

**FY 2003
Secretary of Defense
Environmental Security Award Submission
Environmental Quality
(Non-Industrial Installation)**



Marine Corps Base Hawaii

INTRODUCTION

Mission, Population, and Acreage. Marine Corps Base Hawaii (MCBH) was created in 1994 to consolidate Marine Corps assets in Hawaii. MCBH consists of 2,951-acre Mokapu Peninsula (MCBH Kaneohe Bay); 220-acre Camp H. M. Smith; 137-acre Puuloa Range Facility; 27-acre Pearl City Warehouse Annex; 63-acre Manana Housing Area; 187-acres of Waikane Valley, and 1074-acre Marine Corps Training Area-Bellows (MCTAB), all on the Island of Oahu. On Molokai, we own a 12-acre training facility. MCBH’s mission is to maintain facilities and provide services that support readiness and global projection of operating forces while promoting the well being, morale, and safety of military personnel, their families, and the civilian workforce. MCBH Kaneohe Bay tenants include Combat Service Support Group-3, Marine Aircraft Group-24, 3rd Radio Battalion, 3rd Marine Regiment, HQ Battalion, Fourth Force Reconnaissance Company, and Marine Corps Air Facility Kaneohe Bay. Camp Smith tenants include U.S. Pacific Command, Special Operations Command Pacific, Marine Forces Pacific, and Joint Task Force Full Accounting. Our military and civilian workforce is over 13,000 strong: 7,996 military personnel with 5,317 military dependents residing on base and 1,168 civilians working in support of the mission. About 10,000 retirees use base service facilities.

Environmental and Geographical Setting. The Hawaiian Islands are the most isolated landmasses in the world, with a unique cultural resource heritage and diverse and sensitive natural resources - 25 percent of all endangered species in the United States are found here. MCBH Kaneohe Bay is the largest MCBH property, most visible, and has the greatest environmental sensitivity with constraints such as endangered species habitat, historic sites, and erosion-prone coastlines. Aircraft flight paths are governed by noise impacts and accident risks to the adjacent communities of Kaneohe and Kailua with a 120,000 residential population. Cultural resource concerns also restrict digging due to possible disturbance of ancient Hawaiian burial sites in coastal areas around the peninsula. MCBH Kaneohe Bay is bordered by Kailua Bay to the east, the Pacific Ocean to the north, Kaneohe Bay to the south and southwest, and Nuupia Ponds to the south. These pristine waters are of tremendous importance to the lives and livelihoods of many Hawaii residents. Living coral reefs and threatened green sea turtles inhabit these waters, with endangered humpback whales and Hawaiian monk seals making seasonal visits. The ponds are a protected Wildlife Management Area and an eligible National Historic Property.

BACKGROUND

Base Environmental Compliance and Protection Department (EC&PD) Organization and Management Approach

The EC&PD was established as a department in 1993. Due to heightened command attention to the environment, the EC&PD expanded from a staff of five to a staff of 38 organized into four teams including environmental protection specialists, engineers, natural resources specialists, archaeologist, conservation law enforcement officer, Marine inspectors, geographer, and support personnel.

TEAM	PROGRAM	STAFF
COMPLIANCE	UST, SPCC, Drinking Water, Storm Water, Wastewater, Oil-Water Separator, Air, Noise, Solid Waste, Landfill, Hazardous Waste, PCB, EPCRA	5 Civilians, 4 Contractors
CONSERVATION	Natural Resources, Cultural Resources, NEPA	5 Civilians
POLLUTION PREVENTION	Hazardous Materials Minimization, Pollution Prevention, Recycling, Base Property, Affirmative Procurement	8 Civilians, 4 Contractors
SUSTAINING	Budget, Administration/Information Systems, Geographic Information System, Emergency Response, Training, EMS, Inspectors	8 Civilians, 4 Marines

MCBH fosters an environment that capitalizes on innovative ideas for using limited resources; working effectively in teams; a commitment to consider the environmental effects of all mission-critical decisions; and assuming a leadership role to protect, restore and enhance the environment in those decisions. While not a Marine Corps environmental management system (EMS) prototype installation, MCBH has independently taken proactive steps to implement EMS as shown in the timeline below:

EMS COMPONENT	ELEMENTS	COMPLETION DATE
Policy	Environmental Policy Statement	May 2004
Planning	Environmental Aspects; Legal Requirements; Objectives/Targets; Management Actions	August 2004
Implementation	Roles/Responsibilities; Training; Communication; EMS Documentation; Document Control; Operational Control; Emergency Preparedness	August 2005
Checking & Corrective Action	Monitoring & Measurement; Corrective & Preventive Action; Records; EMS Review	October 2005
Management Review	Management Review EMS	December 2005

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:

ENVIRONMENTAL PROGRAM PLANS AND PERMITS			
Pollution Prevention Plan	Mar 03	Stormwater Pollution Management Plan	Apr 03
Spill Prevention, Control and Countermeasures Plan	Sep 02	Hazardous Chemical/Waste Management Plan	Mar 03
Pest Management Plan Update	Mar 04 (ECD)	Integrated Contingency Plan	Nov 02
Solid Waste Management Plan	Jul 03	Landfill Operations Plan	Apr 03
NPDES Permit - Water Reclamation Facility	Feb 02	NPDES Permit for Storm Water	Jan 03
Sanitary Landfill Permit	Jun 03	Noncovered Source Air Permit	Dec 01

PROGRAM SUMMARY – “We Turn Challenges into Opportunities to Excel”

Our MCBH mission includes maintaining facilities and providing services that support readiness of our operating forces. Activities in support of our mission have the potential to impact our air, land or water resources and result in unique challenges. Seizing upon the opportunities that these challenges present, we have implemented changes and process improvements that have resulted in tremendous cost savings and increased mission readiness through source reduction and reuse efforts, pollution prevention initiatives, innovative projects, and best management practices.

➤ **Challenge:** *Need to enhance military readiness for base and tenant activities while ensuring compliance with environmental regulations*

Achievements:

❖ Utilized upfront planning to ensure that resident and transient unit **training activities remain environmentally compatible while fulfilling mission requirements.** Major actions accomplished included: developing Geographic Information System (GIS) training map overlays of sensitive resource areas; working hand-in-hand with state regulators and cultural and natural resource trustees; and advising training units concerning 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 11th, 13th, and 15th MEU elements / RIMPAC Exercises
- SOCPAC's Operation Bantam Runner for 1st Battalion, 1st Special Forces group, 353rd Special Operations Squadron, Naval Special Warfare Unit-1, and III MEF, SOTG forces

❖ Reduced labor time for weapons cleaning weapons by **over 50%**, equating to an impressive savings of over **360,000 hrs/yr** and **payback in 1 day**.



Weapons Cleaning At 3rd Marines Armory

➤ **Challenge:** *Need to protect public health and the environment by eliminating or minimizing the volume and toxicity of hazardous substances and hazardous waste (HW) generated through improved hazardous material (HM) and HW management.*

Achievements: Since the inception of the HM Consolidation Program in October 1997, dramatically reduced HM inventory levels and HW generation.

- ❖ In 2002 and 2003, diverted over 72,000 pounds of HW resulting in a **savings of \$320K** in HM procurement and HW disposal cost avoidance
- ❖ Reduced HW generation by **56.3%** from 1992 to 2003 and **30.9%** from 2001 to 2003
- ❖ Rapid HM order/delivery supports our Marines and Sailors in combat-ready, operational conditions

➤ **Challenge:** *Base facilities are aging with outdated equipment and features that can impact the environment and hamper mission readiness.*

Achievements:

- ❖ **Awarded/completed 6 project designs/studies totaling \$500K and 4 construction projects totaling \$2M.** *Projects completed:* Installed sewer lift station emergency generators at 7 locations/8 stations to prevent worst-case sewage release during power outages. Brought Water Reclamation Facility (WRF) into compliance by installing headworks screw compactor to dewater waste screenings and by removing excessive polishing pond sludge buildup to improve effluent toxicity. *Projects Awarded:* To replace piping and abate asbestos at Anderson Hall (enlisted mess). To replace WRF influent and effluent pumps - influent pumps failed earlier and future failures could release raw sewage into Kaneohe Bay. Awarded design projects and near design completion for projects to construct a hazardous waste storage facility, construct airfield/taxiway fueling containment, and repair/demolish oil-water separators; and to assess drinking water vulnerability.

- ❖ **\$1.6M 3rd Marines Motor Transport Compound Storm Water Improvements** completed in 2002. Improved storm water controls by resurfacing areas around maintenance bays, grease racks, wash racks, and gas lanes and installing permeable perimeter cover and grease rack containment. This will not only reduce the spread of residual oil offsite, but will also eliminate the dusty/muddy/wet environment that promotes increased vehicle maintenance and washing and will allow effective steam cleaning that will improve corrosion control.

ACCOMPLISHMENTS

EMS Implementation

One of the goals accomplished by the 2003 in-house environmental department functionality assessment (FA) was to make progress toward implementing an Environmental Management System (EMS). The FA developed 2 of 17 EMS elements by identifying customers, products/services, and regulatory drivers. The FA developed 3 more EMS elements by creating performance measures and broad programmatic improvements with prioritized sets of action items. While not a Marine Corps EMS prototype installation, MCBH is well on its way to meeting the 2005 implementation deadline and page 2 timeline.

Policy. We reviewed our Environmental Policy statement and will make minor changes.

Self Assessment. We assessed our environmental programs and created performance measures, broad programmatic improvements, and prioritized sets of specific action items.

Written Implementation plan. We established an EMS Implementation Plan of Action and Milestones timeline identifying actions and completion dates to implement EMS base wide by 31 December 2005.

Aspect/impact analysis; Prioritized list of aspects. We identified all MCBH industrial work centers whose practices, products and services have the most impact to our environment and will soon begin a detailed analysis of each practice/aspect and prioritize them by magnitude of impact to our environment.

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 core team to lead implementation of the MCBH EMS program. Core team members have attended and participated in HQMC EMS meetings and conferences to gain and share EMS implementation/training information with other Marine Corps installations. Training options and cost estimates have been explored to provide MCBH tenants and activities with necessary EMS awareness. FY04 – FY05 budget plans were submitted via COMPTRAK.

Management review process. We implemented performance measures for each environmental program and will monitor performance measures and implement senior management review procedures.

National Environmental Policy Act (NEPA)

Proposed actions vital to base operation, combat readiness and quality of life were reviewed with the majority (155) being approved at the categorical exclusion (CATEX) level. Environmental assessments (EAs) for construction and military training were conducted, resulting in completed or anticipated, Findings of No Significant Impacts. Environmental department staff prepared two of these EAs to save significant costs. **No Environmental Impact Statements (EIS)** were needed due to effective mitigation and flexibility in project planning and design. Building on “lessons learned” from earlier public involvement strategies employed by other DOD agencies proposing similar actions, MCBH formed a “community advisory group” during the EA process for proposed off-base military training.

- Composed of key stakeholders from the affected communities
- Helped to shape our interaction with the larger community and to identify community issues
- Served as a conduit of information to and from their respective communities

Community input and natural and cultural resource surveys helped to identify potential impacts on subsistence, cultural practices, and existing land use patterns. Demographic information from the last census was used to identify minority or low-income communities in the geographic area of effect. A social impact analysis, which included interviews with individuals from those communities, was conducted using analysis guidelines in EO 12898.

Air Pollution Control

MCBH is within an air attainment zone. In FY02 the Hawaii Department of Health (HDOH) granted a 5-year non-covered source permit renewal for the corrosion control hangar and gymnasium diesel boiler. Facility improvements (lower BTU butane boiler) and operational improvements (use of a cleaner burning fuel) resulted in removal of the boiler from the DOH permit. In May 2003, the HDOH conducted an air enforcement inspection resulting in no violations.

ODS Reduction and Control. By the 2000 deadline, MCBH eliminated all non-mission critical Class I ODS refrigeration systems except for several that were granted waivers since they were for BEQs scheduled for near term demolition. We have since deactivated those systems ahead of schedule. This eliminated equipment system maintenance, de minimus releases of Class I ODS during maintenance, and any potential for major releases due to leak failures of these old systems.

Participation In Regional Air Quality Planning and Protection. MCBH continues to partner with our Resident Officer in Charge of Construction to ensure environmental compliance during construction-related projects by providing training and technical assistance, participating in pre-construction meetings, and monitoring job sites. MCBH researched the most effective fugitive dust controls and economic dust control methods through a partnership with our state university. We also initiated a corrosion control hangar inspection process to ensure that established permit usage thresholds are adhered to and maintenance and usage logs are accurately maintained despite personnel turnover.

HAPs, VOCs, and Other Air Emissions Reduction. Our use of paint gun washers, particle counters for patch testing, steel grit blasters, high volume low pressure (HVLP) paint guns, antifreeze recyclers, plastic blast media (PMB) for paint stripping, aqueous parts washers, and dry filter paint booths reduce or eliminate HAPs and VOCs emissions during the following processes: weed control, painting and depainting, corrosion control, fluid change out, degreasing and surface cleaning.

Water Pollution Control

Surrounded by the Pacific Ocean, Kailua Bay (Class “A” water rating), Kaneohe Bay (Class “AA” water rating) and Nuupia Ponds Wildlife Management Area, managing our potable and groundwater resources and the generation of wastewater and storm water is critical to our environmental stewardship efforts.

Wastewater and Storm Water Control. The MCBH Water Reclamation Facility (WRF) is considered one of the **best** in the state and has an **outstanding compliance record** with EPA and HDOH. Our WRF has consistently met and exceeded its monthly influent/effluent analyses required by our National Pollutant Discharge Elimination System (NPDES) permit (renewed in 2002). We continue to upgrade the WRF and implement process improvements to promote optimum efficiency. In accordance with our Storm Water NPDES permit renewal (2003), we completed a Storm Water Management Plan in-house; and continue to sample storm water at two locations, conduct semi-annual illicit connection surveys and facility inspections, promote best management practices (BMPs), and submit annual reports. In 2003, HDOH conducted a storm water compliance inspection and did not cite us for any violations.

Spill Prevention and Response. Transport and storage of fuel is critical to continued base operations and military readiness since a catastrophic oil or hazardous substance spill could bring negative community support, reduced base operations or even base closure. MCBH conducted annual Facility Response Team Training, Spill Management Team Training, and monthly spill equipment deployment drills with participation from the State, City and County, other federal agencies, the Coast Guard, and commercial members of Hawaii’s response preparedness 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**. We also updated our On-water Oil Spill Immediate Response Guide to identify protection strategies/resources at risk for extremely sensitive areas in and around Kaneohe Bay including area pictures, nautical charts, diagrams, and step-by-step directions for immediate responders. Protection strategies were verified by deploying equipment at these locations. MCBH completed a design and is ready to construct containment/retention structures at seven fueling areas near the flight line and marina to prevent spills from reaching Kaneohe Bay and to comply with 40 CFR 112 SPCC regulations. These areas have no containment systems in place, and are designed to quickly drain storm water to Kaneohe Bay; hence a spill would immediately flow into Kaneohe Bay. MCBH also updated its SPCC plan to accurately reflect its fuel storage facilities and to comply with new SPCC regulations.

Ground Water Protection. MCBH began an underground storage tank (UST) project to assess the type and extent of contamination remaining at 13 former UST sites at MCBH Kaneohe Bay and Camp Smith. MCBH developed comprehensive work plans, conducted soil and groundwater sampling, analyzed test results, and submitted final reports to HDOH. MCBH anticipates that “no further action required” will be granted at 8 of the sites, with the remaining sites requiring some combination of groundwater monitoring and soil remediation to ensure that surface and groundwater receptors are sufficiently protected. MCBH has requested additional funding via COMPTRAK to complete this project.

Water Conservation and Drinking Water Protection. On the densely populated island of Oahu, water conservation is critical to preserving limited drinking water supplies. For over 20 years, MCBH has conserved water by using WRF effluent for golf course irrigation (estimated 2002-2003 savings of 160M gallons or \$224,000). We purchase our potable water from the Honolulu Board of Water Supply, chlorinate and fluoridate it once it enters the base water system, and test for fecal coliform and tri-helomethanes at various HDOH approved locations. We conduct weekly fecal coliform counts and send monthly results to HDOH. We maintain an excellent record of compliance with Safe Drinking Water Regulations and distribute drinking water Consumer Confidence Reports to all Base residents.

Noise Pollution Control

MCBH establishes noise controls to protect base personnel, natural resources and the community. We schedule mission essential operations and training around critical nesting periods of local endangered species and actively work with the community to establish flight patterns and airfield operation schedules that both satisfy the community and support our mission. We follow a community notification plan for all short term training operations that may increase noise impact to the community.

Waste Management and Resource Recovery

Solid Waste Management. Marine Corps Base Hawaii **manages solid waste for the greatest overall benefit to the base** through recycling, landfill screening, material reuse, and waste diversion.

Reuse Room - Serves to redistribute materials that customers bring in for recycling or disposal. Customers may also select materials such as office supplies, hardware, toolboxes and cases, small appliances, and building materials at no cost, but must sign them out for official use only. Although not a significant source of diversion, the Reuse Room saves units about \$19K per year.

Recycling - MCBH successfully formed a cooperative partnership with other DOD recycling programs to use our recently purchased brass deformer to process all military shells. By doing so, DOD installations avoid investing in expensive equipment, providing deforming facilities, and training personnel. Currently MCBH keeps 25% of the revenues while other installations receive 75%. In FY02-03, MCBH Recycling Center processed **155,000 lbs. of Marine brass and 170,000 lbs. of Army brass to earn \$99,800** and ensure program sustainability despite poor market conditions on other recyclables. For FY02-03, MCBH generated \$186K in overall recycling revenues.

Furniture Donations - Bachelor enlisted quarters (BEQs) demolition and remodeling projects generate a great deal of waste. We researched alternatives, contacted several community organizations, and partnered with the State of Hawaii and DRMO to legally donate the furniture to local homeless shelters and qualifying organizations. The paperwork was fast-tracked prior to removal so that furniture could be picked up and loaded by the charities within a few days instead of weeks. In FY02 we donated 7 tons of furniture to charities, most of which would have ended up in the County landfill, earning the gratitude of many homeless shelters that provided their clients with beds for the first time.

Waste Screening and Diversion – Trash truck drivers inspect dumpsters headed for the base landfill and will not empty them until all wood, pallets, recyclables, hazardous wastes, and reusable items are removed. Truck drivers refer violators to the Recycling Center and hand out diversion information packets. Recycling Center personnel inspect all waste being self-hauled to the landfill to ensure that “forbidden” items are removed and then issue landfill passes. Crushed concrete, asphalt and coral continue to be stockpiled at the landfill resulting in considerable savings from disposal and material procurement cost avoidance. Debris from demolished buildings and BEQs are reused as base course and fill material during construction projects. We began diverting plastic waste (unsuitable for recycling) from the landfill to H-Power to be burned as fuel. Estimated annual diversion is 3,450 cubic feet.

Wood Management - Usable wood is screened from self-haul loads destined for the landfill and serves as a resource for command construction projects needed for deployments or to accommodate last-minute projects. Wood is available for both official and personal use and is very popular due to high local lumber costs. Unpainted wood that is too small for reuse is placed into firewood trailers that are towed to base beach campgrounds on the weekends. The remaining wood is ground into chip for trail dressing and weed abatement along fence lines to decrease herbicide use and mowing of pollen-laden weeds, resulting in cost and labor savings and fewer complaints from private property owners. This has diverted over 400 tons of wood from the base landfill. In addition, over 50% of the pallets are diverted - standard pallets are sold, non-marketable air cargo pallets are sent to DRMO for reuse, large pallets are used to ship metals, and non-standard pallets are made available to units for in-house transport.

Toxic and Hazardous Waste Management

Reduced Hazardous Waste (HW) Generation Through Improved Material Management - The MCBH commitment to effectively reduce environmental liability starts at the beginning of the process – eliminating or reducing the use of hazardous materials (HM). The Hazardous Material Consolidation Program (HCP) was implemented in October 1997 and has resulted in the consolidation of HM **basewide to improve HM inventory control and reduce operating costs.**

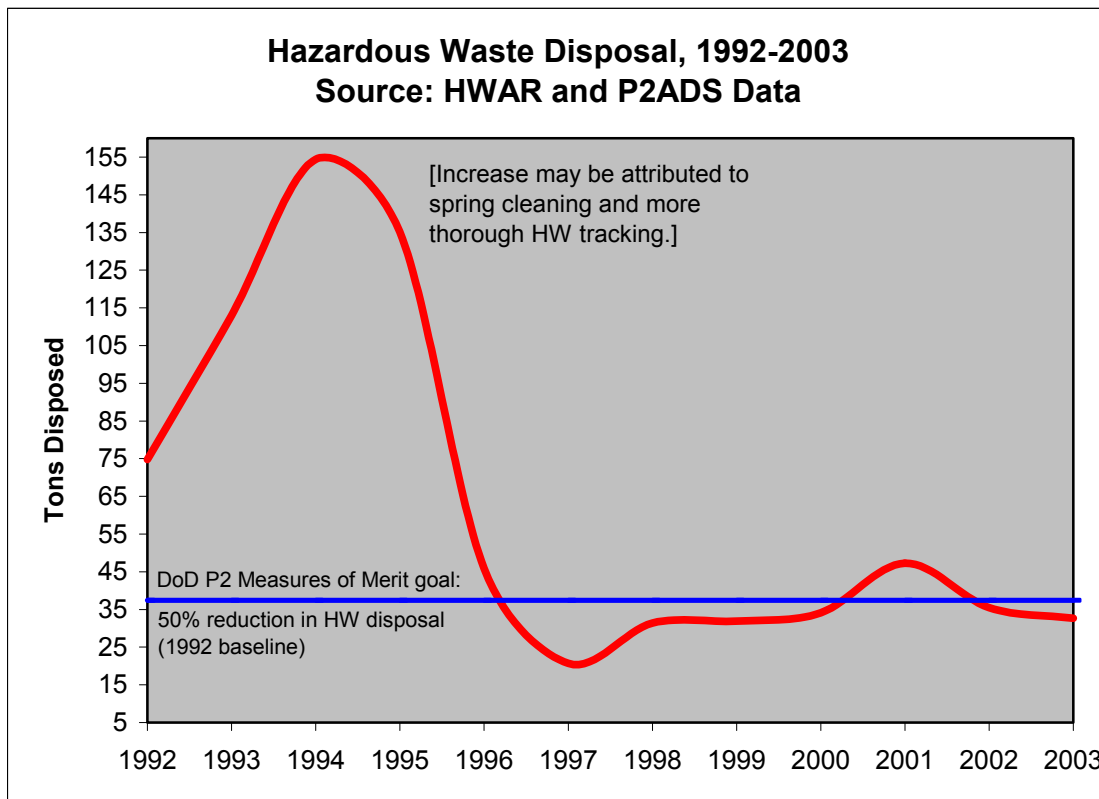
- *Requisitions are received, filled and delivered to work centers in less than two hours. Work center HM storage requirements have decreased by 45%.*
- *Commands can access operational funds previously tied up in excess inventory. Active-duty personnel now spend 85% less time managing HM. Consequently, more man-hours and money are available to accomplish mission-essential duties.*

During FY02-FY03, diverted over 72,000 pounds of HW from disposal, resulting in HM procurement and HW disposal cost avoidance of \$320K and man-hour savings of \$1.1M for a *total cost avoidance of \$1.4M in just two years*. Dramatic reductions in HM levels, HW generation, and labor costs demonstrate that pollution prevention efforts not only ensure environmental compliance, but also increase combat readiness through increased efficiency. MCBH is committed to enhancing our reputation for environmental stewardship, while providing responsive support to our nation's defense.

Reduced Waste Disposal Costs Through Pollution Prevention (P2) Initiatives – MCBH continues to have success developing/implementing initiatives that reduce labor, costs, and environmental liability.

P2 Initiative	Description	Annual Savings
Avoid Disposal While Recovering Energy	Use do-it-yourself HW exemption approved by State of Hawaii. 1) Replace used oil AST with oil eater boxes which will be sent to H-Power for energy recovery. 2) Send HW absorbents to H-Power	\$ 5,350
Reuse Downgraded Fuel	Drain water from downgraded fuel and reissue through the Fuel Farm.	\$ 4,600
Recycle Empty Containers	Recycle Empty Metal Hazardous Material (Paint, Oil, Aerosol) Containers Instead Of Disposing Them Through DRMO Contract.	\$ 2,700
Reclassify Batteries	Reclassify Dry-Cell Batteries as Non-Mercury Waste	\$ 13,245
Recycle Antifreeze	Use contractor to recycle on-site instead of sending out for DRMO disposal	\$ 17,918
Use Alto Lamps	Replace Hazardous Fluorescent Lamps with Phillips' Alto Lamps	\$ 17,000
Launder Shop Towels	Launder and reuse towels instead of purchasing and disposing	\$ 14,000
	Total Savings	\$ 74,813

**With These Combined HAZMAT AND P2 Efforts,
We Have Met Our Measure of Merit (MOM) Goal of 50% HW Reduction!!!**



Implemented HW Program Process Improvements

- Revised Satellite Accumulation Site (SAS) and BHWAS Waste Handler Protocol Sheets to provide a systematic, compliant approach to handling over 90 waste streams.

- In March 2003, privatized the operation of the HCP and the Base Hazardous Waste Accumulation (BHWAS) under a single consolidated level of effort, thereby **reducing operational costs by 15% or \$105K per year**. Contractor provides a consolidated, trained, flexible work force in hazardous material and hazardous waste operations. Contractor personnel are cross trained to work in both the HCP and BHWAS facility, as workload increases/decreases and to best support our customers.
- Replaced a cumbersome HW record keeping tracking system with a complex, user-friendly MS Access database to track hazardous waste generated on MCBH. The “BHWAS Database”, focusing on the regulatory and operational needs of the MCBH HW Program, has proven to be a success in providing valuable information in minutes, which once took days to gather.
- Increased SAS inspections to a monthly schedule.
- Increased communication between BHWAS Manager, Environmental Inspectors, and Pollution Prevention (P2) Team by instituting monthly meetings to discuss new Resource Conservation and Recover Act (RCRA) requirements, program improvements, base operations (i.e., units being deployed, turnover of personnel, etc.), P2 opportunities, and base wide environmental problems. Increased communication between Environmental personnel and Units by instituting quarterly meetings to convey environmental concerns, new regulations, and procedural changes in support of MCBH’s goal to be a good steward of the environment while supporting mission readiness.
- Improved the Environmental Awareness / Standard Operating Procedures (SOP) Course by streamlining classroom training and strengthening hazardous waste management subjects.

Pest Management

MCBH maintains a highly effective pest management program that is successful in minimizing economic, health, and environmental risks. Pesticide activities are predominantly managed by the Facilities Department and the Golf Course with Environmental Department oversight. We are in the process of revising our base Pest Management Plan to update pesticides inventory. We continue to use the AQUA HEAT weed control system for pest plant control as an alternative to chemical pesticides to reduce expenses, increase effectiveness, increase safety and reduce liability.

Environmental Research and Education

Programs to Enhance Environmental Ethics and Awareness. Our New Arrivals Orientations provide natural and cultural resource, pollution prevention, and compliance awareness. 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/Reuse Center efforts through base newspaper and local television. We have an active outreach program at our base school, Mokapu Elementary School, to enlist a new generation of diligent recyclers. On America Recycles Day 2002, we launched a four-week “Recycling Challenge” for our pre-school/kindergarten class that netted 182 pounds of aluminum cans. We brief regulatory, congressional and military VIPs, and incoming commanders. We took **2454** individuals from local community groups, state and federal dignitaries, educators and their students and special interest groups on natural and cultural resource tours to increase community awareness on the positive efforts we take to manage and steward our rich environment.

Environmental Research, Development, and Technology Demonstration Projects. MCBH partnered with the Naval Engineering Service Center, University of Hawaii, and State Department of Health (DOH) for the past five years to conduct an alternative landfill capping study at our active landfill to determine the most efficient (least water percolation) and cost efficient type of catchment/vegetative cover. Results were compared with the DOH modeling program, HELP-3, to assess model accuracy.

Community Involvement and Activities, and Affiliation With Civic and Local Organizations. We plan current/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 their students. Elementary school students studied Nuupia Ponds and constructed an award-winning international website. Two University scientists provided an in-water diving survey of near shore MCBH waters to investigate an outbreak of an invasive alien species of soft coral. Our natural resources Ph.D. served as a pro-bono adjunct faculty advisor to University natural resources/environmental management students. Sierra Club and Marines teamed up in wetland mangrove removal projects and Hawaiian Electric Company legal staff did a beach cleanup at MCTAB.

Cooperation With Federal, State, and 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 teamed with State Department of Land and Natural Resources and Hawaii National Guard to eradicate fast-growing *Salvinia molesta* weed that overtook Lake Wilson, an important inland water reservoir and recreational fishing/boating area. State DOH requested us to educate high school administrators/teachers in hazardous materials management in chemistry/photo labs, auto/agricultural shops, and custodial services. Our natural resources/wildlife technician is trained in Federal Conservation Enforcement and is a volunteer State Enforcement Officer.

Environmental Compliance Assessment and Management Program

Self-Assessments and Follow-Up. A March 2002 headquarters Environmental Compliance Evaluation of 38 media areas and 9,589 questions identified only six findings. We developed a Plan of Action and Milestones and resolutions are in-progress/completed. We completed an 8-month, in-house functionality assessment (FA) yielding 87 process improvements, 86 performance measures and a balanced scorecard.

Interaction With Regulators Regarding Inspections, Notices of Violation (NOVs), Agreements, Fines and Penalties, and Other Regulatory Actions. In 2003, State DOH and EPA conducted UST, Storm Water, Wastewater, and Air Compliance Inspections yielding no findings.

Long-term Budget and Planning For Full EMS Implementation and Sustainable Operations. Our annual budget averages \$4-5 million including operational expenses, TAD, training and compliance contracts that are funded through our operating budget, centralized management environmental projects (CMEP), and interservice support agreements. We identified our budget requirements through 2011 in POM06, updated funding needs each month and obligated funds promptly upon receipt. We began our EMS implementation with our in-depth FA and are on track to meeting our EMS timeline (see page 2).

Training Programs. In addition to our awareness training (page 9), 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 (CETEP) to ensure compliance with regulations and safety of personnel and natural resources. We host Civil Engineer Corps Officers School (CECOS) classes and other training: Spill Management Team/Incident Command System, Facility Response Team, Hazardous Substance Incident Response, HAZWOPPER, HW Facility Operations, DOT HM Transportation, Environmental Protection Courses, and many others.

CONCLUSION. MCBH strives to be a model steward of the naturally and culturally rich lands under its control while also **providing responsive support to operating forces** to enhance combat readiness, global power projection, and quality of life. With hard work, upfront planning, innovative strategies and effective partnering, MCBH has met aggressive goals to enhance mission readiness; maintain compliance at lower costs; effectively utilize land/water/air and financial resources; implement process improvements; resolve daily and emergent issues; and improve customer and community relations.

FY03 Secretary of Defense Environmental Award
Environmental Quality
Non-Industrial Installation
Accompanying Information

Per FY03 Secretary of Defense Environmental Security Awards Program guidance, the following is submitted:

1. Nominee Point of Contact

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2. Achievement Summary

Marine Corps Base Hawaii strives to be a model steward of the naturally and culturally rich lands under its control while also **providing responsive support to operating forces** to enhance combat readiness, global power projection, and quality of life. With hard work, upfront planning, innovative strategies and effective partnering, Marine Corps Base Hawaii has met aggressive goals to enhance mission readiness; maintain compliance at lower costs; effectively utilize land/water/air and financial resources; implement process improvements; resolve daily and emergent issues; and improve customer and community relations. **Achievements include:** Diverted over 72,000 pounds of hazardous waste from disposal resulting in hazardous material procurement/hazardous waste disposal cost avoidance and man-hour savings of \$1.4M; implemented P2 initiatives worth \$74K in annual projected savings, privatized HAZMIN and Hazardous Waste Facility operations under a single contract saving 15% or \$105K per year; reduced hazardous waste generation by 56.3% from 1992 to 2003 and by 30.9% from 2001 to 2003; awarded/completed \$2.5M worth of environmental design and construction projects; conducted mission required and environmentally compatible training activities (Marine Expeditionary Force exercises, small unit exercises, weapons and small arms training, and other training exercises).