November 2000
Volume 1, Issue 1

Hawaii Pollution Prevention Partnership

Inaugural issue

New partnership formed between Hawaii and DOD

Vision statement, mission statement and goals

Success stories

Vision Statement

Enhance environmental quality in Hawaii through pollution prevention

Mission Statement

Through a committed partnership between Department of Defense and State of Hawaii, promote pollution prevention by developing and implementing model initiatives, building trust and validating results that protect our unique island environmental while maintaining national defense and community well-being.

Goals

Improve information exchange
Better communication
P2 every day
Share ideas and work cooperatively
Foster working relationships
Develop qualitative and quantitative measurements
Support P2 markets

SUCCESS STORIES--MARINE CORPS:

STUDENTS HELP RESTORE WINDWARD WATERSHED.
The fourth grade class from Waimanalo Elementary School picked up hand tools and dug in the streamside at Bellows Air Force Station, May 10 to help replenish the ecosystem with native Hawaiian plants.

"For years, Puha stream and others like it were suffering from non-point pollution chemicals and debris running-off from various locations throughout the watershed," said Dr. Diane Drigot, Senior Natural Resources Management Specialist with the Marine Corps Environmental Compliance and Protection Department. "We as a community have to change our habits on how we handle our land. Forty to 60% of pollution to the environment is from run-off," she said.

This and other streams on Windward Oahu are part of the Ho'ola I Ka Aina (Restoring Health to the Land) watershed restoration project sponsored by Marine Corps Base Hawaii, a project that began in 1999 with the Mokapu Peninsula.

Students Help Restore Windward Watershed*—continued from Page 1*

"We are studying Hawaiian culture and learning about native plants while we help restore our streams," said Nalani Koch, fourth grade teacher, Waimanalo Elementary School.

The project fosters partnership action and communication with members of the community and volunteers from the U.S. Marine Corps, Air Force, Navy, and the Hawaii Army National Guard Environmental Office.

The plant donations were also a joint effort with generous donations of native seedlings from Waimanalo Nursery, Waimanalo Health Center; and the Hawaii Guard. The City and County of Honolulu donated the mulch used as ground cover for the seedlings and the U.S Air Force at Bellows donated the water. Drip irrigation equipment was purchased with USMC project funds.

"It's actually fun and good, it can help the world and environment, it helps both at the same time," said Curtis Mauliola-Eidman, fourth grade, Waimanalo Elementary school. "I like it because you get to learn about plants and experience it. Before I thought it was boring—then, when I started to plant it was more fun," he said. "My grandma has a garden and I used to help.

"We want to show a positive demonstration to get the community involved. It is important to us to work with the community to protect training areas we utilize and share something positive about the community," Drigot said.

An Army Air Guard reporter interviews Waimanalo Elementary students along the Waimanalo (Puba) Stream by the native plant streamside garden site.

Over 1,000 volunteers and students have been involved. For more information, visit EPA's website on National Watershed success stories at www.cleanwater.gov.

SUCCESS STORIES – MARINE CORPS

MARINE CORPS BASE HAWAII WINS ENVIRONMENTAL QUALITY AWARD. Marine Corps Base Hawaii was awarded the Fiscal Year 1999 Secretary of Defense Environmental Quality Award for Non-Industrial Installations, continuing its long history of environmental recognition. Major Mark A. Brennan, former director of the MCB Hawaii Environmental Department, stated: "This award recognizes the excellence of all the efforts of Marines, Sailors, and civilians to protect our resources while obeying environmental laws and regulations."

Brig. Gen. Ralph E. Parker, Jr., MCB Hawaii commanding general and Randall Hu, environmental engineer, accept the 1999 Secretary of Defense Environmental Quality Award for Non-Industrial Installations. They are accompanied by (from left to right) Ms. Sherri W. Goodman, Deputy Under Secretary of Defense (Environmental Security); The Honorable Jacques S. Gansler, Under Secretary of Defense for Acquisition, Technology & Logistics; The Honorable Robert Pirie, Jr., Assistant Secretary of the Navy for Installations & Environment; U. S. Senator Daniel K. Akaka, and Hawaii congressional staff members.

Marine Corps Base Hawaii also received the 1999 Secretary of the Navy Environmental Quality Award, was recognized as runners-up in the 1999 Secretary of the Navy Natural Resource Conservation Award, and received the 1998 Secretary of Defense Pollution Prevention Award.

"The talented men and women at the Base Environmental have earned this award through their initiative, tireless efforts, and dedication to the unique and important environmental assets aboard MCB Hawaii." said Brig. Gen. Ralph E. Parker Jr., the commanding general of MCB Hawaii. "But, those same devoted members of the Base Environmental Department would be the first to tell you they did not do this alone. Preservation of our environment is an all hands effort, not the responsibility of just a few, and this award recognizes the fact that aboard MCB Hawaii, we all take this responsibility seriously."

MARINE CORPS PROGRAM SUMMARY:
"We turn challenges into opportunities to excel"

Marine Corps Base Hawaii's mission includes maintaining facilities and providing services that support the 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 the

***MARINE CORPS PROGRAM SUMMARY**—continued from Page 3*

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.

Our challenge: We need to enhance military readiness for base and tenant activities while ensuring compliance with environmental regulations.

Our achievements: Used planning to ensure that resident and transient unit training activities remain environmentally compatible while fulfilling mission requirements. This enabled base, tenant, and visiting commands to conduct realistic training with minimal environmental impacts, including the following training exercises:

- Exercises to the Pohakaloa Training Area (PTA) by 3rd Marines Regiment.
- Small unit exercises at Bellows Air Force Station.
- Weekly weapons training at the Ulupau Weapons Range.
- Small arms training at the Pu'uloa Range Facility.
- SOC Sustainment Training for 11th, 13th, and 15th MEU elements.
- 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.
- RIMPAC exercises.

Reduced labor time for weapons cleaning weapons by over 50%, equating to of over 360,000 hours a year and payback in one day.

Weapons Cleaning At 3rd Marines Armory

MARINE CORPS PROGRAM SUMMARY*—continued from Page 4*

Provided a solution to prevent air release of chemical agent resistant coating (CARC) related contaminants (lead, cadmium, chromium and isocyanates) that gave Marine Corps Base Hawaii organizations the ability to perform preventative corrosion control on CARC-painted vehicles. This was crucial in extending vehicle life and will save us an estimated $440,000 annually.

Our challenge: We need to protect public health and the environment by eliminating or minimizing the volume and toxicity of hazardous substances and hazardous waste generated through improved hazardous material and hazardous waste management.

Our achievements: Since the inception of our hazardous material consolidation program in October 1997, we have dramatically reduced our hazardous materials inventory levels and hazardous waste generation.

Diverted over 135,000 pounds of hazardous waste resulting in savings of $596,000 in hazardous material procurement and hazardous waste disposal cost avoidance.

Reduced hazardous waste production in 1999 by 39.2% over what we generated in 1992.

Our improvements in response time and requisition fill rates have demonstrated our success in supporting Marines within combat-ready, operational conditions.

Our challenge: We need to improve our hazardous substance spill response time and efficiency.

Our achievements: Sponsored the first ever Marine Corps On-Scene Coordinators Course. This brought the best nationwide talent to teach state of the art spill response methods.

Conducted annual Spill Management Team Training exercises and quarterly spill equipment deployment drills. This included participation from the state and Coast Guard to enhance spill response readiness.

Developed an On-water Oil Spill Immediate Response Guide. This comprehensive guide identifies protection strategies and resources at risk for all of the sensitive areas located in Kaneohe Bay. Additionally, it provides step by step directions for the immediate responders. We are also developing the NOAA computer based planning tool, the Trajectory Analysis Planner (TAPII), to further enhance protection strategies.

Our challenge: Base facilities are aging with outdated equipment and features that can impact the environment and hamper mission readiness.

Our achievements: Coordinated Headquarters Marine Corps validation of four new projects. The 3rd Marines Motorpool project will improve stormwater controls by resurfacing parking

MARINE CORPS PROGRAM SUMMARY*—continued from Page 5*

areas and driveways to maintenance bays, grease racks, wash racks, and gas lanes and install 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.

Awarded nine project designs or studies totaling $695,000 and eight construction projects totaling $3.9 million. The fuel loading spill containment project will prevent spills from reaching waterways during critical fueling operations, enabling us to comply with spill prevention control and countermeasure regulations and "do the right thing" to protect our resources. The landfill drainage project will allow the landfill to continue to operate and save the base about $1 million in offsite landfill disposal and tipping fees. The hot water decentralization project will not only eliminate the spill potential of fuel being stored in unlined tanks and distributed via pipeline, but will also result in over $100, 000 in annual energy and labor savings.

Assault Amphibious Vehicle (AAV) Maintenance Area Improvements completed in 1999 included construction of a concrete approach from the entrance gate to the AAV rinse pad and maintenance pads; connection of the rinse pad to an oil water separator; and oil water separator modification. Not only has this eliminated offsite oil migration and reduced discharge of oil to the sewer, but these improvements have also reduced the time required for the activity to rinse or wash assault amphibious vehicles and to clean and maintain trench drains and the oil water separator.

SUCCESS STORIES--ARMY NATIONAL GUARD

HAWAII ARMY NATIONAL GUARD WINS NATURAL RESOURCES CONSERVATION AWARD. The Hawaii Army National Guard's Environmental Program received the Fiscal Year 1999 Secretary of Defense Award for Natural Resources Conservation in the "small installation" category. The Army National Guard's program is responsible for some of the most biologically diverse lands in the United States. Hawaii's program beat out all other military branches in its category this year, while garnering an unprecedented three national awards—including recogntion from the National Guard Bureau and Departmen to fthe Army. Hawaii Guard representative received the honor from the Secretary of Defense at an awards cerermony ate th Pentagon on April 26.

Secretary of the Army Louis Caldera had honored the Hawaii guard in January with his own Secretary of the Army Environmental Award. He recognized the Hawaii Guard for providing realistic military training on 34 sites throughout the Hawaiian islands, while protecting a wide variety of species and promoting sustainable practices in land use.

Maj. Gen. Robert L. Antwerp, the Army Chief of Staff for Installation Management, praised the Hawaii Guard for its achievement in both competitions, saying "The fact that the Hawaii Army

Army National Guard Wins Natural Resources Conservation—*continued from Page 6*

National Guard competed against the best people and organizations in the Department of Defense and captured the top award in its category exemplifies the National Guard Bureau's commitment to environmental stewardship."

The land managed by the Hawaii Guard contains at least 33 rare, threatened or endangered species and five distinct habitat types. Nearly 40 percent of all plants and animals on the endangered species list reside in Hawaii, many of which are not found anywhere else in the world. The Hawaii Guard is faced with the challenge of balancing the needs of its 3,100 members to achieve realistic military training while still protecting the sensitive ecosystems of the Hawaiian Islands.

Maj. Gen. Edward L. Correa, Jr., the adjutant general, Lt. Col. Kimo Bacon, and U.S. Senator Daniel L. Akaka (right) stand with Ms. Melissa Dumaran and Mr. Trae Menard (center) of the Hawaii Army National Guard Environmental Branch display the Secretary of Defense Environmental Security Award.

A panel of non-military and Army natural resources management experts, including representatives from The Nature Conservancy and the U.S. Fish and Wildlife Service, judged competitors for the Natural Conservation award.

In addition to outstanding program management, the Hawaii Army National Guard demonstrated technical expertise in support of military readiness, and community partnerships.

Army National Guard Wins Natural Resources Conservation—*continued from Page 8*

"The Hawaii Army National Guard has done an impressive job in fulfilling its military mission in an environmentally sensitive way. They deserve recognition for their efforts," said Don MacLauchlan of the International Association of Fish and Wildlife Agencies, who served on the judging panel.

One of the programs cited by the judges as exemplary was the Hawaii Guard's plant and animal species that are a major threats to the islands' endangered native species. The guard participates in a partnership with the Maui Invasive Species Committee, a group of 20 private, local, state and federal agencies working on invasive species issues.

The panel also commended the Hawaii Guard for its approach to natural resources management that addressed conservation issues throughout the ecosystem. This approach focused on habitat restoration and protection, and long-term ecosystem health. Where necessary, however, the guard has worked to restore specific species in extreme danger, recovering 11 rare or endangered plant species by erecting fences and performing selective weeding and seed collection.

"Kudos to the Hawaii Guard for the enthusiasm with which it deals with some of the richest biodiversity and some of the most challenging endangered species problems in the United States," one of the panel judges remarked.

SUCCESS STORIES--AIR FORCE

Recycling. The Hickam AFB recycling program is one of the Air Forces's best. The program won more than 11 awards over the last three year period, including "Investing in the Environment Award 2000" for *Island Business Magazine*, the "1999 Air Force Recycling Award for Pacific Air Forces", and the "2000 White House Closing the Circle Award". The program is frequently featured in newspaper and magazine articles and is also recognized by other bases as the example to follow. The program is promoted through various means including the Hickam's learning center, base newspaper, the Commander's TV channel, newsletters, flyers, poster contests, and tours.

Partnering. The Hickam AFB recycling director has initiated a partnering effort with the Navy and the City and County of Honolulu on green waste. The plan is to strike an agreement for disposal and composting at a location convenient to all parties on the island.

FASTCAP. Effectively using the Air Force's FASTCAP program to purchase a curbside recycling truck for $100,000, the Hickam AFB recycling program is enjoying benefits of this state of the art vehicle and paid back the cost in just 18 months.

Solid waste. During October, 2000, the Hickam AFB environmental flight, in cooperation with a local contractor and the Air Force Center for Environmental Excellence (AFCEE), performed a comprehensive site assistant visit identifying solid waste opportunity assessments at Air Force facilities on the islands of Oahu and Kauai. Research conducted with organizations such as the refuse division of the City and County of Honolulu has been inserted into the program. This will pay dividends by reducing solid waste disposal while increasing recycling volumes and revenue.

SUCCESS STORIES—NAVY

Fleet and Industrial Supply Center, Pearl Harbor, Hawaii. The Navy's Hazardous Material Minimization (HAZMIN) Center began operations in March 1994. The use and reissue of hazardous materials in a controlled and efficient manner produces large cost savings to the Navy. All hazardous materials are tracked from supply, use, and reuse via a computer and bar coding system. Since 1994, 17 Navy, Marine Corps and Coast Guard commands have been included in this system. There are eight HAZMIN centers in the region.

Building 229, HAZMIN Center

Over 850 work centers are participating, resulting in a significant reduction in the amount of hazardous material that each activity needs to stock. From 1994 through November 1999, there has been a waste disposal cost avoidance of $15,278,596, and procurement savings of $5,830,950. Seven hundred thirty-one thousand pounds of material were reused.

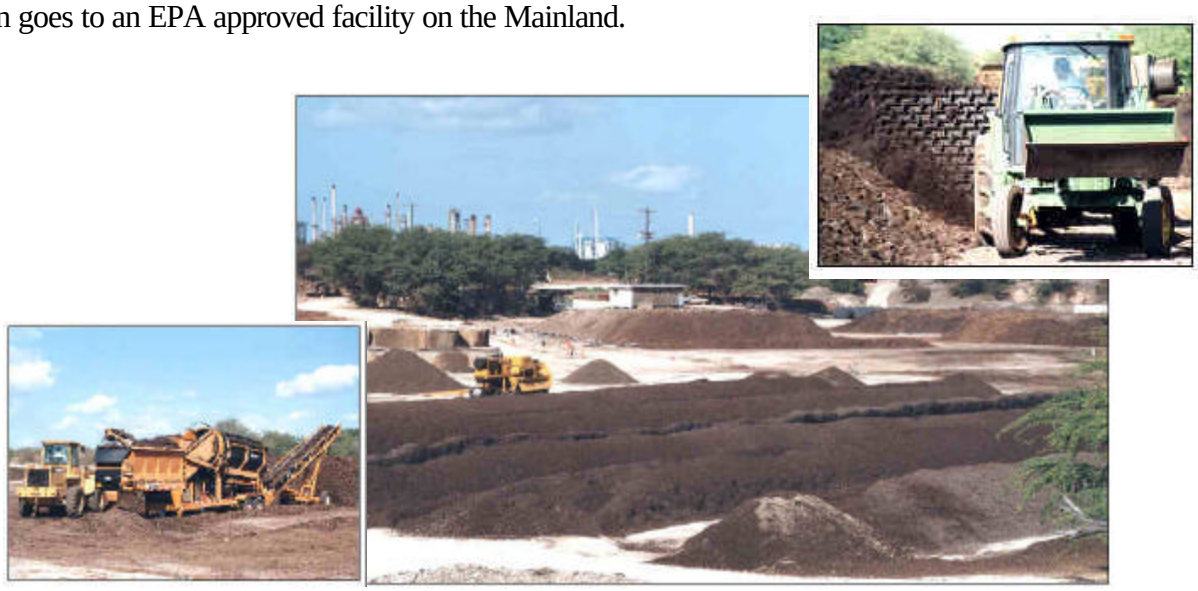
We also use recycled plastic fenders along one of our major piers at Pearl Harbor. This was done on a trial basis to promote the use of recyclable material in innovative ways to satisfy operational requirements. The success of this use of recyclable plastic is being evaluated over a long term on a life cycle basis.

Naval Station, Pearl Harbor, Hawaii. Our DOD Recycling Center recycles many different things including aluminum and tin cans, scrap aluminum, copper, wire, brass, zinc, lead, cardboard, computer and copier paper, glass, and plastic bottles. We receive recyclable materials from over 100 DOD customers throughout O'ahu. In the last two years, we have recycled over 4,000 tons annually. Since the inception of the program in the early 1990's, the recycling center has returned over $1 million back to participants of the recycling program.

Public Works Center, Pearl Harbor, Hawaii. The Navy's Fort Kamehameha wastewater treatment plant uses ultraviolet light instead of chlorine gas to disinfect the sewage. This process change has eliminated the need to operate twelve 2-ton cylinders of chlorine and about eight cylinders of sulfur dioxide at the plant, and reduced harmful chlorine by-products in the effluent.

Bilgewater Treatment Facility

The Bilgewater Treatment Facility annually receives 12 million gallons from ships berthed in Pearl Harbor. The treated bilgewater effluent goes to Fort Kamehameha Wastewater Treatment Plant. Oil that is extracted is taken to the Fleet and Industrial Supply Center's Waste Oil Reclamation Facility. Sludge from this facility is submitted to DRMO Hawaii as non-hazardous waste, which then goes to an EPA approved facility on the Mainland.



Biosolids Composting Facility. The Navy operates a biosolids composting facility at former NAS Barbers Point, Hawaii. This facility mixes digested sewage sludge with green waste to make compost. The Navy receives sludge from their Fort Kamehameha wastewater treatment plant, as well as other customers such as the Army and City and County. The Navy produces

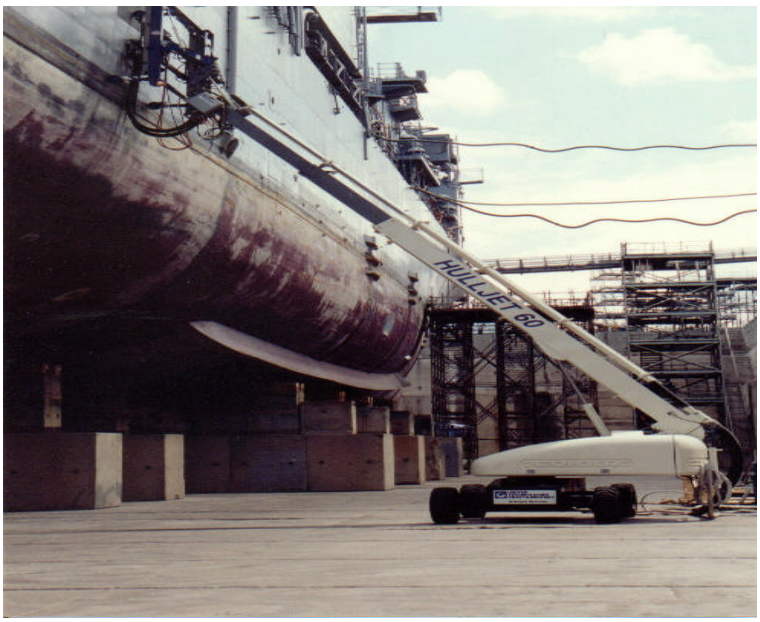
Public Works Center, Pearl Harbor, Hawaii—continued from Page 12

approximately 9.5 tons daily, which equates to approximately 2,600 tons per year. This facility has successfully processed 13,400 tons of biosolids and 50,000 cubic yards of green waste during two years of operation. The State of Hawaii has approved portions of the composted material for landscape reuse.

Oil Reclamation Landfarm

The Oil Reclamation Landfarm located, at former NAS Barbers Point, Hawaii, is used to treat petroleum-contaminated soil. The facility is used to treat non-hazardous petroleum waste from a variety of sources.

We have reduced the amount of hazardous waste generated from 203,361pounds to 110,098 pounds—a 46% reduction during the years of 1995-1997.



Pearl Harbor Naval Shipyard & Intermediate Maintenance Facility. Our plastic media blast (PMB) Booth and dry filter paint spray booth were officially dedicated in June 1999. The equipment and booth are used to remove surface coatings from masts and antennas.

The prepped components from the PMB booth are transferred to the paint spray booth for painting. The physical configuration of the booths maximizes the efficiency of

the blasting painting operations while preventing release of paint over spray into the environment. Previously, hand sanders were used to remove the paint. By hand sanding the masts and antennas it would have taken 472 work hours to complete these jobs. Plastic media blasting completed the jobs with 64 work hours—saving 408 work hours! Our projected annual savings are $100,000.

The Corrosion Control shop has two new large abrasive blast units, which restricts any pollutants from being released into the environment, increase maintenance capability, and eliminate environmental compliance costs, and exposure to liability. Cost savings and return on investment are projected at $200,000 annually.

Our Ultra High Pressure Water Jet System is mobile and self-contained to operate independently in the dry docks to remove paint and other coatings from surface ships. The system consists of a high-pressure water pump, a transporter, a recovery system, a manipulator with hand-held blasting tool, a recovery process trailer and a remote control unit. The system will recycle the water, filter out the removed coatings, and reduce wastewater discharge. Annual cost savings of $270,000 are realized by eliminating the containment and minimizing the volume of hydroblast water used. Total cost of the system was $2 million.

Using the WIWA Plural Component System generates less waste and reduces clean up times and the need for large amounts of cleanup solvents. The system keeps the two parts of the paint separate and mixes the paint at the manifold after the pump and just before the spray nozzle. Less waste is generated because of paint hardening because the two-part paint is catalyzed as close as possible to the painted surface. Total system cost was $100,000 and annual projected savings is $109,605. We have reduced waste generation by 26,744,730 and air emissions by 14,607 pounds from 1997 to 1998. Additionally, we have installed P2 equipment that includes, but is not limited to: Aqueous and enzyme parts washers; glycol recyclers; high pressure low volume paint spray guns; walk-in blast booths; powder coating spray booth; hand-held portable dry steam cleaner; cardboard balers and recycling containers.

SUCCESS STORY—ARMY

SCHOFIELD BARRACKS REMOVED FROM THE NATIONAL PRIORITIES LIST (NPL)

The Army has shown that the burdensome process established under the Comprehensive Environmental Restoration, Compensation and Liabilities Act (CERCLA) for cleanup of the country's most contaminated sites can be navigated effectively and efficiently. Schofield Barracks, on the island of Oahu, was removed from the National Priorities List (NPL) on August 10, 2000.

Schofield Barracks Packed Aeration TowersUsed for Removal of TCE

Schofield became the Army's 1st full installation to be taken off the NPL. Additionally, Schofield became only the 3rd Department of Defense installation and the 5th full federal facility to be taken off the NPL. This feat was accomplished with a combination of innovation, cooperation, and plain common sense. The unique approaches applied to this program resulted in savings of $15 million in investigative costs and over $100 million in cleanup cost avoidance. Some of the methods used to complete this project include: wellhead treatment of groundwater; use of a screening on-site laboratory; use of EPA's presumptive remedy for landfills; and use of innovative technologies to maximize the use of groundwater data.

Schofield Barracks was placed on the NPL in September 1990 because its drinking water supply source was contaminated by tricholorethylene. In September 1998, just eight years after NPL listing and only seven years after initial investigations began, the Army attained the EPA's construction complete milestone. This signifies completion of all its records of decision and all cleanup construction activities.