AFFF) use during Aircraft Rescue and Firefighting vehicle weekly tests.

## Human Health Considerations.

**Spill Response** - Transport and storage of fuel is critical to continued base operations and military readiness because catastrophic oil or hazardous substance spills could result in health and ecological impacts, reduced base operations or even base closure. Through annual Facility Response Team Training and weekly spill equipment deployment drills, we train our on-water response team to effectively protect the highly sensitive areas surrounding MCBH. We conduct annual large-scale Spill Management Team Training exercises with the State, City and County, Federal and Coast Guard agencies, and the community to enhance our spill response readiness. Our spill team is recognized as **one of the best in DoD** and the primary spill response team on the windward side of Oahu.

**HAPs, VOCs, and Air Emissions Reduction** – Use of paint gun washers, particle counters for patch testing, steel grit blasters, high volume low pressure (HVLV) paint guns, antifreeze recyclers, plastic blast media and heated strip tanks for paint removal, aqueous parts washers and dry filter paint booths reduce or eliminate HAPs and VOCs emissions during painting and depainting, corrosion control, fluid change out, degreasing and surface cleaning.

**Drinking Water Protection** - We maintain an excellent record of compliance with Safe Drinking Water Regulations and distribute drinking water Consumer Confidence Reports. We purchase our water from the Honolulu Board of Water Supply, chlorinate and fluoridate it once it enters the base water system, and conduct weekly fecal coliform counts, test for tri-helomethanes and submit reports to DOH. Our results confirm that our water is safe to drink. Results of DoD mandated drinking water testing also confirmed that our water is non-detect for perchlorates.

## Recycling Efforts and Accomplishments.

**Recycling Brass**- MCBH Recycling Center continued their successful cooperative DOD partnership to use our brass deformer to process military shells, market the brass for sale and keep 25% of the revenues received. Other DOD agencies avoid investing in expensive equipment, providing deforming facilities, and training personnel which renders our facility's capability to deform military brass unique to Hawaii. In FY06-07, we processed 150,000 lbs. of USMC brass and 260,000 lbs. of Army brass to earn \$294,030.

**Recycling Total** - In addition to brass recycling, the recycling center collected 1246 tons of wood, appliances, aluminum cans, plastic and glass bottles, cardboard, white paper and newspaper and 760 tons of steel. In addition to diverting material from our landfill, the recycle center received \$250,000 in revenues for these materials.

**Furniture and Material Donations** – We strive to divert waste and benefit others in need. After the new base worship facility opened, MCBH donated 60 excess church pews from the old base chapel. We also donated 3000 excess, used blankets from the barracks linen exchange program to homeless agencies across the island of Oahu.

**Food Recycling** – MCBH diverted over 1,100 tons of food from the base landfill by recycling food waste from the Commissary, Enlisted Mess Hall, Officers' Club, Staff NCO Club, Enlisted Club, and Food Court vendors.

**New Recycling Initiatives** – We initiated efforts to increase our use of plastic for energy generation and for recycling, to partner with the Air Force to expand cardboard recycling, and to market new sources of scrap metal.

## Reducing Funds Expended.

**Water Conservation** - On the densely populated island of Oahu, water conservation is critical to preserving limited drinking water supplies. For over 30 years, MCBH has conserved water by using WRF effluent for golf course irrigation (estimated 2006-2007 savings of 116M gallons or \$255,000).

**Hazardous Material (HM) Inventory Management** – MCBH is committed to reducing environmental liability and costs by eliminating or reducing the use of HM. The Hazardous Materials Consolidation Program (HCP) consolidates HM base-wide, improves inventory control, reduces operating costs, and minimizes hazardous waste. Rapid HM order/delivery supports our Marines and Sailors in combat-ready, operational conditions. **In FY06-07 we saved \$1.64M by diverting over 106,000 lbs of HM from disposal**, redistributing the excess at no cost to units, and reducing the amount of effort (nearly 96,000 hours) expended by personnel managing HM.

## **Environmental Compliance Assessment and Management Program**

**Self-Assessments and Follow-Up.** We resolved deficiencies identified during the March 2006 headquarters Environmental Compliance Evaluation (ECE) of 39 media areas. We completed a 2007 self-audit and have programmed projects to address deficiencies. Many of the accomplishments of today are the result of identifying necessary corrective measures and taking appropriate actions.

**Interaction With Regulators Regarding Inspections, Notices of Violation (NOVs), Agreements, Fines and Penalties, and Other Regulatory Actions.** In 2006 and 2007, State DOH and EPA conducted UST, Storm Water, Wastewater, Air, Landfill and Hazardous Waste Compliance Inspections yielding no findings.

**Budget Data to Illustrate Adequate Funding.** Our annual budget averages \$4-5 million including operational expenses, training, maintenance, service contracts and compliance projects funded through our operating budget, centralized management environmental projects (CMEP) and interservice support agreements. We obligate funds promptly, carefully monitor execution and evaluate our budget needs periodically and request operating budget supplements and CMEP funding as necessary. We identified our budget requirements through 2015 in POM10.

**Sustainable Operations and Programs.** MCBH strives to sustain and enhance military readiness for base and tenant activities while ensuring compliance with environmental regulations. This is the primary goal of our base EMS (see page 2). We utilize upfront planning to ensure that resident and transient unit **training activities remain environmentally compatible while fulfilling mission requirements.** Major actions accomplished include: developing Geographic Information System (GIS) training map overlays of sensitive resource areas, working closely with state regulators and cultural and natural resource trustees, advising training units on environmental “do’s and don’ts” and following up with periodic inspections. This enabled base, tenant, and visiting commands to conduct realistic training with minimal environmental impacts, including the following training exercises:

- III MEF exercises at Pohakaloa Training Area / Weekly training at Ulupau Weapons Range
- Small unit exercises at MCTAB / Small arms training at Puuloa Range Facility
- Small SOC Sustainment Training for 11<sup>th</sup>, 13<sup>th</sup>, and 15<sup>th</sup> MEU elements / RIMPAC Exercises
- SOCPAC’s Operation Bantam Runner for 1<sup>st</sup> Battalion, 1<sup>st</sup> Special Forces group, 353<sup>rd</sup> Special Operations Squadron, Naval Special Warfare Unit-1, and III MEF, SOTG forces

**Training and Outreach Programs.** MCBH provides base military and civilian personnel with a solid foundation of basic and specialized environmental knowledge and skills through the Comprehensive Environmental Training and Education Program to ensure compliance with regulations and safety of personnel and natural resources. Over 5000 Marines, Sailors, Civilians, on-site Contractors, and family members aboard MCBH facilities received environmental awareness training. Topics covered included the MCBH Environmental Management System, the Commanding Officer’s Environmental Policy, Natural and Cultural Resources, Recycling and Solid Waste, Pollution Prevention, Hazardous Material and Waste, Spill Response, and the National Environmental Policy Act. We also host Civil Engineer Corps Officers School (CECOS) classes and other training. Unit commanders receive overview briefs at our Senior Leaders Course and shop level coordinators receive in-depth training at our SOP Training Classes. We publicize HAZMIN, Recycling and Reuse Center efforts through base newspaper and local television. We have an active outreach program at our base school to enlist a new generation of diligent recyclers.

### **Effective Use of Funds**

**In-House Effort vs. Contractor Effort** – MCBH staff saved over \$60K by preparing annual EPCRA reports and landfill permit renewal application/Landfill Operations Plan. EMS full-conformance efforts were accomplished with in-house staff effort and knowledge with no additional contractor costs. A DoD/DOH partnership resulted in \$25K cost savings to implement and maintain the Compliance Assessment Tracking and Training System (ECATTS).

**Alternate Landfill Daily Cover** – We conducted a successful pilot test from April until August 2006 to use mulch (chipped wood and green waste) as an alternative daily landfill cover material. DOH approved our use of mulch as an alternative cover which will increase our green waste diversion and reduce costs to purchase soil.

## Community Relations

**Community Involvement and Activities, and Affiliation With Civic and Local Organizations.** We plan current and future use of Kaneohe Bay resources in the Kaneohe Bay Regional Council and discuss community issues at monthly Civilian-Military Council meetings. Our Marines repair local public school buildings/grounds and read to school students. We held the 25<sup>th</sup> anniversary of annual "Mud Ops" training maneuvers in Nu'upia Ponds, resulting in better habitat for endangered birds, better training for AAV operators, and extensive positive press coverage. In 2007, we completed an environmental restoration community involvement plan (CIP) and established a restoration advisory board (RAB) for the Waikane Valley munitions response program. We held two open house meetings, a RAB orientation meeting, two official RAB meetings and a site visit. We developed a RAB Operating Charter, described the RAB process, presented the study and cleanup phases of the munitions response program, updated the RAB on our Site Inspection work plan, and most importantly responded to community concerns and comments.

### **Cooperation With Federal, State, Local Agencies, Organizations, and Academic Institutions.**

MCBH serves on the Local Emergency Planning, State Emergency Response, and U.S. Coast Guard Committees for spill response planning, drills and exercises. We hold quarterly Hawaii Pollution Prevention Partnership meetings with State, Army, Navy, and Air Force personnel to develop economical and innovative solutions to compliance issues. We joined a unique interagency/industry spill response "Clean Islands Council" coop, enabling access to a response center, specialized personnel, the state's best equipment, and spill drill assistance. We host secure facilities and volunteer access for a non-profit marine mammal stranding program to help stranded whales and dolphins be rehabilitated or humanely destroyed. State-subsidized Oahu Island Invasive Species Committee fieldworkers regularly help MCBH staff monitor and remove invasive Ft. Grass from training lands to reduce the threat of brushfires. We partnered with DoD agencies and DOH regulators to improve contractor compliance at our installations with the ECATTS web-based training program.

**Environmental Education Efforts.** We hosted over 700 visitors in outreach events to showcase our sustainability efforts. Visitors included community organizations (Sierra Club, Boy Scouts), State regulators, NOAA, DoD VIPs, scientists, and university students. We actively coordinate and participate in beach clean-ups, Special Olympics, and community enhancement projects. We hold base school recycling coloring contests and America recycles day paper drives to motivate our children to recycle. Our base newspaper, *Hawaii Marine*, publicizes implemented reuse and waste minimization efforts, HAZMIN Center and Recycling Program achievements, Energy Management Program energy savings, and Earth Day event celebrations. Since the *Hawaii Marine* is distributed island-wide, it informs a large audience of our successes and encourages stakeholder interaction and involvement.

**Compliance with E.O. 12898.** We established a community involvement program within our installation restoration and munitions response programs. We interviewed neighborhood board chairpersons, Native Hawaiian groups, civic leaders and environmental groups to determine how to best reach out to the community and to determine whether minority, low-income and other disadvantaged groups are being treated fairly.

## National Environmental Policy Act (NEPA)

Proposed actions vital to base operation, combat readiness and quality of life were reviewed with the majority (168) being approved at the categorical exclusion (CATEX) level. **No Environmental Impact Statements (EIS)** were needed due to effective mitigation and flexibility in project planning and design. Environmental Department staff with local area expertise reviewed environmental assessments (EAs) prepared by other departments and outside agencies for projects involving MCBH property. Subject matter experts facilitated, and in some cases were able to expedite the interagency consultation process on behalf of the action proponents because of credibility and amicable working relationships developed over the years with regulatory agencies. MCBH completed the Housing PPV Phase 4 EA, reviewed draft Navy MMA EIS (4 iterations), and provided environmental planning guidance and scoping for five G-3 Range Improvement Project EAs, Marine Corps Expansion (202K) MCBH EA, III MEF HQ Relocation to Hawaii EA, and MILCON P-749/750 BEQ EA.

## Summary Narrative Page (for use in brochure)

Marine Corps Base Hawaii developed, planned and executed \$7M worth of environmental projects to improve and maintain facilities to support the readiness of our operating forces. Larger scale projects include:

- \$900K Restoration/Percolation Ditch Improvements Project - Reduced the flood risk at CSSG-3's vehicle maintenance compound by using a constructed wetland lined with native plants.
- \$600K Fuel Tanker Truck Containment Project - Installed spill containment and diversionary structures at the Flight Line and Marina to prevent fuel from entering Class AA waters of Kaneohe Bay.
- \$800K Upgrade Large Capacity Cesspools Project – Removed seven cesspools throughout the base and at the weapons firing range and installed secondary treatment systems to protect groundwater resources.
- \$400K Oil Water Separator (OWS) Project - Demolished inactive OWSs and replaced deteriorating OWS to prevent excessive oil from being discharged to the wastewater treatment plant in violation of the permit.
- Awarded a \$700K Weapons Range Erosion Control BMPs project to reduce erosion and its impacts upon nearby Kailua Bay while also preventing damage to the pistol and rifle ranges.

Our Environmental Management System (EMS) goal is to sustain and enhance military readiness while ensuring compliance with environmental regulations. Our achievements are worthwhile only if we can sustain these efforts.

- Achieved full EMS conformance prior to the December 2007 deadline.
- Provided 5,000+ base military/civilian personnel with basic/specialized environmental knowledge and skills.
- Produced an Environmental SOP for base personnel covering all environmental program areas.
- Updated our Integrated Contingency Plan and conducted annual facility response team training, large-scale spill management exercises, and weekly on-water response team spill equipment deployment drills.
- Maintained compliance with regulations governing wastewater generation, storm water discharges, solid waste disposal, and air emissions to maintain our full operational capability. No regulatory enforcement inspection findings during this period.

Our Hazardous Materials Consolidation Program (HCP) consolidates HM base-wide, improves inventory control, reduces operating costs, and minimizes hazardous waste (HW). With 100% base-wide participation, we save \$1.64M by diverting over 106,000 lbs of HM from disposal, redistributing the excess at no cost to units, and reducing the amount of effort by 96,000 hours. By significantly reducing personnel requirements to oversee HM, our HCP has enhanced the combat effectiveness of our fighting forces.



MCBH continues to be a model steward of the naturally and culturally rich lands under its control, while providing responsive support to our operating forces to strengthen global power projection and improve quality of life. With effective program management, stakeholder involvement, and innovative ideas, we continue to set the standard for environmental stewardship and sustainability, while providing uncompromising support to our nation's defense.