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Retired employee offers rare info

By CANDY WALTERS
HQ USACE Public Affairs

LITTLE ROCK, Ark. — One of the biggest challenges for U.S. Army Corps of Engineers employees working the Formerly Used Defense Sites program has been finding information about past Department of Defense activities and possible contamination at those properties.

Too often, records have been lost, deeds and titles misplaced, and people who once worked on the now closed installations have long disappeared. So when you stumble across someone who not only worked at one of the properties, but in fact helped clean up bombs and other types of munitions from many different properties, you might want to jump for joy.

Dwayne Ford, a FUDS project manager for the Corps' Fort Worth District, didn't exactly jump for joy when he came across 83-year-old retired Lt. Col. Dallas Lynch, but he did begin setting up a workshop. That's because Lynch, who retired from the Army in 1961, and then from the Little Rock District of the Corps as a civilian employee in 1985,

not only could list the former military installations where he helped clean the surface of bombs and munitions, he had pictures and other documents.

In a message to FUDS project managers across the Corps, Ford summed up the opportunity: "How often do you get to work with a decorated WWII veteran, an ordnance expert, a former Corps employee with 24 years of COE service, and an extremely entertaining gentleman who has first-hand information about FUDS OE [ordnance and explosives] sites across the country?"



Retired Lt. Col. Dallas Lynch pauses for a break during a conference to discuss the former military installations he helped clean of bombs and munitions during a long career as a soldier and civilian employee of the Corps of Engineers.

Photo by Candice Walters

To those participating in the Aug. 23–25 workshop here, Lynch lived up to his billing.

"It was well worth my time," said John Baden, a FUDS project manager in Wilmington District. "It's very hard to find someone who has that amount of information... [and] is still available to talk with.

"It was validation for me for some of the things that I thought happened at these sites to find out that they did," he said. "Colonel Lynch explained what the terms meant on documents that we found — that 'no digging' meant that the land was to be used for

forest or pasture."

Lynch sat at the head of the table, often referring to his faded file folders and a three-inch thick makeshift picture album of black and white photographs, held together with a rubber band. For three days he recounted the history of the 9800th Bomb and Shell Disposal Group, describing the group's typical operations and range clearance approach from 1952 through 1957 when he was with the unit. He showed his historical photographs, all dated with locations noted, and answered questions about the photos and the operations they depicted, giving dates, facts and figures.

"We did surface clearance only," Lynch said. "And when we were finished, we provided certification that everything that reasonably could be found was cleared. It was written on the deeds then that this land was cleared for surface use only."

Lynch said that the members of the group always felt that they did a "pretty good job" of clearing the land, but sometimes there were recalls. "We would get called back because someone might want to put

a road in, for right-of-way issues, and sometimes because erosion brought duds to the surface."

During his five and a half years with the 9800th, Lynch, accompanied by his wife and two children, criss-crossed the southern and western parts of the country, not only compiling detailed official records but also his unofficial photo album. "We would work in the forested areas in the fall and winter and in the desert in the spring and summer," he said.

And the work of clearing practice
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US Army Corps
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Environment

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Lt. Gen. Robert B. Flowers

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Greening the Government Through Leadership in Environmental Management

By **BRETT FRAZIER**
Huntsville Center

The Defense National Stockpile Center has successfully implemented an Environmental Safety and Occupational Health Management System via Huntsville Center contract to meet the requirements of EO 13148, "Greening the Government Through Leadership in Environmental Management."

The management system also met the certification requirements of the International Organization of Standardization 14001 and includes safety and occupational health requirements of the Occupational Health and Safety Assessment Series 18001 soon to be adopted by the ISO committee.

The Huntsville Center developed a statement of work based on preliminary input from DNSC. The DNSC chief of Environmental Management set a six-month schedule for implementation of the program. As the implementation progressed, three scope modifications were required to meet additional training and support needs. The final scope included training, coaching sessions, training support materials, website creation and support, training manual creation, and database development.

Personnel training included the

ESOH team, general employee training at each manned depot, on-site "coaching sessions" for internal and external audit preparation, and continuing education and support materials to maintain environmental management system awareness.

Huntsville Center conducted an internal audit of the management system at DNSC headquarters and four manned depots over a one-week period after two months of training in the system. Huntsville provided six ISO 14001-trained internal auditors to conduct the audit. The audit compared the management system to the guidelines of ISO 14001 and OHSAS 18001. The audit teams reviewed documentation, interviewed DNSC personnel, and evaluated the management system for intent, implementation, and effectiveness. The audit noted minor points of nonconformance and lack of observance in the implementation and effectiveness of the program and one major instance of nonconformance in the effectiveness of the training.

Due to the aggressive schedule, the awareness of the Environmental Safety and Occupational Health Management System by individual personnel had not "sunk in" before the audit. DNSC addressed nonconformance issues by continued training

and awareness, by the addition of undocumented procedures, and by bringing the management system website on-line.

The Stockpile Center wanted an Environmental Safety and Occupational Health Management System that could be ISO 14001-certified by an outside Restoration Advisory Board-certified auditor. The certification would provide validity to the program for DNSC personnel and stakeholders. To meet this goal, DNSC tasked two RAB-certified U.S. Army Center for Health Promotion and Preventive Medicine auditors to conduct an external audit at DNSC headquarters and at three manned depots to determine if the ESOHMS was in conformance with ISO 14001.

Lessons learned in the development of the environmental management system for DNSC include the following: develop a positive EMS team for efficient implementation; keep the program simple and build the EMS around existing effective programs; maintain focus; fast tracking maintains EMS implementation at a higher priority over other programs; provide sufficient time for personnel to adopt EMS into their work routines; and the contract should be adaptable to meet unforeseen tasks.

Chief of Engineers keynote speaker at Brownfields Conference

"Brownfields 2003: Growing a Greener America," the national brownfields conference Oct. 27-29 in Portland, Ore., is the place to be to learn how the involvement by the U.S. Army Corps of Engineers in the national brownfields program is helping to move the concept of sustainable development

The conference draws heavy participation from Corps stakeholders as federal partners share their ideas on how to support brownfields cleanup and land revitalization with states, communities, tribal governments, and grassroots organizations. This year, the conference is emphasizing revitalization in port communities (portfields).

U.S. Army Corps of Engineers Commander Lt. Gen. Robert B. Flowers will be one of the keynote speakers during the opening plenary session. Flowers, the 50th

Chief of Engineers, will join Marianne Lamont Horinko, Acting Administrator for the U.S. Environmental Protection Agency, in outlining how, during these times of budget constraints, the two agencies can work together in putting brownfields properties back into productive, sustainable use.

At last year's conference, Corps Deputy Commander Maj. Gen. Robert Griffin stressed the importance of paying attention to the critical role of water resources as brownfields are revitalized. He called these sites "treasures" that can be reclaimed by communities with the help of agencies such as EPA and the Corps working together.

Information on this year's conference can be found at www.Brownfields2003.org

Out of the box thinking earns recognition

By CLARE PERRY
Northwestern Division

When the planning team at Northwestern Division scrubbed contest rules and submitted an innovative proposal for integrating the Chief's Environmental Operating Principles into business plans and practices last winter, they didn't expect anything except early elimination.

Though the newly-announced Lt. Gen. Fredrick J. Clarke Award for Leadership in Environmental Sustainability was envisioned to acknowledge excellence in district and division Project and Program Management Plans, the NWD entry took an unorthodox approach by presenting a regional plan.

"Earning second place in the competition clearly signaled that good ideas are recognized, even when we do color outside the lines a bit," said Owen Mason, chief of Environmental Resources and team lead. Independent members

of the Chief's Environmental Advisory Board served as judges in the selection process.

"Our team decided early on that NWD and its districts would benefit more if we used a cross-functional, regional team to structure a policy guidance framework and strategy for incorporating EOPs into procedures across our region, rather than simply creating a number of separate PMPs," said Mason.

With the blessing of the Northwestern Division Command Council, team members sought district input and fashioned a regional strategic plan that not only institutionalized the EOPs as part of PMBP, but made them operational as well.

According to Mason, a three-page project management plan guided the team in creating the framework's 30-plus pages of overarching guidance on direction and standards for incorporating environmental sustainability into all future division and district PMPs.

"As we discovered in this effort, project management plans can be highly useful without being lengthy," Mason stated. "PMPs should be based on the intricacy of a given project and not a preconceived notion of complexity."

The NWD regional framework clearly outlines expectations that every project in its jurisdiction start with the EOPs in mind to maximize socio-economic and environmental benefits in the planning, design, construction, and operation of projects and services.

Though Mason anticipates there might be some pushback, compliance with the framework is simply not negotiable. Project managers will be asked at quarterly reviews to show progress made in integrating the EOPs, consulting with stakeholders and partners, and ensuring a flow of environmental benefits to their projects.

"This is a concerted effort to expedite cultural change and a shift

in attitudes and behavior," he said. "It's really a ticket to creativity because the framework doesn't spell out the *how* of getting to environmental sustainability."

Performance metrics to measure success will be developed over time with a desired end state that would include routine integration of EOPs into business practices, projects and the organizational culture as well as favorable recognition by the environmental community, public and stakeholders.

The team's four-step approach consisted of developing a framework, goals and objectives; modifying the framework based on district input; soliciting additional district comments; and packaging the framework and correspondent communications plan to expedite implementation by division and districts.

For more information or to obtain a copy of the draft framework, contact Northwest Division Public Affairs Office at (503) 808-3710.

New Web site offers information on old defense sites

People interested in learning more about Formerly Used Defense Sites where the U.S. Army Corps of Engineers is working now have a new tool.

On Oct. 1, the Corps unveiled a new World Wide Web Site that provides additional information on FUDS properties where the Corps is actively working or will take necessary cleanup actions.

The new site, m1.crrel.usace.army.mil/fuds, displays basic information, such as property name, location, past use by Department of Defense activities, a property description and an estimated cost for completing the work, on more than 1,500 Formerly Used Defense Sites properties.

The site also provides information on whether a Restoration Advisory Board is active at the property and a Corps District office phone number where the public can obtain more information.

"This is the culmination of a great deal of

work to get this information out to the public in a readily accessible way, taking advantage of the technology available to us today," said Robert Lubbert, Chief, U.S. Army Corps of Engineers Formerly Used Defense Sites Branch.

"It is important to us that the public knows and understands what we are doing at these properties, and can provide their thoughts on how best to clean up these properties," he said. "We have included a feedback loop on the Web Site so people can send us their questions and suggestions on how to make the site more useful to them."

The Web Site information is based on data the Department of Defense compiles each year for its *Defense Environmental Restoration Program Annual Report to Congress*. As that information is shared with Congress each year, the Corps will update the Web Site.

The Formerly Used Defense Sites Pro-

gram restores properties formerly owned by, leased to, or otherwise possessed by the United States and under the jurisdiction of the Secretary of Defense.

The Department of Defense is committed to protecting human health and the environment and improving public safety by cleaning up environmental contamination on properties formerly used for military purposes.

The Department of the Army is the Executive Agent for the program and the Corps is responsible for managing the program.

The program's scope and magnitude are significant, with more than 9,300 properties having been identified for potential inclusion, and more than 2,800 properties requiring cleanup.

Additional information on the Formerly Used Defense Sites Program can be found at: hq.environmental.usace.army.mil/programs/fuds/fuds.html.

Superfund site deemed real success

By JOANNE CASTAGNA
New York District

In 1996, a Hoboken, N.J. resident saw droplets of an odd substance falling from the ceiling onto the counter top in the apartment.

State health officials were notified and investigated the apartment complex. They discovered mercury, a human toxin, underneath the building's wooden floorboards, absorbed in the walls and mercury vapor in the air.

Urine tests given to the residents showed unacceptable levels of mercury in certain children living in the building. The 27,000 square foot building was proclaimed an imminent public health hazard.

The building was located at 722 Grand St. in Hudson County in a primarily residential community. Approximately 40,000 residents live within a one-mile radius of the building and a high school is located nearby. The structure includes a five-story building and an attached four-story brick townhouse.

From 1910 to 1965 the building served as a mercury manufacturing facility for General Electric. For 55 years the industrial building produced mercury vapor lamps and mercury connector switches. Mercury vapor lamps were popular in the early part of the 20th Century, often used as street lamps. The mercury vapor was enclosed in a glass bulb and gave off a particularly cold, harsh, blue-green colored light.

In the early to mid-1990's the five-story building was converted into 16 residential apartments and artists studios. After the mercury was discovered in the mid nineties, the United States Environmental Protection Agency investigated the building further and decided that the site needed to be remediated. The selected remedy included soil sampling, excavation, demolition of the building, and off site disposal of materials.

The EPA asked the New York District of the U.S. Army Corps of Engineers to supervise the clean up that was designed by General Electric's contractor, Blaslund, Bouck, and Lee, Inc. and carried out by BBL's contractor, Sabre Demolition, Inc. General Electric was required under administrative order to perform the remediation.

The Corps also assisted the EPA in evacu-

ating and relocating the 16 families and 20 businesses that occupied the area. The federal government bought out their property and they all were eventually provided permanent residence.

"Remediation of the building involved disassembling it by hand and demolishing the brick walls using jack hammers. The building's windows were removed and the brick surfaces beneath them inspected for mercury contamination. The floor was removed one bay at a time and inspected for mercury. The concrete slab and subsurface piping was removed and mercury contamination was removed from the surrounding soil," said Neil Ravensbergen, project engineer, New York District.

While remediation was taking place, measures were taken to protect the surrounding population from mercury contamination.

Measures included setting up an air handling system to filter out any mercury vapor; installing scaffolding and covering the building with shrink wrap to eliminate dust migration from the site; placing side walk closings, a perimeter fence, and concrete barriers around the site; monitoring the air for mercury, dust, and noise throughout the work day; and establishing a water treatment plant to process water that came in contact with mercury contaminated materials.

The non-hazardous solid waste and asbestos containing material that was removed during remediation was sent to waste management facilities in New Jersey and Pennsylvania and mercury-containing debris was shipped to hazardous waste landfills in New York and Alabama. Elemental mercury was recycled.

"So far the project has been successful. The

residents are happy and we have made significant progress on the remediation of the site and restoration is imminent. We are continuing to sample and remediate the soil at the site and in neighboring yards. The project is estimated to be completed by Spring 2004," said Ravensbergen.

Corps employees said the project's success is due to the teamwork between the various agencies.

"As a team we developed an understanding of each others' concerns and needs and worked together with the EPA and GE to resolve issues and manage the work and provide a safe work environment," said Ravensbergen.

The EPA agrees. "I think our working relationship has been excellent. The Corps' staff, when reporting problems to me, always suggests technically feasible and sound solutions," said Jon Gorin, remedial project manager, U.S. EPA Region II.

"Also, over the years, I've found that the engineers from the Corps have a good sense of when an issue is important, and when it is something relatively minor," he said. "I've not always found that to be the case when working with oversight staff from private firms."

"I have worked at several superfund sites and this has been a real success in terms of removing a serious health hazard to the public," said Ravensbergen. "Not only was this building not structurally sound, but the mercury contamination was overwhelming and truly a health hazard to anyone on or around it."

"It's a shame to lose a piece of history but it was a benefit to the overall environment," he said.



Employees of Sabre Demolition, Inc. demolish a mercury-contaminated building under the supervision of New York District engineers.

U.S. Army photo

Davis Pond cuts help water flow

By ERIC LINCOLN
New Orleans District

Two ongoing projects at Davis Pond will help to provide freshwater and nutrients from the Mississippi River to the Barataria Basin.

Since the project opened in August of last year, a maximum daily flow of 1,000 cubic feet per second could have been diverted.

But this occurred for less than 100 days from August 2002 through May 2003, or about one third of the time.

One reason is that water on its way to the Gulf should have been flowing over the top of a rock weir separating the Ponding Area from Lake Cataouatche. Instead, a special type of marsh prevented this from happening the way it was planned.

“Our initial investigations and borings didn’t indicate there was a floatant marsh right behind the shoreline,” explained Jack Fredine, project manager. “If the marsh were attached to the ground, water would flow over the marsh, over the weir and into the lake.

“But instead of staying in place, the marsh floats up as the water is introduced, and the weir acts like a dam. The whole area gets bottled up and the water level rises, sometimes up to a foot-and-a-half above the lake stage.”

In particular, the higher water levels endanger about 2,200 acres of bottomland hardwood trees and wooded swamp on the western side of the Ponding Area, which need a dry period during the summer and fall to survive.

The 9,300-foot-long rock weir still protects and stabilizes the Ponding Area’s shoreline as it was meant to do. But to get water out of the Ponding Area, seven 40-foot-long cuts in the weir will be made to let water out more efficiently.

New mats filled with rock will be placed in the cuts so that the weir will still be intact, but two feet lower. All together, about 300 feet of the weir will be lowered.

Also, polyvinyl chloride, or PVC, sheet piling is being placed on the West Guide Levee of the Ponding Area, well south of the Willowdale Subdivision, to reinforce the levee and provide a seepage cutoff wall along

some areas built on soft marsh.

A seepage cut wall prevents groundwater from moving underneath one side of the levee to the other.

“We expected the levee to subside since it’s built in a soft marshy area,” Fredine explained. “The vinyl sheet piling will help make up the difference in height until we can retop the levee.”

About 1,200 feet of the piling has been placed so far, with another 1,200 feet to go.

“The work’s pretty easy because the levee is soft. Instead of pile-driving operations, you just push the piling into the levee with the bucket of a backhoe,” Fredine said.

The PVC sheet piling was a practical design recommendation from T. Wade Wright, technical manager in Levees Section, who has investigated the design issues and worked with it before.

“PVC is tremendously easier to use,” said Fredine. “It’s lightweight and low cost, and it’s non-corrosive. Two men can offload and handle it instead of a crane.

“In that area of Davis Pond where there’s no adjacent development, we can use it to protect the levee until we can rebuild it. It’s a mechanism to keep the high water from the diversion from overtopping the levee.”

“The use of steel sheet piling will always be there for high-strength requirements, but I think there will be more applications for PVC sheet piling in the future,” Wright said. “It’s not a substitute for steel, but it does have tremendous applications in some of our projects.”

Davis Pond has become an area of national and international interest since it opened. A Dutch delegation toured the site recently, and two Nigerian groups and two Bangladeshi groups have been there in the past two years. A German radio show will discuss the project, and there was an article in *Civil Engineering* magazine and programs on PBS and National Public Radio.

“Land loss isn’t only a problem in Louisiana,” said Fredine, “but we have a lot more experience with it than most folks.”



Cuts through the rock weir at Davis Pond will help drain water out of the Ponding Area and prevent harm to about 2,200 acres of hardwood trees and wooded swamp. A floatant marsh has prevented water from draining as it should.

U.S. Army photo

Corps study proposes ice control structure

By **TIMOTHY DUGAN**
New England District

The U.S. Army Corps of Engineers has conducted a feasibility investigation under Section 205 of the Flood Control Act to investigate flood damage control alternatives for the Salmon River near the Leesville Dam in the town of East Haddam, Conn.

“The study for a flood damage control project was conducted to examine solutions to ice-jam related flooding at properties and other infrastructure near the Leesville Dam in the town of East Haddam,” said Study Manager Raimo Liias.

Ice jams form when the ice sheet on the Salmon River breaks up during a sudden increase in discharge caused by runoff from snowmelt and rainfall.

The broken ice is transported downstream until the transport capacity of the river is exceeded and the ice stops, forming a jam that progresses back upstream. The stopping point is usually near the Route 151 Bridge that is located about one quarter mile downstream of the Leesville Dam in East Haddam.

“Flooding causes damage to residential properties, highways, the Route 151 Bridge and its appurtenant structures,” Liias said.

The study has been completed to identify and evaluate alternative plans that would reduce or eliminate these damages. The Corps accepted public comments on this proposed project until July 6, 2003.

“The recommended federal cost-shared plan is the construction of an ice control structure upstream of the Leesville Dam,” Liias said. In addition, a separate non-federal, state-sponsored sediment detention basin to complement the ice control structure has been proposed to be located im-



Photo by Scott Michalak

The Leesville Dam on the Salmon River in East Haddam, Conn.

mediately upstream of the ice control structure. The state-sponsored sediment detention basin is not a required element for controlling ice jams and reducing flooding, thus it is evaluated as an add-on component for the cost shared project.

“The proposed ice control structure consists of a series of concrete piers and an accompanying flow relief channel using a natural flow area on the eastern bank of the dam impoundment,” Liias said.

The preliminary design proposal has nine concrete monoliths, spanning the main channel, with a center-to-center spacing of 14 feet and a gap width of 12 feet.

The piers are each 10 feet long stream-wise, 15-18 feet high and two feet thick. Accompanying the monoliths is a series of 23 large natural boulders (4-to-5 feet in diameter) aligned along the crest of an existing gravel bar that extends for 70 feet just upstream of the dam.

These boulders will serve to

capture smaller pieces of ice and maintain flow through a natural relief channel along the eastern bank just above the impoundment.

The sediment basin is to be excavated just west of the gravel bar that is to be lined with the 23 natural boulders.

It is anticipated that as much as 21,000 cubic yards of sandy sediment will be removed from the river bottom to a depth where more lithified substrate is present.

The depth of this substrate varies from about one to 10 feet in the area of the dam and proposed ice control piers and boulders.

The material removed will be disposed of at an old sandpit site, Echo Farms, located about three miles south of the project site in Haddam.

“It is the most technically and economically feasible, environmentally and culturally acceptable project for flood damage control near the Leesville Dam on the Salmon River,” Liias said.

The plan was developed with consideration of the overall public interest, including engineering and economic feasibility, and environmental, cultural and social effects.

It is the best implementable alternative to meet the objectives of the investigation.

An Environmental Assessment and Finding of No Significant Impact has been prepared for the flood damage control project. Impacts to the area are expected to be minor and temporary.

Construction work will be done during low flow periods when there are no active spawning activities and minimal risk of peak flows.

No impacts to threatened, endangered, or rare species are expected; and no cultural resource impacts have been identified in the project area.

The proposed work is being coordinated with federal, state and local agencies.

For more information contact the New England District Public Affairs Office at (978) 318-8264.

Division hosts award-winning sustainability network

By **CLARE PERRY**
Northwestern Division

Their dream of greening the government is barely three years old. But last month, they flew to the head of the line by earning the 2003 White House "Closing the Circle" Award for education and outreach.

The Federal Network of Sustainability was born on Earth Day 2000 as an interagency effort to promote environmentally friendly purchases and practices.

Geographically, its members come from the western regional offices of a wide array of federal agencies.

The National Park Service, Bonneville Power Administration, Navy, Air Force, General Services Administration, Federal Energy Management Program, Environmental Protection Adminis-

tration, NASA, Department of Energy, and the Corps are members of the team.

Among the 24 high-level signatories is the Washington D.C.-based Office of the Federal Environmental Executive. An effort to develop a similar networking group on the East Coast is currently underway.

The FNS enthusiastically embraces the mission of sustainability and a philosophy of leading by example. They eagerly share critical tools, tips and training with one another to improve compliance and performance in the federal sector and within their respective agencies.

Their five key initiatives are green "renewable" energy, green "sustainable" buildings, green paper products, environmental management systems, and electronics products stewardship.

Recently, the FNS converged on

the Corps' Northwestern Division headquarters in Portland to discuss progress, funding, and the launch of a pilot study challenging federal agencies to confront and deal with the burgeoning electronics waste stream.

Federal agencies, or departments within agencies, can be a part of the pilot study and eligible for White House recognition before it is rolled out as a national program in 2004. The Department of Defense is a sponsor of the Federal Electronics Challenge.

A sustainable business model requires top-down commitment and the involvement of internal employees and stakeholders alike to provide substantial and lasting economic, social and environmental benefits.

The initiatives promoted by the FNS clearly complement and mesh with the Chief of Engineer's Envi-

ronmental Operating Principles to consider environmental consequences of Corps programs, mitigate impacts to the environment, and share knowledge in support of greater understanding of the environment and the impacts of our work.

Laura Kemp, NWD participant and FNS conference organizer, characterized the interagency network as a "grass roots effort at the heart of a federal commitment to sustainability."

More importantly, it presents an opportunity for accelerating an organizational shift towards more sustainable practices—a natural role for an agency concerned about its environmental footprint.

"Our customers, stakeholders and publics watch us every day—our practices must be consistent with our values and principles," said Kemp.

New guidance to reduce demolition waste by recycling

By **TOM NAPIER**
Engineer Research and Development Center

A newly published Public Works Technical Bulletin provides guidance for recovering, reusing, and recycling building materials typically disposed of as demolition waste.

PWTB 200-1-23, "Guidance for the Reduction of Demolition Waste Through Reuse and Recycling," will help Army installations implement practices to reduce the amount of demolition debris generated by removing surplus buildings.

The PWTB outlines procedural guidance and supporting documents for removing surplus buildings, while greatly reducing the debris deposited in installations' landfills or hauled to off-site landfills. Building deconstruction (the disassembly of a building for the purposes of recovering components and materials for reuse), salvage, and recycling methods are addressed.

It is important to note that no single strategy for waste diversion is applicable to all buildings, construction types, and locations. For

this reason, several methods are described to address a range of project-specific conditions.

PWTB 420-49-32, "Selection of Methods for the Reduction, Reuse, and Recycling of Demolition Waste," provides guidance on evaluating specific project conditions and assessing the feasibility of deconstruction, reuse, and recycling methods.

Construction and demolition debris accounts for up to 80 percent of some installations' solid waste streams. This situation is most critical where an installation is removing large numbers of World War II-era wood buildings and where new construction programs require the demolition of existing facilities. Alternatives to conventional demolition and landfilling have proven that more than 75 percent of debris can be diverted from landfilling.

The new PWTB describes procedures for incorporating deconstruction, salvage, and recycling practices into building removal projects



Tom Napier

with the objectives of reducing landfill burdens and making better use of the resources available in surplus buildings. Five general strategies are described along with variations in each. The document provides sample deconstruction specification provisions, examples of solicitations to bid or auction surplus buildings, and a model Request for Proposal

for removing buildings. It includes cost-related information for deconstructing wood-frame buildings.

The bulletin will be posted on TECHINFO at www.hnd.usace.army.mil.

Malcolm McLeod at HQ USACE Environmental Division was technical proponent for this work. Napier is a researcher at the Engineer Research and Development Center's Construction Engineering Research Lab in Champaign, Ill.

For more information contact the ERDC's Public Affairs Office at (601) 634-2504.



Two soldiers dig up an M-38 mortar round at Kirtland Air Force Base, N.M.



Corps of Engineers soldiers remove topsoil at Benicia Arsenal, Calif., in 1956.



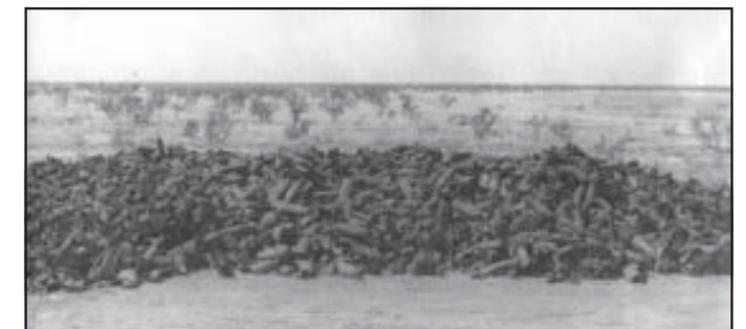
Two Corps soldiers remove ordnance during Operation De-dud in 1956 near Midland, Texas.



A Corps employee examines unidentified ordnance in the Texas desert.



Two 60-mm mortar rounds are discovered at Camp Croft, N.C.



14,000 pieces of unexploded ordnance totaling 90 tons are piled up in the Texas desert awaiting destruction.

Bombs away

Continued from Page 1

ranges was dangerous. Although most of the bombs cleared were duds, the team occasionally encountered live rounds. “We taught safety every day,” Lynch said. “We had a scrap pile where we taught everyone to recognize a thousand different shells, fuses, etc., all in various stages of destruction.”

And when you’re dealing with areas where the group recovered 35 tons a week, that’s a lot of munitions. “At Midland, Texas, they were bombed worse than Berlin and didn’t even know it,” Lynch said.

On most ranges, which normally encompassed 1,200 acres, the group would encounter 5,000 to 10,000 bombs per range. On one range, though, the team found 20,000 bombs – that was the record, Lynch said. In most cases, the group relied on pretty basic tools to aid them in their work – axes, shovels, a pick-mattock, and a tool they invented themselves, called “Henry,” a steel pick with a six-foot handle to pro-

vide extra leverage. They would pile up the practice bombs or sometimes throw them in the back of one of their trucks.

“We never buried any (munitions), but we sure dug up a lot,” Lynch said. “Most of the ranges had a two percent dud ratio, but lots of places it was five percent or higher. Southwest Proving Ground (Arkansas) had a higher percentage than other bombing ranges, and I don’t know why.”

Ford called the material and memories Lynch provided “truly invaluable. Records, if we find them, can be misleading or there can be huge holes in the data. Many times we’ll find that the sites may never have been used as ranges, it was just on paper. So getting information from someone who was actually there, you can’t put a price on it. He identified a number of ranges that we had no record of and didn’t know existed until we saw his photographs.

“We would love to locate other

members of the 9800th or the other disposal groups. We have big gaps and there may be people out there who were on similar teams. We believe they have information that would be of value to us and help us save lives,” he said.

“Time is an issue – these people are not going to be with us forever. Plus we’re racing the clock at a number of these sites as property is being developed on sites where we know there may be ordnance – it’s dangerous and risky,” Ford said.

And although it was risky more than 50 years ago, it was a risk that Lynch was willing to take. “I’m satisfied in knowing that we cleared the land and made it safe enough for people to use,” he said.

And FUDS project managers were happy to find someone who could provide the historical information so critical to knowing what happened on these ranges, even if Lynch modestly said he was “drawing on the echoes of his memory.”

Those “echoes of his memory”

will have some far-reaching effects beyond the FUDS program as well. Baden explained that Lynch gave him details about cleanup work and ranges that are part of the former Camp MacKall in North Carolina. Part of that property is in the FUDS program as it has been turned over for use as a 4-H Camp and as games land for the state of North Carolina. Other parts still are used by the Army as a maneuver area for soldiers based at Fort Bragg. “He spent nine months there so he had lots of information, information that I can pass on to the Installation Restoration Program at Fort Bragg so they can get some use out of it,” Baden said.

Ford said that anyone who worked on these ranges or help clear them should contact the nearest Corps of Engineers district public affairs office. “They’ll put you in contact with the FUDS program manager, and we’ll go from there,” he said.



Two Corps employees travel by donkey through the California-Arizona Maneuver Area in 1956 while performing range clearance operations.

Photos by Dallas Lynch

New England District, contractor celebrate landfill project completion

By ANN MARIE HARVIE
New England District

Representatives of the New England District joined their contractor, Shaw Environmental and Infrastructure, Inc. (formerly Stone and Webster Environmental Technology and Services), and subcontractors, Maxymillian Technologies and Greenscape, Inc. in celebrating the completion of the Devens Consolidation Landfill project with a cookout at the project site, June 20.

More than 60 people attended. Project Manager Randy Godfrey welcomed participants, and thanked the contractor and subcontractors for their work on the project and for hosting the cookout.

Col. Thomas Koning, District Engineer, said that the completion of the landfill was the largest Base Realignment and Closure environmental remediation project completed on Devens to date.

“Completion of this \$25 million project is a very significant accomplishment,” he said. “Headquarters has reported this project to Congress as a significant BRAC success story.”

The District Engineer also mentioned the partnership between the Corps and the state and federal agencies.

“The successful completion of this project exemplifies a win-win partnership and cooperative teamwork among the Environmental Protection Agency, the Massa-

chusetts Department of Environmental Protection, MassDevelopment, the public and the Army, and allowed all stakeholders concerned to be satisfied,” he said.

MassDevelopment, legally known as the Massachusetts Development and Finance Agency, is the Local Reuse Authority for the Devens property transferred by the Army.

The colonel concluded his remarks by praising everyone involved for their hard work.

“Your extraordinary efforts are highly commendable for meeting the Army goals and mission of the BRAC environmental restoration program,” he said.

Other speakers who made presentations during the cookout were Jim Ohnigian, Project Manager, Shaw E&I, Inc.; Mike Rose, Site Superintendent, Stone & Webster, Inc., A Shaw Group Company; Carol Keating, Remedial Project Manager from EPA; and Bud Taylor, former Corps Project Manager.

Construction on this \$25 million project began in September 2000 and was substantially completed on time in December 2002. The 15-acre, 335,000 cubic yard landfill, combined the waste debris of six smaller landfills that were scattered around the former Fort Devens.

Work included segregating out of the waste stream 100,000 cubic yards of recyclable waste debris, such as wood, tires, steel and concrete.

This permitted room in the landfill for

the disposal of pesticide-contaminated materials from another ongoing BRAC project and for the disposal of other miscellaneous BRAC and state-generated contaminated soil requiring disposal; a cost savings of about \$3 million to the BRAC program.

The remediation of the six former landfills sites assisted with MassDevelopment’s redevelopment plans and also showed support to the ongoing public efforts to improve river and groundwater quality.

Construction of the landfill was accomplished by the Corps’ cost-plus remedial action contract with Shaw E&I, Inc. The contract vehicle was appropriate, given that despite the substantial quantity overruns, scope changes and legal disagreements encountered along the way, the project was completed on time and under budget, the cost per cubic yard excavated was lower than budgeted.

The New England District team members responsible for the successful completion of the landfill are Bob Davis, Joanne Ellis, Christine Johnson, Michelle Kewer, Choudary Choday, Bill Saner, Kerry Leblanc, Sheila Winston-Vincuilla, Dennis Long, Molly McCabe, John McDowell, Scott Michalak, Gary Morin, Randy Godfrey, Jim Morocco, Mike Penko, Joe Redlinger, Ruth Tanner, Dave Margolis, and Richard Vigeant.

For more information contact the New England District Public Affairs Office at (978) 318-8264.



Before and after photos of the Devens Consolidation Landfill, a Base Realignment and Closure project in Massachusetts.

U.S. Army photos

State, district restore sites together

By **KAREN SPRAYBERRY**
S.C. Department of Health and Environmental Control

South Carolina Department of Health and Environmental Control and the United States Army Corps of Engineers have signed an agreement to work together to restore South Carolina's formerly used defense sites.

Lewis Shaw, deputy commissioner of Environmental Quality Control, and Lt. Col. Pete W. Mueller, former Charleston Dis-

trict Engineer, signed a Management Action Plan on July 1. It is the first MAP signed between a state agency and the Corps in EPA-Region IV.

"This is a major milestone. I am excited and appreciative of the hard work of staff from both agencies in working to develop this partnership," said Shaw.

A team from DHEC's Division of Site Assessment and Remediation and the Corps will begin meeting this fall to begin the process of restoring For-

merly Used Defense Sites for reuse.

The South Carolina MAP Team will prioritize the FUDS, then develop, implement, monitor and coordinate appropriate response actions in accordance with federal and state hazardous waste laws.

Other goals of the team include involving regulators and stakeholders in the planning, decision-making and cleanup processes for all FUDS, and to design a document that will accu-

rately portray the status of the FUDS.

"We are proud of this partnership, and we hope that the other states within EPA-Region IV will follow South Carolina by signing a MAP," said Mueller. "It is our agency's intention to assist state governments and the EPA in revitalizing and making these sites available for reuse in the near future."

For more information contact the Charleston District Public Affairs Office at (843) 329-8123.

Navigation association plans annual meeting

Make plans now to attend the U.S. Section Permanent International Association of Navigation Congresses Conference Oct. 28- 30 in Portland, Ore.

An Annual Meeting, a Roundtable on Hazard Risk Management for Ports and Harbors, and Technical Workshops on Wetlands Restoration and Passing Vessel Issues are scheduled.

The conference will be held at the Portland Downtown Marriott

Hotel, on the west bank of the Willamette River. Hotel reservations need to be made by Oct. 6. The Port of Portland will sponsor an evening boat trip on the Willamette River on Oct. 28.

A preliminary program and registration form is available www.iwr.usace.army.mil/PIANC.

Corps of Engineers employees are considered to be PIANC members for the purposes of the registration.

Environmental risk communication training, tools available to Corps

By **ANITA K. MEYER**
Omaha District

"Your site is maiming our children!"

Sometimes walking into a public meeting can feel like entering a lion's den. In these situations an unsuspecting member of an environmental remediation project delivery team may be confronted with very difficult issues; situations they have not planned or been trained to handle.

The first stop for help should be your Public Affairs Office. To supplement PAO's assistance, De-

partment of Defense training is available in environmental risk communication at no tuition cost. Risk communication teaches valuable skills for communicating in high concern-low trust situations and train students to develop project specific risk communication plans.

A course titled "Health & Environmental Risk Communication Workshop" is offered through the Navy Civil Engineer Corps Officer School and is approved for use by all DoD components by the Interservice Environmental Education Review Board. Course infor-

Validated environmental laboratories list now on Internet

The list of environmental laboratories validated by the U.S. Army Corps of Engineers Hazardous, Toxic and Radioactive Waste Center of Expertise is now available online.

The USACE Laboratory Validation Program is available at: www.environmental.usace.army.mil/info/technical/chem/chemval/chemval.html.

There are several bulleted items on this web page including one with a link to the List of Validated Laboratories. The list is available only to USACE personnel since it is located on the USACE intranet.

The list is presented in a table. Each entry gives the name and address of the laboratory, telephone number, point-of-contact, and the validation expiration date. Each entry also contains a link to the validation letter that was sent to the laboratory. This letter gives the parameters for which the laboratory is validated.

The list may be useful for identifying environmental laboratories that are already validated for potential use on your project.

The list and the linked validation letters will be updated on a regular basis. For current information about a laboratory contact Laboratory Validation at Laboratory.Validation@usace.army.mil or (402) 697-2574.

A bulleted item with a link to the form used to request validation for a laboratory is also on the Laboratory Validation Program page.

mation and scheduled sessions may be accessed at www.cecos.navy.mil.

Training in risk communication is also available from the U.S. Army Center for Health Promotion and Preventive Medicine. USACHPPM offers both introductory and advanced training in environmental risk communication. Information on these courses may be accessed at

usachppm.apgea.army.mil.

The website also includes risk communication tools, such as fact sheets, a communication strategy template and a variety of checklists including stakeholder identification and preparing for a public meeting.

For more information contact the Omaha District Public Affairs Office at (402) 221-3913.

Eagle makes Corps lake new home

By **SHERRIE STORM**
Wilmington District

A rehabilitated juvenile American Bald Eagle was successfully released back into the wild on Feb. 20 at W. Kerr Scott Reservoir near Wilkesboro, N.C.

Amid the crowd of 50 people on the chilly, overcast Saturday afternoon Sandra Justus, an environmental educator with the Blue Ridge Wildlife Institute, Inc., said a Native American prayer for the young raptor as he was set free.

The release was the final chapter in a story that began nine months earlier in a family garden on Globe Mountain, when Rhonda Adams found the injured bird in June of 2002.

"I'd been working in the garden and had gone down to the river to take a swim. When I came back the dogs were surrounding a very large bird in my garden," said Adams. "I knew right away I had an eagle, and he was hurt," said Adams, in a telephone interview from her home near Blowing Rock, N.C.

Adams put a wire cage over the eagle to protect him while she called for help. She and her friend Edward Amon moved the eagle to a doghouse for temporary quarters.

"The wound on his wing was very dirty and had maggots in it," said Adams, "so we cleaned it up and put peroxide on it."

Worried about his survival, Adams and Amon tried to interest him in a meal. They had a catfish in the freezer, thawed it out and offered it to him. "He was so weak, he just sat there, holding that catfish in his talons," said Adams.

The Caldwell County Sheriff's Department assisted Adams in finding the Blue Ridge Wildlife Institute, a non-profit organization dedicated to wildlife rehabilitation, environmental education, and research.

Justus transported the young eagle to the Carolina Raptor Center in Hickory, N.C. He was suffering from blood loss and dehydration due to a broken right wing.

While there the bird under-



Sandra Justus releases the young eagle into the Corps' environment.

went surgery and treatment from the volunteer staff. He was fed a diet of trout and rats, vitamin and calcium supplements, and exercised in a flight cage daily. The rehabilitation took eight months.

Terry Ramsey, operations manager at W. Kerr Scott Lake, was thrilled to be able to



Photos by R.G. Absher

One last close-up before flight; the end of an eight-month rehabilitation marks beginning of a new life. American Bald Eagles can live 30 years in the wild.

provide the lake as a release site for the eagle.

"The U.S. Army Corps of Engineers takes great pride in the fact that Scott Lake was chosen as the release site," he said. "The Corps-managed federal land surrounding the lake provided additional protection for the young bird while he became acclimated to the wild."

The rehabilitation team named the eagle Tsalagi from the Cherokee language meaning "Eagle-Ruler-Chief-of-Peace".

Adams was there that day, too. "I knew in my heart that bird was going to fly again," she said. "When he was set free on that first flight I cried like a baby."

The day was emotional for everyone present for the release that day.

"This eagle had to fight for his life," said Ramsey, "much the same way that all eagles have fought back from being endangered species."

To learn more about the Blue Ridge Wildlife Institute, visit its website at www.wildcarebr.org. For the Carolina Raptor Center go to www.birdsofprey.org.

For more information contact the Wilmington District Public Affairs Office at (910) 251-4647.



Sandra Justus, Blue Ridge Wildlife Institute, holds the young eagle as the emotions of the event overcome Rhonda Adams, who rescued him.

Partnership develops pioneering ecosystem restoration project

By DANA NEEDHAM-KIRBY
Little Rock District

Bull Shoals Lake will soon be reaping the benefits of a pioneering ecosystem restoration project that partners the Arkansas Game and Fish Commission, the Lewisville Aquatic Ecosystem Research Facility (a part of the Engineering Research and Development Center, located in the Lewisville Lake area, Texas), and the Little Rock District Corps of Engineers.

Constructed in 1951 and labeled as one of the largest concrete dams in the United States, Bull Shoals Lake has quickly become a popular all-around recreation paradise, with the fishing industry as one of the most prevalent and staple water activities.

Located in north-central Arkansas and south-central Missouri, the lake is one of five Corps reservoirs found in the White River Basin.

Bull Shoals Lake's reputation for being a prime fishery is well known and justified because several state record-setting fish have been caught in the lake. The reputation, however, is slowly starting to diminish.

As with the majority of man-made reservoirs, development of suitable aquatic plant habitat has become almost non-existent due to lack of natural growth, fluctuating lake levels, and other limitations.

Habitat formed from the inundation of forested areas has been degraded and depleted leading the fishery to decline as well. The habitat, specifically shoreline aquatic vegetation, is part of a vital fish nursery habitat and is a major factor in the production and survival of fish species.

In response to this fading fish nursery habitat, a planning study was initiated in the summer of 2001 at the request of the Arkansas Game and Fish Commission under the authority of Section 206, Water Resources Development Act of 1996.

During the plan formulation process, an alternative was developed that would transplant aquatic vegetation grown at a regional plant facility into five selected areas of Bull Shoals Lake. This alternative seeks to transform a habitat devoid of aquatic vegetation into a submersed native aquatic plant environment.



U.S. Army photo

A Corps employee transplants aquatic vegetation grown at a regional plant facility into five selected areas of Bull Shoals Lake. The plan seeks to transform a habitat devoid of aquatic vegetation into a submersed native aquatic plant environment.

To protect the establishing colonies from herbaceous predators, tray cages for shallow planting depths and ring cages for greater planting depths will be used. The alternative developed and subsequently recommended by the project delivery team is being implemented.

The ultimate goal of the project aims to convert 110 acres of deficient habitat into native aquatic vegetation habitat within the next 10 years. This translates into a net gain of 77.1 habitat units (HU) from the baseline current conditions for aquatic fish species.

Other project goals also include sediment stabilization and reduced shoreline erosion. Under favorable conditions, the planners hope that biotic and abiotic limitations (i.e., lack of natural growth and fluctuating lake levels, respectively) common to man-made reservoirs may be overcome to allow for "natural spread" of vegetation to other areas of the lake.

This innovative technique was developed and tested by researchers at the Lewisville Aquatic Ecosystem Research Facility and is slowly gaining a reputation for success at other

Corps reservoirs.

Tulsa District, a sister district to Little Rock in the Southwestern Division, had two successful restoration projects similar to the Bull Shoals project at El Dorado Lake in Kansas and Arcadia Lake in Oklahoma. The El Dorado restoration project has even inspired the state fish and wildlife agency to continue on with similar projects at other lakes.

The Arkansas Game and Fish Commission and the Corps will be monitoring the results of the project closely, as there is a great deal of interest to also develop similar projects at other Little Rock District reservoirs. Biological monitoring will also keep close tabs on the level of development of the colonies to ensure no vegetation overgrowth occurs.

The local population is supportive of the project and is also excited in seeing the results of the project. They hope the restoration will help in returning Bull Shoals Lake to the prime fishery it once was.

For more information contact the Little Rock District Public Affairs Office at (501) 324-5551.

Nations share environmental, safety issues from chemical agent weapons

By ANNA STAMPS
Huntsville Center

Several Engineering and Support Center, Huntsville employees recently attended the International Chemical Weapons Demilitarization Conference in Prague, Czech Republic.

"The CWD is the international forum for the key players in that industry to get together, compare notes, discuss emerging and existing technology, and in general stay updated on the international scene," said Hank Hubbard, Ordnance and Explosives Directorate.

"Overall, the conference is really good because you get to see what other countries are doing to address their chemical weapons issues," said Margaret Simmons, Office of Counsel. "There are a lot of people working on similar issues around the world."

Simmons and Anna Dudek, Office of Counsel, co-authored and presented a paper titled "Public Participation at Formerly Used Defense Sites Containing Chemical Warfare Materiel."

"(The paper) focused on how the Corps is involving the public in the work where we're cleaning up sites with potential chemical warfare items left on formerly used defense sites, which are now owned by private individuals or other entities," Simmons said.

"We wrote about technical planning processes," Dudek said. "It was a step-by-step rundown on how we approach contaminated formerly used defense sites, and how we prepare to take action."

Betina Martin, Ordnance and Explosives, presented two papers titled "Safety and Health Precautions on Non-Stockpile Chemical Warfare Materiel Sites," and "Security Study for Non-Stockpile Recovered Chemical Warfare Materiel Sites."

Huntsville Center employees also attending the symposium were Carl Boquist, Chemical Demilitarization, David Douthat, director of Ordnance and Explosives, Mike Rogers, deputy commander for programs and technical management, and Chuck Twing, Ordnance and Explosives.

"To me the most important part of the conference is catching up with colleagues and operations that are ongoing around the world," Twing said. "There are often exchanges of ideas that take place outside the actual presentations that are specifically valuable."

"The opportunity for a Huntsville Center employee to interface with other engineers and scientists at an international level in a cooperative manner is an opportunity that few Corps employees will ever have," Douthat said.

A project organized by Japan to remove

the significant amount of chemical weapons it left in China after World War II is of particular interest, said some of the Huntsville Center employees.

"There is a lot of money at stake," Hubbard said. "The challenge of completing this project would be exciting, and the politics of trying to complete this project would be equally exciting."

"It has been interesting, watching those two countries work together. If they can do it, then the U.S. certainly should be able to address the problems within its own boundaries," Simmons said.

The conference was organized by the Defence Science and Technology Laboratories, part of the UK Ministry of Defence; ICF Consulting; and the Science Applications International Corporation.

Representatives from the Czech Republic, United States, Russia, United Kingdom and Japan addressed the conference.

British Ambassador, Anne Pringle, gave a reception for the symposium attendees.

"So many nations share the same environmental and safety legacy issues from chemical agent munitions," Douthat said. "These nations come together at this forum to share ideas, experiences and technologies to hopefully address these problems."

Sustainability conference wraps up with environment, security in focus

By JEFF WEISER
Detroit District

Working together and "Moving Toward a Sustainable Great Lakes," sponsored by the U.S. Army Corps of Engineers and the Great Lakes Commission, was the prevailing attitude of the 180 participants from U.S. and Canadian private, corporate and government agencies, and the Tribal Nations represented at the event in Michigan, June 25-26

Assistant Director for Natural Resources, White House Council on Environmental Quality, William Leary's keynote address brought a message from Washington on the

importance of preserving the freshwater resource by establishing and enforcing comprehensive laws throughout the system.

"Protecting our lakes from invasive species, contaminated sediments, water diversions and other threats will always be our goal. But, a long-term vision for the lakes is needed," said Sen. Carl Levin (D-Mich.).

Many attendees expressed opinions on issues concerning the Great Lakes, which touch eight U.S. states and parts of Canada.

Rep. Bart Stupak (D-Mich.) voiced concerns of his constituents regarding not only issues such as

water quality, drilling in the Great Lakes and the security of its borders, but to include the safety of navigation channels.

Rep. James Oberstar (D-Minn.) was concerned by the invasive species and ballast water problems in the Great Lakes and urged the conferees to work together to improve water quality in the Great Lakes.

Attendees conclude this issue is important to more than just the people in the bordering states.

Many issues affect the forming of public policy and how we can come together to keep focused on this incredibly important resource — 20 percent of the world's fresh

water, said Sen. Debbie Stabenow (D-Mich.).

"In spite of the diversity of opinions represented by this conference's attendees, there was definite consensus on two issues - the shared passion about the Great Lakes and the desire for taking action now," said Lt. Col. Thomas H. Magness, district engineer, Detroit District. "Our job as leaders is to use the relationships forged during the conference to help find the win/win solutions, and to get going. These are not Good Lakes, they are Great Lakes. The movement toward a sustainable Great Lakes has clearly begun."

Army sets strategy, plans for environmental cleanup

By RICK NEWSOME
Department of the Army

The strategy and plans for the future of the Army's environmental cleanup program were determined recently with the approval of two key documents by Mario P. Fiori, assistant secretary of the Army for installations and environment, and Maj. Gen. Larry J. Lust, assistant chief of staff for installation management.

The Army Environmental Cleanup Strategy, signed by Fiori in April, provides a roadmap to guide the Army in attaining its environmental cleanup vision (see box). Its companion, the Army Environmental Cleanup Strategic Plan, signed by Lust in May, outlines targets and success indicators to ensure objectives in the strategy are being achieved.

The Army official in charge of coordinating the diverse Army cleanup program welcomed the action.

"For the first time, one strategy document identifies common objectives for ensuring con-

"The Army will be a national leader in cleaning up contaminated land to protect human health and the environment as an integral part of its mission."

--Overarching Vision for Army Environmental Cleanup," from the Army Environmental Cleanup Strategy

sistency and accountability across the Army's cleanup programs," said Krishna Ganta, chief of the Environmental Cleanup Division in the Office of the Director of Environmental Programs.

The cleanup strategy is designed to be an enduring document that will direct development and implementation of future strategic plans and program management plans. It establishes the ISO 14001 Environmental Management System Standard as a framework for addressing cleanup requirements regardless of the funding source, and complies with the Government Performance and Results Act.

"The strategy demonstrates the Army's sustained commitment to address contamination resulting from past operations, and supports the objectives of Army Transformation," Ganta said.

The cleanup strategy is distinct from the

Army Strategy for the Environment, which details environmental quality programs supporting the Army mission.

In support of the cleanup strategy, the Army Environmental Cleanup Strategic Plan is organized around the seven cleanup program areas:

- Army Active Installation Restoration
- Army Excess Installations Restoration
- Army Base Realignment and Closure Cleanup
- Formerly Used Defense Sites
- Army Compliance-Related Cleanup
- Army Special Installations Cleanup
- Army Remediation Overseas

The military munitions response program will be executed within other program areas.

Each program area in the strategic plan is organized to achieve the overarching environmental cleanup objectives described in the strategy (see box). The plan gives specific targets and success indicators that will be tracked and reviewed semi-annually.

Some of the cleanup objectives were handed down by the Department of Defense, others are unique to the Army. Defense goals are aimed at completing cleanup at sites, completing cleanup at installations, and completing the cleanup program. Army goals emphasize performance-based approaches and establishing partnerships with stakeholders for all cleanup program areas. The Army also stresses maintaining cleanup information in a permanent archive and tracking land use controls in a database available to environmental and real estate personnel.

In the plan, management responsibility for all cleanup program areas under ACSIM goes to the ODEP Environmental Cleanup Division headed by Ganta. Program managers within five organizations will implement the Environmental Cleanup Strategic Plan: The U.S. Army Environmental Center, the Base Realignment and Closure Office within ACSIM, the U.S. Army Corps of Engineers, the Installation Management Agency and the Army National Guard.

Program managers will develop plans to address specific targets and success indicators. Installations will continue to develop management action plans, sometimes called installation action plans. All cleanup program areas being addressed by an installation must be covered in a single management action plan.

"The Army is proud of its environmental cleanup program and its accomplishments," said Ganta. "The strategy and strategic plan

Overarching objectives for the cleanup program

Nine objectives have been defined for the Cleanup Strategy:

1. Ensure prompt action to address imminent and substantial threats to human health, public safety and the environment.
2. Conduct appropriate, cost-effective efforts to identify, evaluate and, where necessary to protect public safety or human health and the environment, conduct response actions to address contamination resulting from past DoD activities. Maintain relevant cleanup information in a permanent archive.
3. Comply with statutes, regulations, executive orders and other external requirements governing cleanup.
4. Ensure that Army regulations, policies and guidance are developed within the framework of this strategy.
5. Plan, program, budget, and execute cleanups in accordance with DoD and Army directives and guidance using validated, auditable, site-level data.
6. Develop cleanup partnerships with appropriate federal, tribal, state, local, territorial or host-nation authorities.
7. Promote and support public stakeholder participation in the cleanup process, as appropriate, and make site-level cleanup information available to the public.
8. Support the development and use of cost-effective cleanup approaches and technologies to improve program efficiency.
9. Perform semiannual program management reviews of cleanup progress against established targets, and conduct periodic reviews of sites where contamination remains in place.

provide a framework for the Army to meet future environmental cleanup challenges, even as the Army transforms with a changing world and a changing environment."

Note: Rick Newsome is assistant for environmental restoration in the office of the Deputy Assistant Secretary of the Army (Environment, Safety and Occupational Health).

Author canoes Cumberland River

By TIFFANY HEDRICK
Nashville District

June marks the official beginnings of both summer and the vacation season. Many people choose to relax during this month, visiting resorts in exotic locations like the Hawaiian Islands.

Kim Trevathan, a writer from Tennessee, decided to take an unusual trip this year. He spent the month of June canoeing down the Cumberland River with his friend and photographer Randy Russell.

Some people might think a “tame” river like the Cumberland would not be challenging or interesting. Trevathan and Russell would heartily disagree. They recalled several unique experiences on their trek.

For example, they spent some time crouching under their canoe in a cornfield below Celina, Tenn., to escape 55-60 mph winds. In a campground near Lake Cumberland, in Kentucky, they discovered an outdoor shrine, complete with religious pictures, benches, and an altar.

Their trip has not been all adventures, though. In fact, Trevathan said his experiences locking through the dams on the Cumberland have been both smooth and easy.

“Corps of Engineers person-



Photo by Gerald Cunningham

Author and explorer Kim Trevathan (left) and photographer Randy Russell lock through the final Corps of Engineers structure on the lower reaches of the Cumberland River after canoeing downstream from the headwaters in eastern Kentucky,

nel running the locks at Cordell Hull, Old Hickory, and Cheatham were knowledgeable and did an excellent job,” said the canoeist and author as he headed for Barkley Lock, known by many as the gateway to the Cumberland.

Providing smooth locking experiences was not the only contribution the Corps made to Trevathan’s journey. The work of the Nashville District’s water quality team helps ensure the health of the river and its inhabitants.

All water released from District projects must meet standards set by the Commonwealth of Kentucky and the State of Tennessee

through an agreement with the Environmental Protection Agency.

Over the past several years a team, under the leadership of Project Manager Bob Sneed, has regularly tested the water in all District Lakes at set locations and varying depths. The parameters they monitor include water temperature, dissolved oxygen, pH, and the levels of various nutrients and selected metals.

They meticulously report these measurements and have records that go back to the 1970s. This data has allowed the Nashville District to improve Cumberland River water by implementing mea-

asures such as turbine venting modifications to increase the DO and benefit aquatic life.

While Trevathan had no complaints about the river’s water quality, he said he struggled during the trip with the flatness of the Cumberland’s water.

Trevathan is no stranger to major canoe trips. In September of 1998, he and his dog Jasper took a similar trip down the Tennessee River. His travels became the basis for a book entitled, *Paddling the Tennessee River: A Voyage on Easy Water*. Trevathan intends to turn his journey down the Cumberland into a travelogue as well.

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