US Army Corps of Engineers®

Engineer Update

Vol. 26 • No. 3 • March 2002

Civil Works budgeted $4.29 billion in FY03

President Bush's fiscal year 2003 (FY03) budget transmitted to Congress on Feb. 4 includes $4.290 billion in new federal funding for the U.S. Army Corps of Engineers' Civil Works program.

The new federal funding has $3.258 billion from the general fund, $764 million from the Harbor Maintenance Trust Fund, $85 million from the Inland Waterways Trust Fund, $34 million from Special Recreation Use Fees, and (under proposed legislation) $149 million from direct financing of hydropower operation and maintenance costs by three federal power marketing administrations.

The new federal funding will be distributed as follows among appropriation accounts:

- $108 million for General Investigations.
- $1,440 million for Construction, General.
- $1,979 million for Operation & Maintenance, General.
- $288 million for Flood Control, Mississippi River and Tributaries.
- $151 million for the Regulatory Program.
- $141 million for the Formerly Utilized Sites Remedial Action Program.
- $22 million for Flood Control & Coast Emergencies.
- $161 million for General Expenses.

The new federal funding includes $115 million to cover the Civil Works share of federal retirement costs that the administration proposes to allocate to agency programs instead of to the Office of Personnel Management. These costs are distributed among the funding sources and appropriation accounts listed above.

Additional program funding is estimated at $464 million, including $118 million transferred from the Bonneville Power Administration for operation and maintenance of hydropower facilities in the Pacific Northwest, and $272 million contributed by non-federal interests.

The budget proposes that the new funding be used to continue development and restoration of the nation's water and related resources, operation and maintenance of existing navigation, flood damage reduction, and multiple-purpose projects like protecting the nation's waters and wetlands, and restoring sites contaminated by the early atomic weapons development program.

In allocating funds available for Civil Works, the budget gives priority to projects and programs that provide significant national benefits in the Corps' principal mission areas of commercial navigation, flood damage reduction, and environmental restoration.

In recent years, new construction starts have been numerous. Allocating funds for these new starts has resulted in delays in completing projects that already were under construction. The balance of funding needed to complete the budgeted projects currently in the Construction, General (CG) program has grown to an estimated $21 billion in FY02. To address this problem, the budget directs CG funding to ongoing projects (especially those near completion), redirects funding from planning and designing new projects and from projects added by Congress in 2002 that are inconsistent with long-established policies, and includes no funds for discretionary new construction starts.

The budget includes funding to complete 30 CG projects, or 15 percent of the CG projects in the budget. The budget also includes substantial CG funding increases to accelerate construction of:

Photo by F.T. Eyre, Headquarters

- The New York and New Jersey Harbor deepening project, a $31.5 million increase to $120 million.
- Olmsted Locks and Dam project in Illinois and Kentucky, a $37 million increase to $77 million.
- Restoration of the Florida Everglades, an increase of $10 million to $149 million.

The budget also ensures that environmental requirements for the Columbia River Basin and for the acquisition and development of shallow water habitat on the Missouri River will be met.

The budget provides more funding for the Regulatory Program to reduce the average review time for individual permit applications by about 25 percent by 2004, while strengthening protection of regulated waters and wetlands.

In the Operation and Maintenance, General program, the budget gives priority among ports and harbors to those that are used for commercial activities or subsistence fishing. The budget gives priority among waterway segments to those that provide higher commercial navigation savings per dollar invested, such as the segments with high cargo volumes or low costs per ton-mile of cargo.

The budget continues phased increases in recreation user fees, with the added fee receipts available to the Corps to spend on operation, maintenance, and improvement of its recreation facilities. Under proposed legislation, federal power marketing administrations would finance $149 million in hydropower operation and maintenance costs.

In the Mississippi River and Tributaries program, the budget gives priority to flood damage reduction projects on the main stem of the Mississippi River and in the Atchafalaya River basin, Louisiana.

The FY03 Civil Works budget information is available at www.usace.army.mil

Lt. Gen. Frederick Clarke was the Chief of Engineers 1969-73. He died Feb. 4 at 86. (U.S. Army Corps of Engineers Photo)

LTG Clarke, former Chief, dies at 86

Lt. Gen. Frederick J. Clarke, former Chief of Engineers, and former District of Columbia Commissioner, died on Feb. 4 at his home at the Fairfax Army Retirement Home, Fort Belvoir, Va.

He was 86. The cause of death was cancer. He was buried in Arlington National Cemetery following a funeral at Old Chapel at Fort Myer, Va.

Clarke was the Chief of Engineers 1969-73 and was responsible for worldwide Army civil and military construction, including engineer work in Vietnam. During his tenure he guided the Corps as it devoted increased attention to the environmental impact of its work in navigation, flood control, and other civil works activities.

With the advent of the Environmental Policy Act of 1969, Clarke led the Corps in its evaluation of some 600 Corps projects and established the Corps' Environmental Advisory Board composed of eminent environmental leaders. He also guided the Corps' construction efforts in Saudi Arabia, which ultimately rose to a $12 billion program.

Before being appointed Chief, Clarke served as the commanding general of Fort Belvoir, Va., then home of the Army engineers, and as the Engineer Commissioner of the District of Columbia. President Eisenhower appointed him as a commissioner in 1960. Clarke served in both the Eisenhower and Kennedy administrations 1960-'63.

He represented the District of Columbia in the first negotiations with Virginia and Maryland lead-

Continued on page two

Committee implements Process section of USACE campaign plan

By Rich Taylor
Headquarters

*(**Editor's note:** This is the third in a continuing series of articles about the committees that are helping transform the U.S. Army Corps of Engineers through the Corporate Campaign Plan.)*

The Process Committee is one of several committees specifically addressing the implementation aspects of People, Process, and Communication, the three strategic goal areas in the USACE Vision. These committees (six to 12 members each, with top-level Headquarters, division, district, and center participants) identify, develop, focus, and integrate initiatives in their particular areas, for consideration and approval by the Command Council.

The Process Committee implements the Process section of the USACE Campaign Plan.

"Our charter from the Chief of Engineers is clear," said Rob Vining, co-chair of the Process Committee. "The Process Committee is guiding the Corps' efforts to achieve the Process goal of *'using the PMBP to operate as One Corps, regionally delivering quality goods and services.'"*

"Our committee has learned from the experiences of our district and division campaign plan committees — to focus on a handful of key actions that will make a difference," said Joe Tyler, the other co-chair of the Process Committee.

Besides the co-chairmen, the other members of the Process Committee are:

- Wil Berrios, Director of Corporate Information, Headquarters.
- Steve Coakley, Director of Resource Management, Headquarters.
- Brig. Gen. Ronald Johnson, Pacific Ocean Division Commander.
- Ken Cooper, Deputy District Engineer for Planning, Programs, and Project Management in Omaha District.
- Rich Taylor, Command Planning Group, Headquarters.

Campaign Plan objectives and actions

There are three objectives in the Process section of the USACE Campaign Plan:

- Practice project management across all levels.
- One Corps, operating regionally and globally.
- Enhance capabilities to create synergy between economic and environmental objectives.

The Process Committee is currently working on several actions aligned under each of the objectives. A common theme throughout the actions is the development of metrics.

Objective 1 — Practice Project Management Across All Levels.

Overseeing the development and implementation of the Program Management Business Process (PMBP) initiative is one action of the Process Committee. The committee frequently communicates and coordinates with Dan Duncan, the PMBP Implementation Project Manager. The intent is to look for areas where the committee can enhance the effective implementation of PMBP. Another action is developing and validating metrics for PMBP implementation.

"'How will we know if we are successful in practicing PM across all levels?' is one question we're trying to answer," said Cooper.

Objective 2 — One Corps Operating Regionally and Globally.

The focal point of the actions underway in support of the second objective are insuring the full implementation and success of the Regional Business Centers. The Process Committee is working with the Corps' major subordinate commands on tools that will help them function more effectively.

The committee is also helping to develop and validate metrics for measuring Regional Business Center success.

"We envision these metrics being used during command inspections and incorporating them into the Command Management Review and Consolidated Command Guidance," said Coakley.

Objective 3 — Enhance Capabilities to Create Synergy Between Economic and Environmental Objectives.

The Process Committee is actively pursuing actions that will help the Corps implement the soon-to-be-published USACE Environmental Principles. Working in concert with the proponents of the Environmental Principles, these actions are to:

- Support the publication and communication of the Environmental Principles.
- Find ways to integrate the Environmental Principles into the Corps culture.
- Develop and validate metrics to measure implementation of the Environmental Principles.

"One challenge we're working right now is how do we identify and demonstrate the principles in projects at the district level," Johnson said. "The Chief of Engineers is taking a strategic perspective by trying to integrate our environmental considerations into every project we undertake. The main reason our safety program is so successful is because we integrate safety into all our operations. Environmental principles, like safety, should not be an afterthought."

In short, the Process Committee is taking actions that will help the U.S. Army Corps of Engineers *"use the PMBP to operate as One Corps, regionally delivering quality goods and services."*

Clarke dies

Continued from page one

ing to the Compact Agreement for Metro construction. As Chairman of the Zoning Commission, he participated in many discussions about whether highways or subways would prevail, and in the debate about the Three Sisters Bridge. He supervised the emergency city snow removal on the morning of Kennedy's inauguration.

During World War II, Clarke commanded a battalion of the 38th Combat Engineers that built the military airfield on Ascension Island in the South Atlantic. The airfield was a key refueling spot for aircraft supporting the North African and Italian campaigns.

He then served as a logistics planner on Gen. George Marshall's staff supporting Allied efforts in the European and Pacific theaters. He was an early developer of the "Red Ball Express," the logistical effort to support a beachhead in Europe. As the war in Europe ended, he helped redirect the flow of supplies to the Pacific.

After the war, Clarke commanded the facility in Hanford, Wash., that produced plutonium for the early atomic weapons. He then served as the executive officer of the Armed Forces Special Weapons Project at Sandia Base in Albuquerque, N.M.

He was district engineer of Trans-East District 1957-59. There he was responsible for U.S. military construction in Pakistan and Saudi Arabia, and for initial planning for transportation surveys in East Pakistan and Burma.

Throughout his military career, Clarke was known for his open, low-key decision-making. One contemporary said he was "the only genius I ever met with perfect common sense."

Upon retirement from the Army in 1973, Clarke was appointed as the Executive Director of the National Commission on Water Quality. Chaired by Vice President Nelson Rockefeller, the commission evaluated the benefits and costs of cleaning the nation's waters. From then until 1983 he advised the architect and engineering firm of Tippetts-Abbett-McCarthy-Stratton on resource development.

Clarke was a member of the National Academy of Engineering, a past President, Honorary Member and Fellow of the Society of American Military Engineers, President of the Army Distaff Foundation, and a member of the Army-Navy Club, Chevy Chase Club, and Cosmos Club.

He was the Honorary Colonel of the Engineer Regiment, and held the Army's Distinguished Service Medal with Oak Leaf Cluster, the Legion of Merit, and the Gold DeFleury Medal of the Engineer Regiment.

Clarke was born in Little Falls, N.Y., in 1915. He graduated fourth in his class of 1937 at West Point, and received a master's degree in engineering at Cornell University.

Clarke is survived by his wife of 63 years, Isabel Morrison Van Slyke Clarke, who lives in the Fairfax Retirement Home at Fort Belvoir, Va. They have three children; Warren Clarke of Newton, Mass., Isabel Clarke Stevens of Alexandria, Va., and Nancy Clarke of Verona, N.J.; five grandchildren, and three great-grandchildren.

ENGINEER UPDATE is an unofficial publication under the provisions of AR 360-1. It is published monthly by offset for the Headquarters, U.S. Army Corps of Engineers.

Editorial views and opinions expressed are not necessarily those of the Corps of Engineers or the Department of the Army. Letters to the editor are encouraged.

Deadline for submitting articles is the 15th of the month preceding publication. Subscriptions are available free of charge but must be requested in writing. Circulation: 35,000.

Address mail to: EDITOR, ENGINEER UPDATE, CEPA-C, Washington, D.C. 20314-1000. Telephone (202) 761-1808. Photographs are U.S. Army photos unless otherwise credited. Available on the Internet at http://www.hq.usace.army.mil/cepa/pubs/update.htm.

Commander, USACE.....Lt. Gen. Robert B. Flowers
Chief, Public Affairs.....Carol A. Sanders, APR
Chief, Command Information.....George E. Halford
Editor.....Bernard W. Tate

Letters to the Editor

Firefighter memorial

Many in the U.S. Army Corps of Engineers family want to help make some good come from the tragedy of Sept. 11.

Here's a way they can help.

Henry "Bud" Kiefer of New York District lost his son at the World Trade Center. Michael Kiefer, 26, was a New York City firefighter with Engine 280/ Ladder 132 in Brooklyn. He was the only Corps-related loss in the Sept. 11 terrorist attacks. He had been a firefighter only nine months on the day of the attack, and his body still has not been found.

Michael Kiefer, a New York City firefighter, was the only Corps-related loss on Sept. 11. A fund has been established in his name. (Photo courtesy of New York District)

"Bud" Kiefer is a 24-year Corps veteran, an engineer technician with New York District. His colleagues have established a fund within the New York Firefighters Burn Center Foundation (NYFBCF) to memorialize Michael. It's called the FDNY Firefighter Michael Kiefer Fund.

NYFBCF is a 100 percent non-profit charitable organization endorsed by both the New York City Fire Department and the primary recipient of donations, the New York Presbyterian-Cornell Medical Hospital W.R. Hearst Burn Center in New York City. The foundation is staffed by FDNY volunteers — no salaries are drawn from donations.

Please consider contributing to this worthwhile organization in tribute to Michael's heroic actions on that terrible day. Based on the funds raised, the gift donated could range from a $5,000 Dermatron (an operating room tool to split skin for grafts), to a $25,000 freezer to preserve skin donations, to a $75,000 fellowship to fund a medical doctor-resident for one year to treat burn patients at this world-renowned hospital.

The gift in Michael's memory will be presented to the hospital on behalf of Corps employees.

If you want to help, please send donations to:

The FDNY Firefighter Michael Kiefer Fund
c/o The New York Firefighters Burn Center Foundation
21 Asch Loop
Bronx, N.Y. 10475
Website: www.NYFFBurnCenter.org

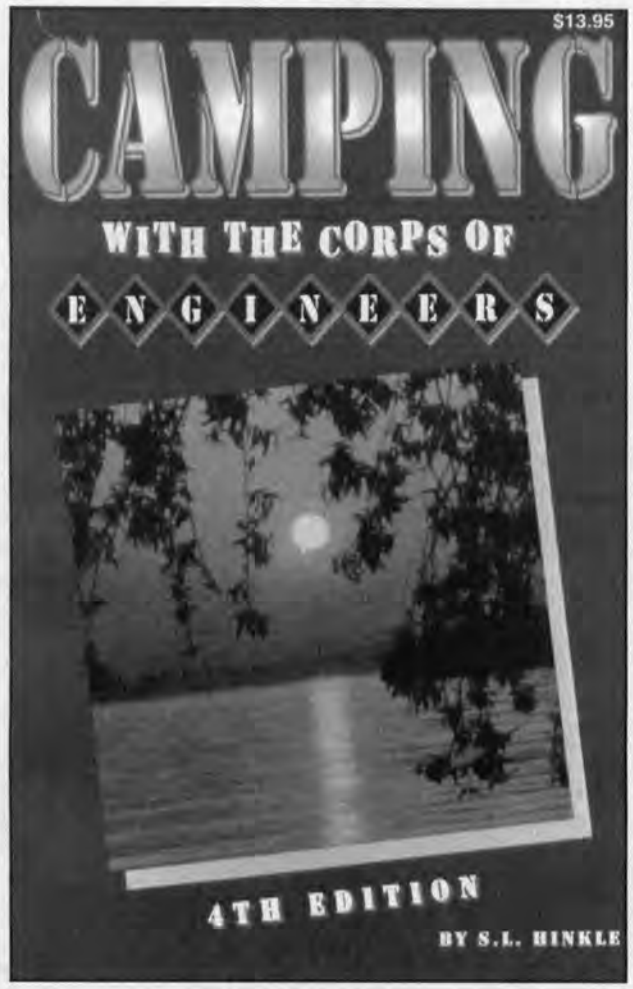
The New York Firefighters Burn Center Foundation will acknowledge your tax-deductible contribution.

Thank you.

Pete Shugert
New York District

Camping fan writes guide-book for Corps campsites

By Bernard Tate
Headquarters
And Elizabeth Slagel
Huntington District



Spurgeon Hinkle and his wife Rita love camping, and they enjoy going to campgrounds managed by the U.S. Army Corps of Engineers.

In fact, they love them so much that Hinkle wrote a book about them.

"When my wife Rita and I started camping full-time in 1987, a friend told me about Corps of Engineers campgrounds," Hinkle said. "We found the campgrounds to be well-maintained, under control, and economical.

Necessity. "What I did *not* find was information published about their locations," Hinkle continued. "At the time, very few had signs indicating there was even one in the area, so you could pass them by without knowing. I began collecting information for us to use when traveling, and decided in 1991 to put it in book form."

Camping with the Corps of Engineers was popular from the word go.

"I first published in 1993," Hinkle said. "I prepared the book photo-ready on a word processor and found a printer. I started out with 1,000 copies and they lasted about four months. The majority sold through an ad I placed in the Family Motor Coach Association. I sold some on co-assignment at a Camping World Store in Denton, Texas."

Popularity. Before Hinkle could place a second order of his self-published book, Don Wright of Cottage Publications saw a copy and tracked down Hinkle with an offer. "When we first did the book, we had high hopes for it," Wright said. "We hoped this would come in seventh or eighth on our selling list. It easily became second in the first year."

Cottage Publishing took the book to a new level, selling tens of thousands and helping it become the third best-selling book in Camping World, a camping accessories store chain.

The book is organized by state in alphabetical order with a breakdown of each Corps campground. There is a brief paragraph with directions, body of water size, user fees, and other valuable information. There are also easy-to-read recreation symbols indicating the availability of such things as fishing, swimming, and hiking.

Hinkle updates the information in *Camping with the Corps of Engineers* at least once a year, and revisions or new editions are published every one or two years. Cottage Publications is currently preparing a fifth edition of the book with information Hinkle provided in January.

According to Wright, the book may become Cottage Publications' number-one book this year.

Spurgeon Hinkle (center) wrote *Camping with the Corps of Engineers*. He is shown with his wife, Rita, and their friend D.R. Berna. (Photo courtesy of Spurgeon Hinkle)

Revisions. "I get information for revisions from many avenues," Hinkle said. "Personal contact at projects and campgrounds when we're traveling. I have e-mail addresses for hundreds of Corps contacts, i.e., managers, rangers, public affairs offices, and office personnel at districts, projects, and campgrounds. Websites are a good source, when they're up-to-date. The National Reserve System has information that's a good choice for those in reserve status; their info is usually up-to-date.

"I try to include all projects in the continental U.S. that have campgrounds owned and operated by the Corps," Hinkle said. "If I've missed one, I'd be happy to be put in contact with that project. My e-mail is SgtMaj9999@aol.com"

Experience. Hinkle is a 20-year veteran of the Marine Corps, retiring in 1973 as a sergeant major after two tours in Vietnam. He and Rita started camping in the early 1960s, first in a tent, then in a pop-up trailer-tent, later in a 32-foot fifth-wheel trailer, and finally in a 35-foot motor home. They've stayed at Corps campgrounds across the nation, sometimes working at various places like private campgrounds, as a dock master at Flamingo, Fla., in the Everglades National Park, and as gate attendants at Corps parks on Lewisville Lake and Lake O' Pines, both in Texas.

Hinkle says that he and Rita have visited a lot of the Corps' campgrounds listed in his book, but they find it impossible to play favorites.

"I'm not Louis L'Amour; I've not been to every waterhole," Hinkle said. "To pick a favorite Corps campground would do an injustice to all the fine facilities the Corps operates."

Camping with the Corps of Engineers is available from Cottage Publications at 1-800-272-5518; www.cottagepub.com; campguide@msn.com; Camping World Stores and catalog sales; on-line at Amazon.com and barnesandnoble.com; and at RV stores and catalog sales.

Adversaries work to restore river

Article and Photos
By Carol Baternik
Louisville District

Near Lock and Dam 6 of Kentucky's Green River, the impoundment of Green River Lake created changes to the river flow and shifts in the pools. At the confluence of Green and Russell creeks, the dominant stream even shifted. Russell Creek took charge of the watershed, and sediment runoff from the banks became severe.

To correct the situation, Louisville District started an ecosystem restoration project in concert with the advice and cooperation of The Nature Conservancy. The project marks a precedent for a project cooperation agreement (PCA) with a local sponsor, notably a non-governmental one.

The restoration is the first of its kind nationwide with The Nature Conservancy, which owns the land. Since 1951, the Conservancy has worked nationwide with communities, businesses, and individuals to protect 92 million acres around the world. The non-profit organization has about one million members.

The Nature Conservancy has traditionally viewed the U.S. Army Corps of Engineers as an adversary, "bending ecosystems to human will," according to their literature. However, the memorandum of understanding signed in December 2000 with the Corps highlights the two organizations' common objectives.

"We're talking about the future," said Jim Aldridge, Director and Vice President of the Kentucky Nature Conservancy. "This is a huge stepping stone for the Conservancy. I'd like to see more projects once a year, on the Green or elsewhere."

"We want to establish a long-term relationship to have a positive influence on the Green River," said Richie Kessler, Nature Conservancy's Green River Bioreserve director. With The Nature Conservancy as the landowner, maintenance of the property and protection against urban sprawl is ensured.

According to Kessler, 109 of the Green's 151 fish species are found around the project, and 12 are globally rare. The only documented great blue heron rookery in the Green River biosphere exists on the property. Kentucky's only native mussel species is found around the project site. These features make the Green River habitat among North America's most significant freshwater aquatic ecosystems, said Kessler, which is why The Nature Conservancy was eager to partner with the Corps on the 140 acres called the Handy Tract.

Mike Turner, Chief of Louisville District's Environmental Analysis Section, explained that several timely factors led to collaboration on the Handy Tract. More than three years ago, The Nature Conservancy came to the Corps regarding re-regulation of the Corp's Green River Lake. Simultaneously, the Department of Fish and Wildlife had identified sites on the Green most stressed, the Handy area among them.

"We explained that we had environmental restoration programs," said Turner. "Congress had passed language allowing partnerships with non-governmental agencies."

The Handy Tract restoration is a Section1135 project where the non-federal sponsor pays 25 percent of total project costs and the Corps funds 75 percent. The cost is estimated at $1.02 million.

The riparian habitat along the eroding riverbank will be restored, and the banks reshaped by bioengineering, a rock toe, and weirs. Two 50-foot bendway weirs of shot rock will be placed at the upstream end of the reshaped area to deflect the Green's main current from the eroded area, toward the river's center.

This "before" shot shows the erosion damage caused by the shift between Green and Russell creeks.

Col. Bob Slockbower, Louisville District Engineer, and Mike Turner, Chief of the district's Environmental Analysis Section, canoe in front of the Handy Project. In the background, construction is visible near the bank.

"It gives a more natural appearance," said Turner. In time, shrubs and plantings will camouflage the rocks. Native grasses that will cover the area include big blue stem, Indian grass, and gamma grass.

"Turkey and deer will love it," said Turner.

While the rock is the most obvious element, the project's scope includes many land and aquatic features. Bottomland hardwoods of walnut and oak will be planted. The reforestation of hardwoods benefits the ecosystem through reductions in silt loads and the capture of nutrients in overland flows.

Excess soil from digging will be used to create small swales and dikes to hold surface runoff, and amphibians and their predators will prosper.

"The more we do on the land, the greater the effect on the river," said Kessler. "What we do here is the first line of defense against factors threatening the Green River."

The project began three years ago and will be finished by summer 2002.

Mangos are a new challenge for Corps

By Jan Shelby
Mobile District

U.S. Army Corps of Engineers' projects read like a study of American history from the Battle of Bunker Hill to the World Trade Center.

Now add mangos to the list.

Mangos?

Mobile District recently helped build a mango processing plant in Honduras.

Building the Hot Water Treatment Plant for mangos in Honduras resulted from a personal request from the Honduran Minister of Agriculture, Guillermo Alvarado, to Richard Rominger, former Deputy Secretary of the U.S. Department of Agriculture (USDA).

Before the mango plant was built, Honduras was restricted to exporting mangos to Europe because the U.S. requires that mangos be hot water treated to kill the Mediterranean fruit fly (medfly) before they can enter U.S. markets.

Exporting mangos to the U.S. is more profitable than exporting to Europe because the transportation cost is less. But before completion of the new facility, Honduras was the only country in Central America without a hot water treatment plant. Mexico has 50, Guatemala has four, and Costa Rica has two.

The U.S. Agency for International Development (USAID) contracted FINTRAC (a market research firm which specializes in agribusiness development) to do a market feasibility study on mangos, and the results showed that the U.S. market could absorb Honduran mangos.

The idea was that the Hondurans would have a treatment facility to allow them to process mangos for shipment to the U.S., and FINTRAC would provide technical assistance and training to the local Honduran mango producers.

The Corps was contacted to administer the design and construction of the plant because the Corps' processes were in place toprovide a rapid response. USACE could also complete the process of contracting for design and construction more quickly than USDA or USAID due to differences in procurement processes.

Mobile District provided Bill Breeden to oversee the pre-design concept preparations. Dave Cartmill, project manager, supervised the field activities of the contractor's design and construction process, and supervised the plant's construction to make sure the facility met all specifications required by USDA, and met the required delivery date for an operational plant.

The contract was awarded March 16, 2001, to ETERNA Construction Co. of San Pedro Sula, Honduras. Construction began March 30, and the plant was completed last Oct. 25. USDA personnel from the U.S. certified the plant fully functional and in accordance with USDA regulations. It was ready for processing when the Honduran mango season started in February.

This new mango processing plant will help Honduras sell fruit to the U.S. market. (Photo courtesy of Mobile District)

(Dave Cartmill also contributed to this article.)

New bridge will relieve bottleneck

Article by Sonya Goines
Photos by John Carnes
Jacksonville District

The only remaining bridge owned, operated, and maintained by Jacksonville District is also a major traffic bottleneck. So the district is building a solution.

The Palm Valley Bridge carries traffic on County Road 210 over the Atlantic Intracoastal Waterway (AIWW) in St. Johns County, Fla. County Road 210 is a winding two-lane highway and a major hurricane evacuation route. With development in the Jacksonville area during the past 10 years, the road is crowded with traffic from I-95, the Beaches community, and new housing developments.

One major problem is the Palm Valley Bridge. The current bascule bridge (a type of drawbridge) was built in 1937, and annual inspections and routine maintenance by the U.S. Army Corps of Engineers have kept it operating since. The bridge is a bottleneck primarily because it opens about once per hour to allow boats to pass, closing the road for 5-10 minutes each time. According to the Florida Department of Transportation, the bridge is now functionally obsolete.

Last December, Jacksonville District began building a new fixed bridge that is high enough to not interfere with navigation. On Aug. 28, crews began erecting the main span of the new Palm Valley Bridge.

The new bridge will be a high-rise structure with a 65-foot clearance over the AIWW. The bridge is designed with 119-foot-long concrete approach spans, and a 290-foot precast girder main span. The new bridge will have no piers in the water, which will make dredging the waterway easier, and "It's a lot easier to build the bridge when the columns aren't in the water," said Russ Tolle, North Florida area engineer.

Using segmental post-tensioning construction, 10 710-foot beams (each with five modified Florida bulb-T girders) will make up the main span. The bridge is the second largest Florida built using the post-tensioning technique.

The girders are cast in Savannah, Ga., and travel down the AIWW by barge. Two Mantiwoc 999 cranes lift the girders from the barge and hoist them to the main span.

The current wood-decked drawbridge dwarfs in comparison to the new 65-foot-tall Palm Valley Bridge.

The Palm Valley Bridge Replacement project is well ahead of schedule, according to Jerry Scarborough, project manager. It is expected to be complete by December 2002, but may be open to traffic by next summer.

The new bridge will be 2,138 feet long and 80 feet wide, with four 12-foot lanes, two six-foot interior shoulders, and two 10-foot exterior shoulders. The new road and bridge is designed for 45 mph traffic. In contrast, the current bridge has two nine-foot lanes, no shoulders, and a speed limit of 20 mph.

The increased speed limit, plus the four 12-foot lanes, will make hurricane evacuations both faster and safer. And vehicle and marine traffic will no longer be delayed because boats will be able to pass under the new bridge.

The federal project called for building a two-lane bridge, but St. Johns County asked the Corps to build a four-lane. The county agreed to accept ownership and maintenance of the new bridge upon completion, and is providing funding to pay for the additional two lanes.

Middle school kids design future cities

By Shannon Bauer
St. Paul District

Jim Mosner of St. Paul District's project management enjoys engineering and working with young people, so when he got the opportunity to help judge several portions of the 2002 Minnesota Future Cities Competition in St. Paul, Minn., he took it.

The Future Cities project is sponsored by the National Engineers Week Committee, a group of more than 100 engineering societies and corporations. The contest began 10 years ago to raise appreciation of engineering among middle school students.

This competition started in October and ran through January in middle schools across Minnesota. Students submitted a computer model of their city using SimCity software, wrote a 100- to 200-word abstract and 300- to 500-word essay about their project, built a scale-model of their metropolis, and gave an oral presentation.

The middle school students solve problems in math, science, and technology as they create an urban environment, balance a city budget, and deal with social problems, such as pollution and unemployment.

Mosner, working in a team of three, helped judge the computer and scale models.

"It was fascinating to see sixth-, seventh-, and eighth-grade students present such high quality models and oral presentations," Mosner said. "What they did was comparable to what many of us here at the Corps has gone through. It can be quite nerve-racking; yet these kids did a tremendous job.

"Some students designed very creative cities with fusion power and mag-lev transportation," he continued. "They had to do a lot of research, and I think it really stretched their abilities."

According to Mosner, 53 Minnesota schools started the competition this year and 23 finished. The winner received an all-expense paid trip to Washington, D.C., for the Future City Competition national finals during National Engineers Week Feb. 17-23. The first place national team won a trip to U.S. Space Camp in Huntsville, Ala.

Lt. Gen. Robert Flowers, Chief of Engineers, spoke at the national finals.

Mosner often volunteers with youth groups. He learned about the Future Cities Competition through an engineering society and volunteered to be a judge.

Jim Mosner helps judge a middle school team at the Minnesota Future Cities competition in St. Paul, Minn. (Photo courtesy of St. Paul District)

The number of teams participating doubled this year, and the competition sponsors expect the participants to increase again next year. More engineer mentors and judges will be needed in 2003, and Mosner encouraged other Corps employees to get involved.

The organization will start looking for volunteers again next August. "It was lots of fun," he said. "I look forward to doing it again next year."

Global warming

CRREL documents changes in Alaskan landscape, vegetation

By Dr. Matthew Sturm
Cold Regions Research and Development Laboratory

Alaska is known for majestic mountains, big game, and vast tundra.

It is also a region where recent warming trends are the largest and best documented. Various studies indicate the region has warmed four to seven degrees the past 50 years. In central and southern Alaska, the warming has already resulted in thawed permafrost, substantial changes in wetlands, and degradation of roadways due to subsidence.

Research suggests that when Alaskan temperatures rose in the geologic past, dramatic changes in vegetation also occurred. For example, at the end of the last Ice Age, grasslands gave way to tussock tundra and bogs. This tundra landscape, during the warmest periods of the past 8,000 years, was invaded by alder and birch shrubs, sometimes even spruce trees. One invasion was so dramatic that the record it left behind is called the "birch explosion."

Recently, scientists at the Cold Regions Research and Engineering Laboratory (CRREL) wanted to see if the Alaskan landscape was changing again in response to the recent warming.

A unique historic set of aerial photos made the assessment possible. As World War II came to a close, the U.S. was concerned about its strategic oil supplies. The vast Naval Petroleum Reserve-A (now the National Petroleum Reserve-Alaska) in northern Alaska contained oil, but how much and where was unknown.

The Navy and the U.S. Geological Survey (USGS) launched an intensive program of geologic exploration. Low-altitude, oblique aerial photos were taken along nearly every river valley on the Arctic Slope of Alaska. A special camera with 9x18-inch negatives was mounted in an aircraft, and flown low to the ground, sometimes as low as 100 feet. The result was stunningly clear, detailed black-and-white photos on which even caribou footprints could be observed.

More than 6,000 photos were taken. These were used briefly for their purpose, then boxed and stored in one warehouse after another, finally coming to a warehouse in Alaska, their value and existence nearly forgotten.

Jump forward 50 years.

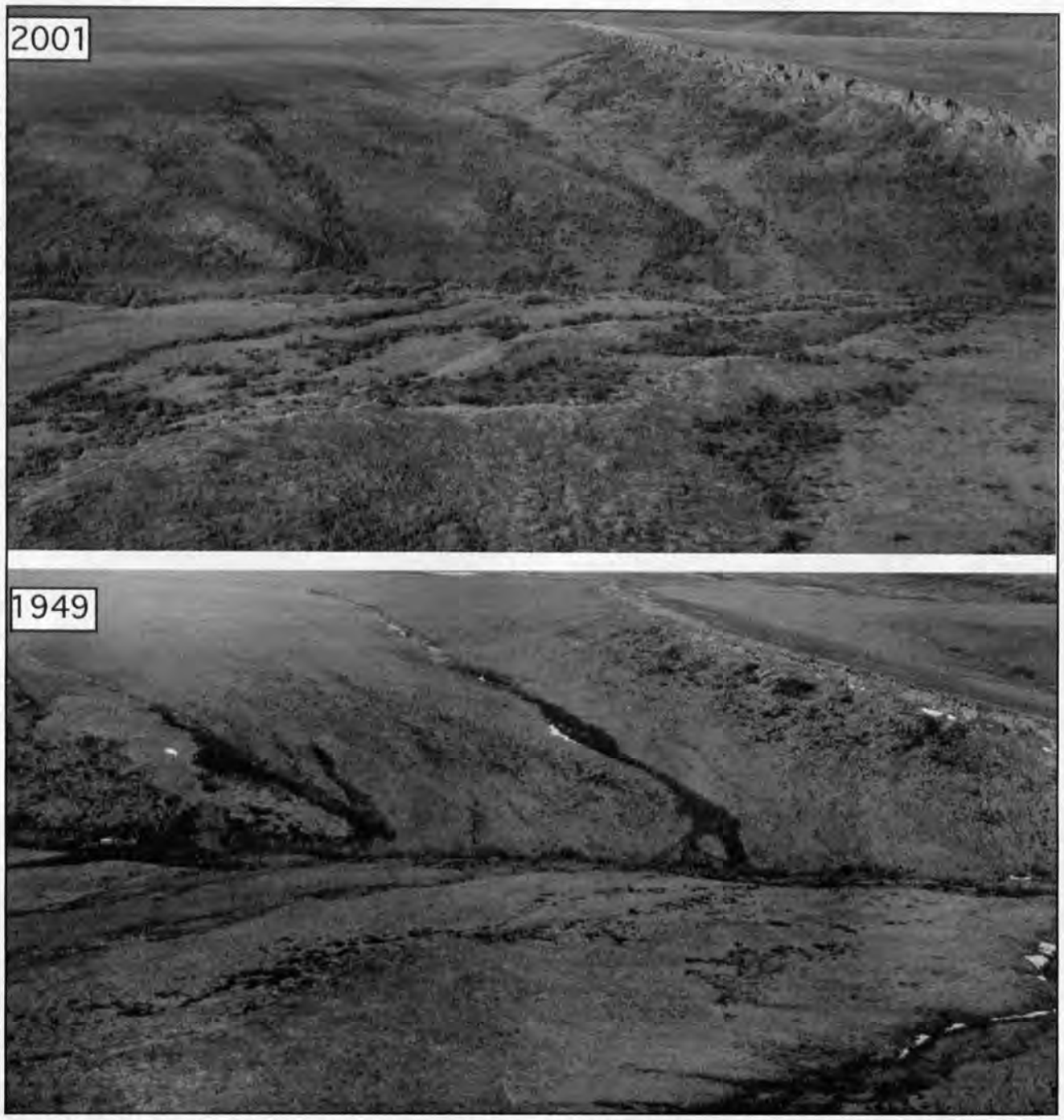
We (Dr. Matthew Sturm, a geophysicist with CRREL's Projects Office in Fairbanks, Alaska, and Dr. Charles Racine, an ecologist at CRREL in New Hampshire) had researched the interaction of snow and vegetation in the Arctic. We published a theory suggesting that a relation existed between the two. Shrubs trapped and held windblown snow. As the trapped snow increased, it would insulate the ground, producing favorable growing conditions and, therefore, larger shrubs that could trap still *more* snow.

Plant experiments verified that at least some of the theory was sound, and it received a lot of attention in the climate change and ecology research communities.

An obvious corollary question was whether Alaskan shrubs were growing under the warmer climate. No one was sure. Old timers familiar with northern Alaska agreed it *seemed* shrubbier than 50 years ago, but human memory is unreliable. Perhaps close-up photos of survey benchmarks installed in the 1950s in northern Alaska by the U.S. Coast and Geodetic Survey and the Corps of Engineers might allow an assessment. But none could be found. *(If any reader knows of such photos, please contact us!)*

Then came the breakthrough. We heard about a mysterious set of photos called the "Col photos" after the Colville River in Alaska. Many weeks and phone calls later, a set of the Col photos were located in Anchorage. A few more phone calls and one FedEx package later, we had three sample photographs from the huge set.

They were perfect! Clear, detailed, with individual shrubs and tussocks discernable in the foreground. The USGS warehousemen transfered the complete set to CRREL, all several thousand pounds of it. A few months later they were all housed at CRREL's Alaska office.



A small drainage near the Chandler River in Alaska shows a dramatic increase in alder shrubs. (Photos courtesy of CRREL)

We were ready to start our assessment.

With support from the National Science Foundation, during the summers of 1999, 2000, and 2001 we returned to 150 of the old photograph locations. Using photogrammetric calculations, topographic maps, and a three-armed protractor (a specialized tool for a position), we worked out a method to determine the GPS coordinates and elevation of each old photograph.

Then we fly a helicopter to the location and take photos and digital images. Though not absolutely necessary, the closer we match the new photos to the old, the easier it is to assess the half-century of change in shrubs and vegetation. Close matches are also helpful because they make the changes immediately apparent even to a casual observer.

Unfortunately, they are difficult to achieve. The assessment is done using old but reliable technology. We place an acetate sheet over first the old photo, then the new one, mapping onto it the location and size of the old and new shrubs. Our current goal is to map the extent and change in shrub vegetation in northern Alaska over a wide enough area to ascertain how the pattern of change relates to changes in temperature and precipitation, particularly snow.

Based on 66 repeat photos taken in 1999 and 2000, it is clear that shrub abundance is increasing, in some cases dramatically. There are three types of changes:

- Shrubs present in the 1940s are both taller and larger.
- Shrubless areas have filled in since 1949.
- Areas with no shrubs in the 1940s are now colonized.

There are three main types of large shrubs in the Arctic — alder, willow, and dwarf birch. The dark alder is the easiest to see in photos, and until recently we thought it had the most dramatic expansion. But ground reconnaissance this summer suggests the harder-to-see dwarf birch may also be undergoing extensive expansion.

What is the meaning of the change? Are we in a modern birch or alder explosion? This is hard to answer. The increasing shrubbiness is consistent with computer models that say that in a warming climate arctic Alaska should get shrubbier. The change also appears to be widespread. And the coincidence between the 50-year change in shrubs and the unusually warm decades in arctic Alaska suggest climate is an important driver.

Still, we don't know if the shrubs began to increase 50 years ago, or if the change started recently or far in the past. This past summer we began counting the shrubs' growth rings, which may answer some questions.

For the near-term, the increased shrubbiness is likely to have little impact on animals of Alaska and, in our lifetime, the tundra will remain tundra, not shrubland.

Still, we may have caught a first glimpse of one of those vegetation changes that swept across the tundra in the past. We are taking steps to ensure that our photos, as well as the historic Col photos, will be available for a similar assessment 50 years from now.

Korea 'war games' test Far East District

By Julie Park
Far East District

Twice a year, Far East District (FED) plays a role in two "war games" — the Reception, Staging, Onward Movement & Integration exercise in April, and the Ulchi Focus Lens (UFL) exercise in August.

Last year, UFL '01 was the Republic of Korea (ROK) and the U.S. Combined Forces Command's 27th annual command post exercise (CPX). It involved about 10,000 U.S. personnel. UFL evaluates and improves combined and joint coordination, procedures, plans, and systems to conduct contingency operations of the ROK and U.S. forces.

During UFL, FED's role is 100 percent readiness to carry out all assigned tasks and accomplish their mission. During contingency operations, FED taskings include designing and building everything from bridges to billets. They are also responsible for contracting support from the host nation. FED provides direct support to U.S. Forces Korea, and coordinates with other services for engineering requirements necessary during contingency operations.

Reservists

All this work could not be done without Army reservists.

Maj. Debbie Mallgren, an Individual Mobilization Augmentee (IMA) from Florida, was the S-1 (personnel/administrative officer) for UFL. This was her sixth time with the FED team. Her role in UFL was administrative support, and processing the performance evaluations of all military personnel in the exercise.

It required her full attention and long hours. During previous exercises, she alone ensured the soldiers were in-processed and received performance evaluations before their departure from Korea. During one exercise, she finished her last evaluation just three hours before boarding the plane for her flight back home.

But this year she had help from Sgt. Maj. Mia Yamasaki, an IMA from Washington, and Mallgren hopes to see more participation from IMAs and Individual Ready Reservists in this year's UFL exercise.

This was Yamasaki's first time joining FED for UFL. On the second day into her first CPX, she was tired. She had pulled night staff duty and been up since 7:30 a.m. the day before. Nevertheless, she was in good spirits.

"I've been on field training exercises before, but this is my first time in a CPX," Yamasaki said. "This is all new to me. I'm sure this experience will help me grow personally and make me that much more of an asset should another opportunity arise."

Mallgren wants to recruit more reservists to join the team. FED has 50 slots for IMAs, but less than a quarter are filled. There are few volunteers mainly due to lack of information sent to reservists around the world.

"It's a great chance for those stationed in the states and around the world who would enjoy coming to the Republic of Korea to train in exciting war-gaming scenarios, as well as to experience the different culture," said Mallgren.

IMA

An IMA is a reserve soldier assigned to a mobilization document with an active Army unit (a mobilization document has listings of positions authorized during a contingency). A reservist can become an IMA by requesting to join the IMA Control Group, or by answering the recruitment notification announcement looking for IMAs. Assignments are made by the Army Reserve Personnel Command (ARPERSCOM) in St. Louis.

"However, if the individual wants to become an IMA and has found his/her own slot, and is qualified for it, ARPERSCOM will expedite the assignment procedure," said Mallgren.

"There is a belief that only the IMA's with engineering background will be needed for the exercise at FED," she continued. "However, there are a variety of jobs that require different fields of expertise, such as operations, intelligence, and communication."

Maj. Debbie Mallgren (left) and Sgt. Maj. Mia Yamasaki work together during Ulchi Focus Lens. (Photo courtesy of Far East District)

When a person with a non-engineer background is needed and there is no slot allocated on the mobilization document, a memorandum requesting a by-name branch immaterial assignment can be sent to ARPERSCOM. It's not a simple task and it requires justification of the request, but it can be done. Any soldier can assume a staff role during the exercise, but the job and the exercise go smoother if the person in the role has some background and experience in that field.

"This is a great opportunity to test your personnel management skills to the max," said Mallgren. "It's a definite opportunity for challenges and chances to excel." She added that for the same reason only people with a great love for challenging work should apply. "If you can't do the job and enjoy the hectic pace and long hours, then you don't need to be here."

Coming back?

Will Mallgren be back again for a seventh time?

"Yes, this is a good organization," she said. "They provide great support to the soldiers who come over to train with them. Otherwise, I wouldn't still be here."

As for Yamasaki, she says she also hopes to come back next year.

"This is a good bunch to work with," Yamasaki said. "Next year I'll be able to look at this exercise from a different angle. With more experience next year, I'll be even more of an asset."

Regarding future team members, Yamasaki said, "Come with an open mind and a can-do attitude. This is a great experience and a chance to grow as a soldier and an individual. You *will* test your mettle."

For more information on becoming a part of the team in future UFL exercises, e-mail Mallgren at Dmallgren@aol.com.

Wind-power generators planned for New England

By Tim Dugan
New England District

The U.S. Army Corps of Engineers is playing a role in a major wind power plant that may be built on the East Coast. New England District (NED) received an application from Cape Wind Associates in November for a Section 10/404 Individual Permit to install and operate 170 offshore wind turbine generators in federal and state waters in Horseshoe Shoals in Nantucket Sound, Mass.

"The Corps determined in mid-December that an environmental impact statement (EIS) will be required for this proposed project, currently the first proposal of its kind in the U.S.," said Christine Godfrey, NED's Regulatory Division chief.

If built, the proposed wind turbine array would occupy about 28 square miles in Horseshoe Shoals. They would generate up to 420 megawatts of electric power from the wind. The energy will be distributed to the New England regional power grid, including Cape Cod, Martha's Vineyard, and Nantucket.

The Corps will be the lead federal agency on the federal EIS process, working closely with Massachusetts officials in conducting its own Environmental Impact Review of the project.

Significant issues to be analyzed in the EIS include impacts associated with construction, operation, and maintenance of the wind turbines on recreational and commercial boating and fishing, endangered marine animals, aviation, ocean floor habitat, aesthetics, cultural resources, radio and television frequencies, ocean currents, and land resources.

"The decision whether to issue a permit will be based on the EIS findings and based on an evaluation of the probable impact of the proposed activity on the public interest," Godfrey said. "That decision will reflect the national concern for both protection and use of important resources."

Wind-driven electrical generators may soon produce power for the New England region. (Photo courtesy of New England District)

These pill bottles found at an illegal lab at Lake Texoma contained ephedrine tablets (over-the-counter sinus medication). The pills are crushed and processed to produce methamphetamine.

These fire extinguishers transported ammonia, which is used in the process of making methamphetamine. They were seized at an illegal meth lab at Lake Texoma.

Illegal methamphetamine labs are problem at district recreation areas

Article by Mary Beth Hudson
Photos by Mike Buchanan
Tulsa District

"Let's go to the lake!," say millions of people each year. Often a Corps lake is the destination. Some shoot at targets; others shoot up. Some camp out and cook fresh fish; others hide out and cook methamphetamine.

Meth producers favor rural, unpopulated areas because the activity is illegal, and the process produces toxic, explosive fumes. While meth production originally concentrated in clandestine labs throughout the western and southwestern U.S., it has spread to the central part of the country, and Tulsa District projects have become popular places for certain criminals. Those unwelcome visitors and their illegal activities have become a growing concern for project personnel, according to Mike Schrick, lead ranger at Keystone Lake.

"We're getting good at profiling," he says while telling of a recent surveillance and drug bust made possible by a park volunteer's suspicions and observations.

Big problem. The district's boundaries include the southern part of Kansas, some of northern Texas, and all of Oklahoma, an area of the country dealing with an increase in this type of drug activity. Oklahoma ranks third in the nation in methamphetamine production; Kansas law enforcement had 804 meth lab busts in 2001, and Texas has seen a rise in the number of meth labs in recent years, with growth concentrated in northern Texas.

Stanley Glanz, Tulsa County sheriff, said his department uncovered just three meth labs in 1995, and more than 1,000 in both 1999 and 2000. He emphasizes that besides being illegal, methamphetamine is dangerous both to take and to make. A highly addictive drug, meth causes physiological changes in the user's brain and permanent damage to the body. It is made with common household products that, when mixed together, can become explosive and/or give off toxic fumes.

It is also an attractive drug for dealers looking for an easy buck. It is cost-effective (a $200 investment can net a $2,000 return), quick (batches take only a couple of hours to "cook"), and versatile (the final product can be smoked, injected, or snorted).

That makes the remote areas and open spaces of public lands attractive to criminals setting up their labs.

These plastic bottles were hydrogen cloride generators, used to produce hydrocloric acid in illegal methamphetamine labs. They were seized at Lake Texoma.

"There are a million acres of land and water in Tulsa District," said John Marnell, Chief of Natural Resources Branch in Operations Division. "It's a lot of area that gives a lot of people opportunities to do a lot of things."

Danger. And the criminals are doing their thing throughout the district. There were 26 drug incidents reported on Tulsa District projects in 2000, and 37 in 2001. Reports came from Keystone, Texoma, Pat Mayse, Fort Supply, El Dorado, Canton, Eufaula, Heyburn, John Redmond, Kaw, Sardis, Council Grove, Big Hill, and Fort Gibson lakes.

What is being done to address the problem?

"Our big focus has been on education," said Marnell. Employees, contractors, and volunteers get training to know what to look for, and what to do should they find something – as they often do.

"There's paraphernalia all over the place; they find bits and pieces all the time," said Patricia Lutz, Tulsa District's Chief of Security and Law Enforcement, who emphasizes the importance of knowledge. "Our people need to be better educated and trained because we have the environment the criminal is looking for."

She emphasizes that drugs and weapons often go hand-in-hand, and she's not the only one concerned.

"Our big question is, 'What do we do if we stumble onto one in operation?'" asked Mike Buchanan, park ranger at Lake Texoma. "Run like hell, I guess. If we ever get those bullet-proof vests, maybe we need the trauma plate in the back!"

Even that might not be enough. Lutz said it's not unusual for drug areas to be booby-trapped, so the danger remains even after the criminals have gone. Shane Charlson, environmental specialist with the Keystone Area Office, said the dangers remain whether the area is booby-trapped or not. Law enforcement personnel have been permanently injured by toxic fumes and chemical residue after short exposure during investigations.

Training. Charlson provides training and makes sure it's continually reemphasized and reinforced. It's given to everyone working at field projects, both paid and unpaid, since volunteers are often the ones who discover the remains of the portable labs and need to know what to do (and what not to).

The situation is not only dangerous, it's costly. Buchanan said Texoma Project has dealt with several sites during the past few years. One in the early '90s cost $15,000 to clean up; recent, smaller ones have run from $800 to $1,500.

In a lake setting, a mobile meth lab can be mistaken for a family on an outing, right down to the children. According to *"Clandestine Laboratory Response Training"* by the Midwest High Intensity Drug Trafficking Area, cookers often have youngsters at their sites. The same material emphasizes the dangerous, explosive nature of the chemicals, and that the people involved in methamphetamine production are highly motivated to keep their activities secret, which makes them dangerous.

Those who may come in contact with either are cautioned to call the proper authorities, and that's what Corps park rangers (who carry no weapons and have no arrest authority) do.

Some efforts are being made to give Corps rangers more protection. Pepper spray self-defense training is currently underway in Fort Worth District, and Tulsa rangers are

Continued on next page

Counselors help rangers in rough times

By Alicia Embrey
Tulsa District

Park rangers are the "infantry" of the U.S. Army Corps of Engineers. They are on the "front lines" dealing with the public every day. Like infantrymen, they are sometimes faced with traumatic situations because in an emergency, the rangers are often the first ones that people turn to. And like combat veterans, the rangers sometimes suffer emotional after-effects.

That's why Southwestern Division (SWD) created the Critical Incident Stress Management (CISM) program, to help rangers deal with their feelings.

The career of Jim Vandergriff is a classic example of why CISM was created. The Lake Texoma lead ranger spends his free time listening to coworkers' grim tales of assisting at accidents, attempting to resuscitate drowning victims, or recovering bodies from a lake.

And Vandergriff has some war-stories of his own.

"I started my career as a park ranger in the summer of 1972," Vandergriff said. "We routinely experienced incidents ranging from vehicle crashes to drownings. I was there; I *needed* to be there; I *wanted* to be there; I was comfortable being there; and I was always prepared to be there. I took it all as part of the job and was content with my emotions and reactions. I was complimented and sought by other responders who wanted me on the scene because I added stability to the incident."

Tracy Robb, a Tulsa District park ranger, practices first aid on Louis Holt, son of Terry Holt, co-chair of the district's Critical Incident Program Management Team. Louis wears a CPR assistance mouthpiece. Such training helps rangers prepare for the emergencies they face. (Photo courtesy of Tulsa District)

The unexpected. So Vandergriff was a one tough ranger. No one doubted that. But one hot summer day in July 1980, his life took an unexpected turn.

Nothing was unusual as he left the office enroute to his patrol area near the entrance to Eisenhower State Park at Texoma Lake. But as he approached the entrance, he saw vehicles and people along the roadside, and an ambulance approaching from the south. As he got closer, he saw a vehicle resting on its side.

"I stopped at about the same time the ambulance arrived," Vandergriff said. "The emergency medical technicians (EMTs) rushed into the ditch at the intersection. I saw two individuals, one a Texas park ranger, holding a five-year-old girl. She was crying for her mom."

It took Vandergriff a moment to realize the ranger was holding the back of the little girl's head in place.

"Then all of a sudden, there were these arms around me, and a young lady was begging me to tell her the little girl would be all right," Vandergriff said. "She was the child's 16-year-old sister, and the driver of the car."

The incident occurred when the young driver failed to yield while leaving the park and got hit by another automobile.

"The little girl had been standing in the front seat by her sister and was ejected through the passenger side window," Vandergriff said. "I hung around to help clear the scene, but as I left the area a horrible anxiety came over me. I called one of the temporary rangers to meet me at a coffee shop and told him about the incident. I couldn't get the fact out of my mind that the little girl was not unlike my five-year-old daughter."

Reaction. The accident continued to haunt Vandergriff, and about two weeks later the emotions ambushed him when he received a call of a drowning. As he arrived, an EMT carried an 18-month-old child out of the water and was trying to administer CPR.

Vandergriff never got out of his vehicle. His anxiety was so overwhelming, he drove away leaving other rangers to collect information and prepare reports.

Vandergriff recovered, but he had to gut it out on his own.

"Needless to say, I've worked numerous other incidents since then," he said. "I don't have nightmares; I don't suffer anxiety; I don't take medication. I'm a tough guy! I work with tough guys. But that one shook me to the core."

Sudden crises stress not only the victims, but also the person giving aid. This stress can cause health problems, depression, and reduced job performance. That's where CISM comes in.

Supporters. Interest for the program surfaced from concern about the number of critical incidents, like the ones Vandergriff experienced, involving Corps employees. SWD committed the resources to train Critical Incident Stress Peer Supporters (CISPS) for the CISM team. They help fellow employees cope with job trauma by encouraging them to talk about what they've seen, and to work on relieving the stress.

"As crises and disasters become epidemic, the need for effective crisis response capabilities becomes obvious," said Terry Holt of Tulsa District. He and Tim Gibson of Fort Worth District co-chair the Critical Incident Program Management team. "CISM is a powerful and cost-effective approach to crisis response.

Corps family. "The term 'Corps Family' is often used to describe the closeness Corps employees see in themselves and their co-workers," Holt continued. "In this day of fewer support systems, the 'Corps Family' becomes more valuable than ever. We've addressed the need for CPR and first aid training for many years. Now it's time to address psychological first aid. The benefits demonstrate management's commitment to employee well-being. CISM decreases absenteeism, reduces lost time accidents and workmen's compensation, and maintains employee health, morale, and productivity."

The SWD Critical Incident Program Management Team (CIPMT) manages the program. CIPMT members will be ready by this spring to answer questions about the program. The team members are:

- Tim Gibson, CIPMT co-chair, Fort Worth District.
- Terry Holt, CIPMT co-chair, Tulsa District.
- Elisa Pellicciotto, SWD CISM program manager.
- Bill McCauley, SWD CISM field liaison .
- Duane Braxton, SWD Human Resources representative.
- Beth Cruzen, CIPMT team member, Tulsa District.
- Craig Edmondson, CIPMT team member, Tulsa District.
- Tim Horn, CIPMT team member, Fort Worth District.
- Kristine Brown, CIPMT team member, Galveston District.
- Chris Smith, CIPMT team member, Little Rock District.
- Roger Howell, CIPMT team member, Little Rock District.

Currently, 30 employees throughout the district are receiving CISM training as peer supporters.

(Bernard Tate of Headquarters also contributed to this article)

Meth labs

Continued from previous page

watching the outcome closely, according to Schrick of Keystone Lake. That project's proximity to Tulsa makes it a particular favorite of drug cookers, and the state park cabins there have often been used as labs.

That is a "good news/bad news" situation because the problems have worked to the Corps' advantage. The state ranger, James Butler, is now a trained Drug Enforcement Agency responder, and a valuable resource used by Keystone area.

Signs. Throughout the district, project personnel look for signs, listen for clues of meth production, and work with local law enforcement. Neal Whitaker, park ranger at Marion Reservoir, said those clues can include batteries that have been peeled open, Sudafed packages, and blue-tinged valves or frost on propane bottles.

Other materials found at mobile meth labs can sound rather innocuous. They include rubber hoses, coffee filters, battery cases, match boxes, spoons, plastic jugs, canning jars, pop bottles, plastic cups, kitchen utensils, rock salt, aluminum foil, and over-the-counter cold and allergy medications.

But then the list gets dangerous — sodium acetate, starting fluid spray, drain opener, and denatured alcohol. Then include anhydrous ammonia, ephedrine, red phosphorous, iodine, lithium metal, hydrochloric gas, sulfuric acid, ethyl ether, muriatic acid, and potassium chlorate.

As the recipes are followed and ingredients combined, the mixtures become dangerous, toxic, explosive, and deadly.

Lutz feels that rangers should be provided body armor and pepper spray to feel secure doing their job. "I see them as being the most vulnerable," she said. "Protecting the force is my concern, and they can find themselves in the middle before they know it."

Rangers' lives have been changed in several ways, according to Whitaker. They carry first responder resource guides in each patrol vehicle, give areas of known drug activity additional scrutiny and patrol, and keep volunteer groups away from areas with a history of drug activity.

Caution. Whitaker said, "We now approach an RV, a pickup with a camper shell, a tent, or even a car in a primitive area with extreme caution. Not only may they be involved with illegal drug production, they may also be meth heads that are cranked out."

Whether cranked out or just starting to cook, the meth cookers and the drug-users they attract are of no benefit to Corps projects. Tulsa District staff and volunteers alike work hard to preserve the recreational experience for those who legitimately say, "Let's go to the lake!"

An epidemic that killed pine trees throughout the Southeast did much damage at Dale Hollow Lake. (Photo courtesy of Nashville District)

Volunteers from throughout the Dale Hollow Lake area are replacing the dead pine trees with mixed hardwoods. (Photos courtesy of Nashville District)

Volunteers replacing dead pines at lake

By Sondra Hafling
Nashville District

Recently Tennessee communities and outdoor organizations came together to re-forest a favorite federal campground devastated by tree-killing pine beetles.

And it didn't cost the federal government a dime.

Dale Hollow Lake is a Nashville District project, and a vacation destination for thousands. It was severely damaged by southern pine beetles, but is now reaping the many benefits of reforestation thanks to dedicated partnering. This effort has begun to work its magic as recreation areas and parks at Dale Hollow Lake are reforested for a beautiful green future.

Mature, non-native loblolly pine forests were planted around Dale Hollow Lake about 50 years ago for conservation and erosion protection. The southern pine beetle, part of a pine tree epidemic that swept through the southeastern states, ravaged the forests. Southern pine beetles have always been present, but the severe outbreak early last year was due to several warm winters, plus several years of drought.

The beetles bore directly through the bark and the females build long, winding, S-shaped tunnels that eventually girdle the tree, stopping the flow of water and nutrients. The pine trees are damaged beyond their ability to survive, and the infested trees fade to yellow, then bright reddish brown, before losing their needles and dying.

The Corps had no choice but to remove vast numbers of dead trees in developed recreational parks for public safety and environmental stewardship. Two of Dale Hollow's most popular campgrounds, Lillydale and Willow Grove, were hardest hit. About 1,500 large, infested pine trees were removed from both campgrounds.

Project Phoenix was born in the fall of 2000 to combat the environmental devastation. It is a partnering effort among the Dale Hollow Chapter of the National Wild Turkey Federation, Nashville District, and the Friends of Dale Hollow Lake, Inc.

The name comes from two mythical birds, the phoenix and the thunderbird. The phoenix both dies and is reborn in fire, and the thunderbird is the powerful Indian rain spirit. Through the thunderbird, the earth is watered and vegetation grows. Lightning is believed to flash from its beak, and the beating of its wings is the sound of thunder.

Project Phoenix is designed to replace dead pines with native hardwood trees in damaged campgrounds, recreation areas, and other natural areas. The devastated forests will be replanted with a mix of healthy native hardwood trees including various oaks, dogwoods, redbuds, maples, ash, black and sweet gums, tulip poplars, and other native shade and landscaping species.

The volunteer tree-planters included Boy Scouts and their adult leaders. (Photo courtesy of Nashville District)

The project's first 30 trees were planted in Lillydale Campground on Oct. 27. During their fall jamboree, about 100 Boy Scouts and adult volunteers from the Upper Cumberland District of the Boy Scouts of America used this project as part of their annual community service project. The theme for their volunteer effort was "Service to America," and provide service they did.

"They also cleaned up the entire island where we provide tent camping," said Ronnie Smith, Dale Hollow Lake resource manager. "We still had many limbs, roots, and rocks that needed to be picked up. They cleaned up the entire island by hand. That was a tremendous help to us.

"The Scouts learned about nursery stock and tree transplanting procedures," Smith added. "Although this experience was a small part of a worthy project, they'll have the benefit of returning in the future with their families and take pride in knowing their efforts produced a living long-range enrichment to the environment. Future visitors to Lillydale campground will reap great benefits of shade and scenic beauty from the scouts' service."

Project Phoenix will likely take several years to complete, especially as new damaged areas require reforesting, or replacement plants fail to survive the first year's growth. The goal of Project Phoenix is to plant 500 diverse native species for both Lillydale and Willow Grove campgrounds. Another 50 to 100 container trees are proposed for bank stabilization if additional donations are received.

The Dale Hollow Chapter of the National Wild Turkey Federation (NWTF) donated 210 large-diameter hardwoods that the Corps planted, with more trees promised for 2002. NWTF's Kentucky and Tennessee State Chapters donated $2,000 each of Super Fund money to the Friends of Dale Hollow Lake, Inc., the not-for-profit association dedicated to protecting and conserving Dale Hollow Lake, and support of Corps efforts. All contributions received go toward Dale Hollow's reforestation project and Project Phoenix.

Kim Passeretti, Project Phoenix coordinator, said, "The Dale Hollow Chapter is proud to have this opportunity to dedicate funds to a project that is enhancing, creating, improving, and renewing wildlife habitat, while bringing back the natural beauty of Dale Hollow Lake."

Overton County Bank contributed $500 as part of the bank's year-long celebration of 100 years in banking and community service. And many individuals and families made contributions to Project Phoenix on behalf of loved ones, or just for their personal fondness for the lake.

"All our stakeholders and partners have been great to provide to the Friends of Dale Hollow the cash donations necessary to purchase all the trees," Smith said. "The Corps has not purchased a single tree out of this restoration project."

Project Phoenix does not stop at just reforesting two popular recreation areas. The project will expand into establishing warm season grasses and winter wheat plantings in many shallow lake flats. Bald cypress is being considered for transplant on shorelines and mud flats this year. Native wildlife, including deer, wild turkey, eagles, ducks, and fish will benefit through habitat enhancement with better nesting cover, improved summer brood habitat, fall mast crops (nuts accumulating on the ground), and providing winter foraging habitat.

Members of the Future Farmers of America from Upperman High School improved the campgrounds for different guests. They built nesting boxes for birds in both Lillydale and Willow Grove campgrounds.

Lillydale will open for campers on May 15; Willow Grove will open on May 1. For more information on the southern pine beetle infestation, visit Nashville District's Website at www.lrn.usace.army.mil/pao/background/acctproj/PineBeetle.htm.

Corps helps clean up creosote site

By JoAnne Castagna
New York District

A wastewater treatment plant removes creosote from groundwater. (Photo courtesy of New York District)

In 1996, a Claremont Development resident in Manville, N.J., reported a black oil-like substance discharging from the basement sump pump. The next year another Claremont resident saw the same substance in soil surrounding a sinkhole that developed near a storm sewer pipe.

The New Jersey Department of Environmental Protection (NJDEP) investigated, and in 1997 identified the substance as polycyclic aromatic hydrocarbon (creosote), a preservative used to treat wood, such as telephone poles. The development's soil contained high levels of creosote, a probable human carcinogen.

Claremont Development, a 50-acre residential and commercial community, rests on the property of the former American/Federal Creosote Wood Treatment Facility. The facility closed in the late 1950s and portions of the land were developed into commercial and retail property, including the Rustic Mall and 137 single-family homes.

The old creosote facility included several large buildings, a pressure cylinder, five vertical storage tanks, a wood treatment facility to apply creosote, and two lagoons and canals to collect creosote-contaminated sludge.

The facility was removed before the Claremont Development was built, but the canals and lagoons with creosote sludge were just covered with a few feet of soil.

"In the 1960s there were no regulations to monitor the waste or prevent construction of the development," said Michael Scarano of North Atlantic Division.

EPA leads project

In 1997, citing the magnitude of the problem and the need for immediate response beyond their capabilities, NJDEP requested assistance from the U.S. Environmental Protection Agency's (EPA) Region II.

EPA conducted more than 100 surface and subsurface soil borings at Claremont Development and surrounding properties and discovered the canals and lagoons, and that 19 residential properties contained creosote. EPA reported the contamination is extensive, uncontrolled, and has impacted sediment, soil, and groundwater, posing health risks to residents.

The EPA found that the canal and lagoon areas are the major sources of soil and groundwater contamination, and decided the area needed to be remediated (cleaned up). EPA called for excavating the lagoons and canals, with off-site treatment and disposal of contaminated material. This required buyout and demolition of 17 residences.

Inter-district team

In 2000, EPA requested help from the U.S. Army Corps of Engineers. Scarano said, "My job is to provide the EPA with the best possible Corps resources without regard to district or division boundaries. The size and nature of this project provided an opportunity for an inter-district team to execute the work."

EPA Region II accepted a proposal for an inter-district team, and Scarano assembled a project delivery team with specialists from five Corps districts and two divisions.

Virtual team roles

Each district plays a critical role on this virtual team. (A virtual team is one whose members seldom meet physically. They work by phone, e-mail, video teleconference, and other electronic means.) New York District leads the Remedial Action Phase with the help of Philadelphia District. Omaha District manages cost-plus contracts, Baltimore District handles key real estate services, and Kansas City District is in charge of Remedial Design/Technical Assistance.

The Remedial Action Phase began in the fall of 2000 with the remediation of the lagoons and canals. Presently, Lagoon B is being remediated. This included demolishing and removing nine homes, asbestos abatement, capping and relocating utilities, backfill and cover of basements, removing trees and bushes, installing chain link fence, and establishing 24-hour site security.

According to Urbanik, current work activities include building a retaining system to support the sidewall of the Lagoon B excavation. This is vital because CSX Railroad tracks run along the other side of the wall. Other work includes removing groundwater from the site so workers can work on dry soil; a wastewater treatment plant to remove creosote from the groundwater; and excavating and transporting creosote contaminated material to at least three separate disposal facilities.

The creosote waste is being disposed at different locations depending on its level of contamination.

Kansas City District is maintaining an aggressive investigation and design schedule to meet project requirements. Todd Daniels, project manager, Kansas City District, said, "While remedial activities are ongoing in one area, designs are being finalized for the next area, starting for other areas, and investigations being planned for two other areas. Our goal is for the remedial action contractor to move seamlessly from area-to-area and phase-to-phase."

Mentoring contractors on cost reimbursement issues is the role of Omaha District's Rapid Response Program Office. Mark Herse, Rapid Response Operations Manager, said, "We're mentoring contractors in developing proper cost reimbursement administration tools, such as cost tracking and reporting, and subcontract consents."

Public support

As part of the Remedial Action Phase, it was necessary buy 17 homes and relocate the residents. Christine Milligan, realty specialist, Baltimore District said, "We work with each resident individually to explain the governments' acquisition process, their relocation options, and the relocation benefits available to them."

"Residents were able to find homes comparable to those they lived in," said Scarano. "The team is providing necessary relocations and buyouts, with all expenses paid by the government."

Extensive safety procedures are in place to protect the health of people in and near Claremont Development. "This includes a detailed Health and Safety Program, including air monitoring, dust and odor control, and regulating truck traffic," said Daniels. "EPA and Corps on-site personnel have done an excellent job keeping the public informed."

"The residents of Manville have been supportive of the work, demonstrated by their comments at public availability sessions, and they have cooperated with the government and contractors in allowing us to conduct soil samples," said Urbanik.

"The site is highly visible and politically significant due to its high level of Congressional and EPA Region II attention," said Neal Kolb, team leader and lead project engineer, New York District. "The Corps and EPA Region II have received praise for their execution of the Remedial Action Plan from members of Congress as well as local officials and residents."

Collaboration

USACE's primary customer, EPA Region II, is an important part of the team.

"USACE and EPA have an excellent relationship on this project," said Scarano. "For the most part, the rapport is that of 'sister' agencies rather than a client/employer relationship. Of course, USACE is mindful of its role to support EPA."

"The EPA and USACE team discuss all issues at either daily or weekly meetings, and are resolved as quickly as possible," said Duffy. "All actions are planned and discussed fully with EPA."

Scarano adds, "The team is successful because of the professionalism and technical qualifications of its members. Also key to the success was a proposal that considered the overall needs and desires of EPA and the project. Because of the great support from all team members, EPA Region II has been satisfied with the project."

Future work

The project, expected to cost more than $100 million when complete (federal share 90 percent, state share 10 percent), has several more phases. Lagoon B remediation is expected to be complete this July, then remediation of Lagoon A will begin. This includes demolishing and removing eight homes, asbestos abatement, capping and relocating utilities, backfilling and covering basements, removing trees and bushes, installing a chain link fence, and both canals will be excavated. The project should be complete by 2006.

Lewis & Clark

Expedition's core missions were navigation and commerce

By Walt Evans

It is appropriate that the U.S. Army Corps of Engineers will help the nation commemorate the bicentennial of the Lewis and Clark expedition. When the underlying reasons for the Lewis and Clark's Corps of Discovery Expedition are examined, Corps links with this historic event become even more apparent.

President Jefferson's instructions for the Lewis and Clark Expedition show that the core mission was *navigation*-related — to link the Mississippi-Missouri and the Snake-Columbia river systems to forge a national, east-west water navigation system. Jefferson wanted to determine if this southern route across North America offered benefits not found in the Canadian route then used to transport goods.

Specific language used in both the private letter from Jefferson to Meriwether Lewis, and in the confidential communication from the President to Congress seeking funds to pay for the expedition, make clear the importance of commerce and navigation. Jefferson made clear that he wanted to find a navigation to link the two coasts of our young country.

So navigation, long important as a Corps mission, lies at the heart of Jefferson's thinking to support this expedition. Of course, the botanical and natural science benefits resulting from the expedition were dramatic, and helped advance many natural sciences. But focusing on the navigation mission does not detract from these other important benefits.

The Corps of Discovery had as its core responsibility exploring a water/portage/water link between the Missouri and Mississippi rivers in the East and the Columbia River in the West. Exploring a water link bridging these rivers was the first responsibility that Jefferson gave to Lewis. Although history has proven that Jefferson vastly underestimated the barrier posed by the Rocky Mountains between the Missouri and Snake rivers, at that time Jefferson wondered if the water transportation across the northern U.S. could be linked.

Public statements at the time about the expedition's goals were broader and more general, but Jefferson's personal letter to Lewis in 1803 stressed the expedition's true purpose:

"The object of your mission is to explore the Missouri river, & such principal stream of it, as, by it's course and communication with the water of the Pacific Ocean, may offer the most direct and practicable water communication across this continent, for the purposes of commerce...

"The interesting points of the portage between the heads of the Missouri & the water offering the best communication with the Pacific Ocean should be fixed by observation & the course of that water to the ocean, in the same manner as that of the Missouri...

William Clark

Meriwether Lewis

"Should you reach the Pacific Ocean, inform yourself of the circumstances which may decide whether the furs of those parts may not be collected as advantageously at the head of the Missouri (convenient as is supposed to the waters of the Colorado and Oregon or Columbia) as at Nootka Sound or any other point of that coast; & that trade be consequently conducted through the Missouri and U. S. more beneficially than by the circumnavigation now practiced..."

Navigation also was an essential part of Jefferson's request to Congress in 1803 seeking support for the Lewis and Clark Corps of Discovery. Jefferson later wrote Lewis that he wished to keep the true goal of the expedition from general public knowledge. In the same letter quoted above, after expressing concern about discussing the expedition's true purpose with someone with close ties to the British, Jefferson wrote Lewis:

"The idea that you are going to explore the Mississippi has been generally given out. It satisfies public curiosity, and masks sufficiently your real destination."

Even the more generic confidential message transmitted to Congress by Jefferson on Jan. 23, 1803, urging Congressional approval for the mission and its cost mentioned navigation and commerce. This confidential letter to Congress did not detail the true goal of the Lewis and Clark expedition. Much of it dealt with matters within the existing U.S. territories.

The president and his supporters worried about revealing all the expedition details in a document (even a confidential one) that might be leaked to the British. Nevertheless, Jefferson mentioned navigation and commerce when requesting Congressional approval:

The following confidential message was received from the President of the U.S., by Mr. Lewis, his Secretary. The language is discreet; italicized comments explain Jefferson's meaning.

"It is, however, understood, that the country on that river *(Missouri)* is inhabited by numerous tribes, who furnish great supplies of furs and peltry to the trade of another nation *(Great Britain)*, carried on in a high latitude *(Canada)* through an infinite number of portages and lakes, shut up by ice through a long season. *(This northern route across Canada Jefferson hoped to replace with a more southern "American" route open for transit for more of the year.)*

"The commerce on that line *(Canadian)* could hear no competition with that of the Missouri, traversing a moderate climate, offering, according to the best accounts, a continued navigation from its source, and possibly with a single portage, from the Western Ocean, and finding to the Atlantic a choice of channels through the Illinois, or Wabash, the lakes and Hudson, through the Ohio and Susquehanna, or Potomac or James rivers, and through the Tennessee and Savannah rivers...

"While other civilized nations have encountered great expense to enlarge the boundaries of knowledge, by undertaking voyages of discovery, and for other literary purposes, in various parts and directions, our nation seems to owe to the same object, as well as to its own interests, to explore this, the only line of easy communication across the continent, and so directly traversing our own part of it. The interests of commerce place the principal object within the constitutional powers and care of Congress, and that it should incidentally advance the geographical knowledge of our own continent, cannot but be an additional gratification...

"The appropriation of two thousand five hundred dollars, for the purpose of extending the commerce of the United States, while understood and considered by the Executive as giving the legislative sanction, would cover the undertaking from notice, and prevent the obstructions which interested individuals might otherwise previously prepare in its way...."

These two documents prove the expedition's emphasis on commerce. River commerce requires navigation improvements to maintain channels. In turn, this led to the long-running navigation role for the Corps along much of the route followed by Lewis and Clark.

Other federal agencies also will remember the expedition within their jurisdiction and operational scope. They may call attention to the natural science aspect of the expedition and its splendid results. But we should not let the natural science aspects of the expedition, important though they were, overshadow its navigation and commerce mission.

(Evans is a member of the law firm of Schwabe, Williamson & Wyatt, where some of his client representation involves interaction with the Corps.)

Log cabin investigated, refurbished

Article and Photo
By Liane Freedman
Pittsburgh District

Situated on a side street overlooking the Monongahela River in Glassworks, Penn., the old house originally looked like many of the other houses in this small, forgotten community. But about seven years ago, after the house was sold to the U.S. Army Corps of Engineers, it was vandalized and damaged by fire.

That's when its secrets came to light.

The house and 13 others skirted the Monongahela River in these two towns when Grays Landing Lock and Dam was built in the early mid-1990s. The Corps decided these houses should be either flood-proofed, moved from the 100-year flood-plain created by the lock, or demolished. The owners had the option to sell their homes to the government or flood-proof them, and most sold.

After the buildings were purchased by the Corps, the Pennsylvania State Historical Preservation Society determined that many of them were historically significant and needed to be saved for posterity instead of demolished.

The Glassworks house was a two-story originally sided with clapboard siding. Its gabled roof was topped with asphalt shingles, and it had what appeared to be a recent addition tacked to its rear. Greene County bought the house, planning to make it into a artist studio with a resident artist living above the studio on the second floor.

But the nondescript house turned out to be a historic treasure. Originally, the Corps just planned to replace the clapboard siding, roof, and other parts damaged by the fire, put a new foundation under the addition, and just spruce it up a bit with paint, new floor, electric wiring, and plumbing before turning it over to Greene County.

A carpenter cuts a 2x4 to frame the inside walls of the rehabilitated house.

As carpenters removed the siding last August, they found the core of the house was a 24x26-foot log cabin. That was expected, said Joe Elwell, resident engineer of Grays Landing. But they did *not* expect that the addition was *another* log cabin.

According to Yvonne Becka, contract archeologist, the 16x20-foot one-story cabin could have been either a summer kitchen or, since the owner was a glassmaker, maybe an apprentice's home. "More research has to be done to determine what the cabin was used for," she said.

Known as the Eberhart/Gabler House, both log cabins were built around 1805 by Adolf Eberhart. He was one of the original glassworkers employed by Albert Gallatin, Secretary of the Treasury under Thomas Jefferson, and the owner of the first glass factory in this part of the country. The glass works operated until 1849.

According to tax records, the house was sold in 1866 to Allen Gabler, who then sold it to Thomas Sayers. It was then sold to Benjamin Gabler in 1897.

"Without doing genealogy research, its hard to say if the house remained in the Eberhart family," said Becka. "Eberhart daughters could have married into the Gabler and Sayer families."

"The house was severely damaged by fire," said Elwell. "But it retains its historical significance and will be rehabilitated in compliance with the Secretary of Interior's standards."

The Eberhart/Gabler House is one of four houses associated with the early glass works in western Pennsylvania. It is eligible for the National Historical Register.

Oakdale Construction Company of Oakdale, Pa. is the general contractor for the rehab. The carpenters are aided by log cabin specialists. One subcontractor specializes in new log cabin construction; the others are experts in log cabin restoration.

Beginning Sept. 15, they took the cabin apart to build a new foundation for the smaller cabin. As of Oct. 30 the cabin was whole again, except the roof. The original 200-year-old red oak logs that weren't damaged by the fire were re-used. New poplar logs replace those damaged beyond use by the fire. "It took them one day to take the log cabin down, and three days to put it back up," said Elwell.

"Construction is moving along well, given the mild winter we're having," Elwell continued. All log work is done, the roof is finished, the plumbing and electrical work is roughed in, and the exterior siding is ready to go up. Currently, interior drywall is being installed.

Since the house is being rehabilitated instead of restored, the log cabins will again be hidden. German lap siding will replace the original clapboard. Inside, the logs will be framed with 2x4-inch planks so that drywall can be hung. The first floor of house will be an art gallery and reception area. The second floor will be an apartment for the resident artist.

Yazoo City Pumping Plant gets 'relief'

By David Longmire
Vicksburg District

It has been a continuous battle during the past several years for Vicksburg District to keep the aging relief wells surrounding the Yazoo City, Miss., Pumping Plant operating efficiently. The district recently used unique methods to install 16 new stainless steel wells. Eight are in operation, and the other eight were capped and in reserve for future service.

"This should ensure the safe operation of the Yazoo City Pumping Plant for many years," said district geologist Eric Woerner. The previous wells had clogging problems for the past five years.

The pumping station, built in 1955, consists of a pump house and inlet and outlet basins. It is located about two miles southwest of Yazoo City, Miss., near the downstream end of the Jonestown cutoff. It provides drainage and flood protection for 6,230 acres, including residential, industrial, and agricultural land.

The groundwater table is only a few feet below the ground surface at the pumping plant. "This presents uplift problems of the structure and inlet channel when the level of the Yazoo River is high and the stage of the old riverbed inside the protective levee is low," Woerner said.

A series of relief wells was installed during the original construction to allow pressure of the groundwater to be relieved and prevent sand boils from removing foundation sand from beneath the structure and inlet channel.

The wells had to be replaced in the mid-1970s, and more wells were installed in 1983. The problems are due to bacteria that feed on the high concentrations of iron in the groundwater and produce slime that clogs up the well screen and filter.

"Because of this, the life expectancy of these wells is only about 15 to 20 years," Woerner said.

He added that the new wells are eight inches in diameter and 80 feet deep. They are made with Type 316 stainless steel alloy, selected to protect the well screen and riser when chemical treatments are used in future years.

Ken Klaus, Chief of Geotechnical Investigations and Inspections, said they used a unique method to install the wells, saving time and cost.

"Typically we use a rotary drill rig, but these wells were installed with the vibro-pullback method developed by our district," he said.

A 20-inch diameter casing is vibrated to the desired depth using a crane and a vibratory hammer, and the soil inside is removed with a high-pressure water jet. The screen and filter sand are placed inside the casing, then the casing is vibrated out leaving an installed well.

This method has been efficient along the Mississippi River levees, but this was the first time it has been used near a structure, according to Klaus. "The advantages are that it reduces the amount of earth work to get a rig in position to drill at each location, and the installation time is faster."

A vibratory hammer drove the relief well casings into place. (Photo courtesy of Vicksburg District)

In fact, Woerner said it is about three times faster. "This was important, because the pumping plant could not be operated while this process was ongoing." A two-inch rainstorm during the installation would have required a breach of a required cofferdam so the pumping plant could resume normal operation.

Al Hitchcock, civil engineering technician, said two to three wells were installed each day compared to one a day by conventional methods. "We've installed as many as 17 in one day along the river levees where we had no space limitations."

Woerner said work was done from an earthen bench carved into an existing channel site, which allowed the equipment, which included a 100-ton crane and vibratory hammer, to be set up. Space was limited to 35-foot widths to work around.

Cost savings resulted from the abbreviated time it took for the month-long project, which concluded with the initial operating of the new wells. Conventional methods would have taken much longer, he said, about two-and-a-half to three months. Labor costs averaged about $5,000 per day, therefore, the savings are substantial.

"Our cost break for contracting the crane, operator, and vibratory hammer is to put in a dozen wells, so this is a viable alternative when more than a dozen wells are needed," Woerner said.

Along with Vicksburg District, the project was accomplished as a group effort. Personnel from the Geotechnical Branch, the Yazoo Field Office, and Rig Masters (the contractor) performed work. Services were then contracted for the crane, vibratory hammer, and welder. "The effort by all involved was first-rate," Woerner said.

(David Longmire is a contract writer for Vicksburg District.)

The bobcat tries to escape by climbing straight up the dam at John H. Kerr Powerhouse.

That's one big dam cat!

Article by Sherrie Storm
Photos by Buddy Sikes
Wilmington District

A routine day got exciting when John H. Kerr Powerhouse employees and a 40 lb. bobcat crossed paths.

On Feb. 12 David Marriner and Raymond Lawson were doing a biannual inspection on the hydropower units at the dam. To access them they had to climb down a 30-foot ladder onto a concrete platform, visible from the lake-side of the dam.

Marriner picked up a stick to move a log away when "there was the biggest bobcat I ever saw, hissing at me," said Marriner. "He ran one way, and I went the other."

Marriner and the cat were trapped together between the water and the dam, the only exit being straight up.

Lawson yelled up to John Clements and Kevin Dedad, standing on top of the dam, "There's a bobcat down here!"

"At first we laughed," said Clements. "Then Raymond pointed and *Holy Cow!* There he was, a beautiful cat, about 40 pounds."

They radioed for assistance.

"He was trying to get away, but had no place to go except up," Dedad said.

Apparently the choice between jumping 15 feet down into the cold water of the lake, and trying to climb up the concrete wall at first seemed easy to the frightened bobcat.

"He started climbing," said Clements.

"He climbed straight up the wall about 10 or 12 feet before he decided he couldn't make it," added Marriner.

By this time, Mecklenburg County police officer Don Blanton had arrived to assist. As Blanton approached the bobcat, "It decided to get wet," said Clements.

The bobcat swam 100 feet to the shoreline of the Old Picnic Area, "but he had a hard time," said Clements.

They watched as the bobcat sprinted safely away, into the wooded area across Route 4. "We're lucky Buddy Sikes got the pictures," Clements said. "Nobody would ever have believed a bobcat trying to climb the dam."

"Back off! I'm a *bobcat* and I'll eat you up!"

All involved tried to figure out how the big bobcat got stranded. Rick Carroll, powerhouse superintendent, explained that more than likely, the bobcat was chasing a small animal on top of the dam when something scared him. "He probably jumped up and fell over onto the intake section of the powerhouse turbines."

"We've had skunks, pigeons, and buzzards, but this is the first bobcat that we've ever run across," Carroll said. "I'm pleased that the incident ended with everyone and the bobcat safe."

And a new nickname for David "Bobcat" Marriner!

(Sherrie Storm is a ranger at John H. Kerr Reservoir.)

HR Corner

Employees very satisfied with USACE

*(**Editor's note:** This month the Human Resources staff covers three different subjects in "HR Corner" – the Corps results in an Army-wide employee survey, the Student Loans Program, and the recent USACE Strategic Recruitment Workshop.)*

Survey results

During the past 25 years Army has periodically surveyed the morale of the workforce.

For 2001, all civilian employees, supervisory and non-supervisory, were asked to take a Web-based survey. Army-wide, 45,354 employees (22 percent response rate) and 9,010 supervisors (38 percent response rate) completed the survey. For the Corps, participation was 11,031 employees (35 percent response rate) and 1,761 supervisors (47 percent response rate).

The Corps registered the highest response rate for non-supervisory employees, compared to other major commands (MACOMs). The Corps supervisory response rate was second highest, compared to other MACOMs.

Although there is a lot of data in the survey reports, it is presented in a way that makes it is easy to browse and compare USACE responses with the Army as a whole, and with other MACOMS). You may view the data at www.cpol.army.mil.

The top item rated most favorably by Corps employees was, "My supervisor is competent in handling the technical parts of his/her job." The top two (there was a tie) items for supervisors were, "I feel free to go to my supervisor with questions or problems about my work," and "I find my work challenging." Conversely, the most unfavorable item for employees (41 percent) and supervisors (37 percent) was, "I am not satisfied with the processes used to fill vacancies."

Overall satisfaction with personnel service was judged favorably by 55 percent of non-supervisors, up from 42 percent last year. More supervisors rated overall personnel service favorably (46 percent) than unfavorably (27 percent), up from 41 percent favorable and 31 percent unfavorable last year.

Most Corps survey participants (83 percent of our supervisors and 73 percent of our employees) responded favorably that their jobs make good use of their abilities, and that they are satisfied with their jobs (79 percent for supervisors and 73 percent for employees).

On the less positive side, 29 percent of the supervisors and 31 percent of our employees registered an unfavorable response to the survey item "management makes timely decisions." Also, 30 percent of our employees and 25 percent of our supervisors do not believe they get sufficient career counseling. This is consistent with the commanding general's observation that we need to do better in this area.

Corps employees responded significantly more favorably than other MACOMs to questions regarding training discussions with their supervisor (73 percent responded favorably) and support for programs that encourage good health (70 percent). Supervisors responded more favorably than other MACOMs to the question regarding equal opportunity for promotion (72 percent).

Repayment of Student Loans Program

The authority to repay federally insured student loans as a recruitment incentive for hard-to-fill positions was recently authorized. The program allows repayment of student loans up to $6,000 a year with a lifetime limit of $40,000. This new tool will enable managers to attract and retain the capable work force required to meet the Corps varied missions.

In return for an agreement to repay a student loan, employees who receive this benefit will be required to sign a service agreement of at least three years. This program is not an entitlement, but used as an incentive to attract and retain employees in hard-to-fill positions.

USACE Strategic Recruitment Workshop

The Directorate of Human Resources hosted a Strategic Recruitment Workshop Jan. 15-17 at Humphreys Engineer Center in Alexandria, Va. Participants included USACE human resources staff, line managers, and Army staff involved in recruitment initiatives.

The workshop purpose was to review current recruitment strategies, and design, develop, and plan the implementation of a corporate approach to recruitment, within the parameters of available resources, Army-wide initiatives, and legislative constraints.

Participants listened to speakers discuss various initiatives that affect recruitment. Presentations included The People Committee, and updates on current Department of the Army, automation, and legislative initiatives. They learned about innovative recruitment programs in other USACE organizations.

Participants then divided into four workgroups to discuss various aspects of the recruitment process and develop plans for improvement.

An action plan is being finalized with specific goals, action officers, and target dates for completion. Key components of the action plan are better recruitment forecasts for all levels of commands, an enhanced USACE employment web site, revision of corporate recruitment materials, and a more integrated corporate strategy for participation in job fairs and college relations programs.

Workshop material is available on the Human Resources section of USACE's homepage.

Around the Corps

NFL award

The San Francisco 49ers have selected Chris Gallagher, manager of the Bay Model in Sausalito, Calif., as a finalist in their annual Community Quarterback Awards. The awards recognize people who make a difference in their community.

As the Marin County YMCA's nominee for the award and their Volunteer of the Year in 2000, Gallagher has been involved with the Marin YMCA for more than five years. In 1996, she joined the Marin branch's Board of Managers. She chairs the Program Committee, co-chairs the Facilities Committee and the Community Support Campaign, and is a member of the board's Executive Committee.

Chris Gallagher got a Community Quarterback Award from the San Francisco 49ers. (Photo courtesy of San Francisco District)

Gallagher was among 10 individuals selected for the honor. There is one top winner, two runners-up, and seven finalists. Gallagher was one of the seven finalists. The nominating agency for each finalist received $1,000 from the 49ers.

But according to Gallagher, her most rewarding work is mentoring 14-year-old Christina through the Marin YMCA's Building Futures mentoring program.

Besides Gallagher's Corps duties and her active service to the Marin County YMCA, Gallagher also volunteers for the Heart Association, Big Brothers and Sisters, the United Way, the American Red Cross, Dominican University of California, and the Salvation Army. She also organizes more than 1,000 volunteers for Marin County's annual Coastal Cleanup Day.

Correction

Jack Beecher is Chief of the Small Business Program in Norfolk District, not the Chief of Contracting Division, as reported in "Norfolk small business lets big contract" in the February issue.

Minnesota honors

The Minnesota Society of Professional Engineers (MSPE) presented St. Paul District two Seven Wonders of Engineering awards on Feb. 22. One award is for designing a project that benefited people and property, and the other for designing a project that benefited aquatic life.

This annual MSPE competition recognizes achievements in engineering. Fifteen projects were submitted for the 2002 competition, including the Devils Lake Emergency Levees Project in Devils Lake, N.D., and Pool 8 Island Habitat Project on the Mississippi River near Stoddard, Wis.

This is the second year that St. Paul District received two of the seven awards.

The Devils Lake project, under construction from 1996-2000, included building a permanent emergency levee more than seven miles long and up to 30 feet tall, plus several pumping stations. The levees saved more than $225 million in private and public property from flooding last spring, as well as U.S. Highway 2, the regional airport, the Devils Lake wastewater treatment plant, and several miles of wetlands. The project cost about $43 million.

The Pool 8 habitat project took around 10 years and cost $4.1 million. It rebuilt more than four miles of islands in Pool 8 that eroded 1939-89 after lock and dam construction on the Mississippi River. Since the islands were completed in September 1999, aquatic vegetation, fish, and waterfowl have increased. From 1997-98, canvasback duck visits to the area rose from 1,100 to 112,000, representing about 10 percent of the 1998 continental population.

History volumes find homes

New Orleans District has found homes for almost 1,000 surplus sets of an authoritative Corps publication on geology of the Lower Mississippi Valley. Office-space needs squeezed the books out of Engineering Division's Files Room.

Roger Saucier of Waterways Experiment Station (WES) wrote *Geomorphology and Quaternary Geologic History of the Lower Mississippi Valley* in December 1994. Volume I is the illustrated text, and Volume II a large book of color maps.

Most sets went elsewhere in the district. The next largest supply went to WES. Tulane University and Louisiana State University (LSU) got copies, as did the Coalition to Restore Coastal Louisiana, Jefferson Parish Public Library, Historic New Orleans Collection, and the *Times-Picayune* newspaper. Other recipients included Louisiana Department of Natural Resources, Louisiana Geological Survey, U.S. Geological Survey, and the Natural Resources Conservation Service.

DeFleury Medal

Dr. Larry Lynch, an engineer with the Engineer Research and Development Center, recently received the Bronze Order of the DeFleury Medal.

The medal is named for Lt. Col. Francois Louis Tesseidre DeFleury, a French engineer who volunteered to serve with the American Army during the Revolutionary War. He helped recapture Stony Point, a fortress on the banks of the Hudson River. The Army Engineer Regiment awards the DeFleury Medal to persons who render significant service or support to the regiment.

Lynch directs the TeleEngineering Operations Center (TEOC). The center supports soldiers around the world by providing assistance or "reach back" engineering. When a soldier encounters a complex problem in the field, he or she can quickly relay information back to the TEOC via advanced communications links. The TEOC then taps the technical expertise of research laboratories, private industry, and academia to provide a fast answer. Since its inception, TEOC has fielded more than 1,200 requests for information and assistance.

Unique partnership

Jacksonville District and the Seminole Tribe of Florida recently broke ground on a critical project of the massive Comprehensive Everglades Restoration Plan (CERP) in what is the largest initiative ever between the Corps and a Native American organization.

Col. Greg May, Jacksonville District Engineer, greets Paul Bowers, big Cypress Board Representative. (Photo courtesy of Jacksonville District)

The Seminole Tribe Big Cypress Reservation Water Conservation Plan is a comprehensive watershed management system to achieve environmental restoration on the Seminole Reservation, the Big Cypress National Preserve, and the Everglades Protection Area. The project will also reduce flood damage and promote water conservation.

This project is a joint effort by the Corps and the Seminole Tribe of Florida in an unprecedented venture. The first phase of the project was designed by and will be completed by the Seminole Tribe. The second phase of the project will be completed by the Corps.

The Corps and the Seminole Tribe are working to move the two phases of the project simultaneously. Phase I involves building the main conveyance canal on the reservation's east side. This phase will improve the water-carrying network for the tribe's water entitlement on the reservation's east and west sides. Phase II includes building water storage, wetland rehydration, and water quality improvement features on the reservation's west side.

The groundbreaking ceremony on Jan. 15 kicked off the portion of the project to be completed by the Seminoles. They will build an expansion of conveyance canals in the eastern basin of the Big Cypress Reservation to transport water from Confusion Corner, where the South Florida Water Management District (SFWMD) will deliver the tribe's water entitlement through a new SFWMD pump station. The canals will carry the water to the reservation's west basin, where the Corps will build water storage cells and water resource areas.

Phase I of the project is expected to be completed next February. The completion date for the entire project is May 2006.

A local TV station films Paul Machajewski after his fund-raising dive into the icy waters of Lake Michigan. (Photo courtesy of St. Paul District)

Cold cash

Paul Machajewski isn't crazy; he dove into the 40-degree water of Lake Michigan in the middle of winter to help a friend. Machajewski, a channel maintenance coordinator at St. Paul District Channels and Harbors Project in Fountain City, Wis., learned that the three-year-old son of a college friend had cancer. Machajewski and seven of his friends dove into Lake Michigan Dec. 22 to raise money for the boy's family.

Eric is the son of Machajewski's college friend Terry Schuh. They attended the University of Wisconsin at La Crosse together from 1989 to 1991.

"Eric had a malignant tumor removed from his body and has been diagnosed with Stage 1 Rhabdomyosarcoma, a cancer of the muscle tissue," said Machajewski. "Eric's parents said the doctor's believe they caught the cancer soon enough; however, Eric must go through more than 40 weeks of chemotherapy."

Since most of the friends no longer live in the Milwaukee area, they needed a way to help from afar. "So we decided to ask people we knew to pledge donations if we jumped into Lake Michigan," Machajewski said.

On the evening of Dec. 22, Machajewski helped organize a fundraising effort that went toward paying the family's insurance coverage, mileage, and lodging at the hospital, plus testing Eric's twin brother, Greg, to make sure he doesn't have the same cancer. They held a silent auction and raffle in the Milwaukee area.

Machajewski and his friends raised $15,600 for Eric and his family. Doctors are 95 percent sure Eric will be cancer-free when the chemo treatments end.

Corps veteran *(61 years!)* retires

By Sally Anderson
And Patsy Knight
Southwestern Division

"They say you'll know when it's time to retire," John Brigance said.

It's time. Brigance has retired after 61 years of working for the U.S. Army Corps of Engineers. He received a congratulatory letter from President Bush, but that's not all. Texas Governor Rick Perry made Brigance an "Admiral of the Texas Navy," an honorary position to recognize his contributions. Perry also named Peg Brigance a "Yellow Rose of Texas."

But none of that outdid what the Corps gave Brigance after 61 years of service. The Principle Assistant Responsible for Contracting (PARC) presented Brigance the AFIRE award (Adaptive, Flexible, Innovative, Responsive, Effective/Efficient). Brig. Gen. David Melcher, Commander of Southwestern Division (SWD), also hung the Silver Order of the de Fleury medal around his neck.

Integrity and stature. SWD also waived the requirement of being retired at least two years before being inducted into the division's Gallery of Distinguished Civilians.

Distinguished, that's Brigance is today, but when he walked into Galveston District to be a clerk typist in 1941, he looked like most young men just out of high school — inexperienced and eager. Thirty years later when he transferred to the division office, Brigance found an antique in his desk drawer. He's leaving the 1930 "Orders and Regulations" book and a brass SWDO seal with a division history hound, Tommy Knox, for later transfer to the Corps' Office of History.

There won't be an antique seal in the desk when Rick Hedrick of Tulsa District takes on acting director duties. And if Bill Dawson, Director of SWD's Civil Works and Management Directorate, has his way, Brigance's desk won't be there, either. Dawson wants Brigance's desk, mostly for sentimental reasons, he said. "That and the integrity and stature of the man who sat behind the desk."

Whatever desk Brigance worked at, it was in either Galveston or Dallas throughout his civilian career. He also served with an Army engineer unit during his military service in World War II.

Brigance always loved his job, and he still does. It's just that it's time to go, he said.

His wife of 60 years, Peg, fell and broke her hip last Thanksgiving, landing the couple in the hospital on their anniversary. After the hospital stay, Brigance saw the need for him to help around the house. And having Brigance home during her convalescence showed Peg that retirement wouldn't mean "too much husband."

More of the important things. Peg is up and getting back to her regular routine of walking two miles five times a week, and Brigance joins her on the weekend. Her days of playing bridge and golf are over, Peg said. She'll enjoy more time with Brigance, her "friend, lover, or 'Hey, you!', mostly the latter," she quipped.

For Brigance, retirement will mean more golf, more Peg, and more time for other hobbies like his stamp collection. "There's always something you can do with stamps," he said of his stacks of books and cases. They can be organized by subject matter or time period. He said he might even sell off a few duplicates.

But "I don't plan to work for anyone else," Brigance said one Sunday afternoon before the big day, Feb. 19, which coincides with Peg's birthday.

Six decades ago, before Brigance and Peg married, he joined the Corps as a clerk for Galveston District, which was part of the Gulf Division for his first week of employment. Since then, he has always worked for SWD.

Sixty-one years brought changes, like the transition from typewriters to computers, and from carbon paper to e-mail, the Corps changing from a service organization to an Army major command (MACOM), and "professionalizing" the contracting career field.

Before and during World War II, the Corps was a service organization, like Ordnance or Quartermaster. In 1979, the Corps became a MACOM with new rules and controls. District Engineers became District Commanders. As a result, the Corps became more of a military organization — more noticeably "Army."

During retirement, John Brigance looks forward to spending more time with his wife, Peg. (Photo by Sally Anderson, Southwestern Division)

Military bases had their own procurement and contracting offices that kept the base functioning, but they shut down procurement actions to close out the fiscal years. The Chief of Engineers invited post engineers to turn to the districts for year-end spending. This brought a big increase to the Corps' year-end program. "It increased our logjam," Brigance said. "We were already working seven days a week for 10-hour days toward the fiscal year end."

Professionalism. All Corps districts had military construction, but in 1961 military work centralized into one or two districts per division, which were Albuquerque and Fort Worth in SWD. Bases did the operation and maintenance work, and the Corps did the rest.

When Brigance first came to work for the Corps, the district engineer delegated authorization to sign contracts to his staff. Then Headquarters thought commanders should sign contracts, and the delegation was withdrawn. Then in the 1990s authority to sign contracts was delegated to the Contracting Division Chief, and commanders only approved awards of "local or special" interest.

Brigance said that some didn't consider the contracting staff "technically proficient," and many thought commanders should continue doing the signing, or delegate to technical staff. Now the PARC has come to the Corps, and many changes have occurred in the contracting arena. Today to be hired in the contracting series (1102), a prospective employee must have a college degree. The education and responsibility of contracting officer has increased the stature of contracting people.

Brigance also served as the Small and Disadvantaged Business Utilization representative for SWD. This changed three years ago when the Chief of Engineers directed that personnel serving in contracting positions could no longer serve in such a dual position.

When Brigance reflects on exciting moments in his Corps career, scenes of working emergency procurement pop to mind, all in connection with Galveston District, because that's where the real contracting work is done.

He remembers one stint of emergency operations contracting when telephone communications were gone for most of a week, and the Corps worked in a jury room in the federal building.

The office lacked many basics, and Brigance kept his contract bids in cardboard boxes. Since he was usually the first to arrive and the last to leave, he guarded his boxes "with his life." Storage space was so scarce that the civilian in charge, Bill Gamble, asked Brigance for a little space in his box for "important" papers. Brigance and Gamble joked about that for years.

'Send us Brigance.' That was in the early days after Hurricane Celia tore up Corpus Christi, Texas. "Celia was no lady," Brigance said. The storm hit the coast in August 1970, about a week after he had transferred to SWD. The division commander offered what help he could to the district commander. The quick response — "Send us Brigance."

When Brigance got to Corpus Christi, the emergency office was sectioning off the city by blocks and preparing sketches for prospective bidders. These were handed out in the morning and then bid forms at 4 p.m., Brigance recalled. They opened the bids at 8 p.m. and asked the first and second low bidders to wait while Brigance checked bonds and other technicalities.

The technical staff was there to make decisions in minutes. Notices to proceed were issued the next morning and contracts were usually for 15 days.

"That first week, we awarded 15 to 20 contracts each day and did more than 70 contracts for Celia damage," Brigance said.

All Corps contracts required bid bonds, followed by performance and payment bonds to assure completion of the job. However, one low bid on the Celia cleanup was from a contractor who never furnished performance and payment bonds. But a disposal site inspector vouched for the contractor's ability and timely performance, and the contractor completed the job without such bonds. Brigance amended the contract by deducting the cost of bonds from the contract, and sent it for routine approval by the Judge Advocate General. JAG didn't criticize.

Brigance said that natural disasters like Celia and other hurricanes that hit the Texas coast provided his richest career memories.

Division level. Working in the division office, which he did for the second 31 years of his 61-year career, meant oversight, advising, and policy setting rather than nitty-gritty of contract work. "It's being between the doers and the approvers," Brigance noted.

Working in the division office also meant teaching contracting courses concerning emergency operations for headquarters, which Brigance did 1972-80. The courses were conducted at different locations around the country, and Peg accompanied him sometimes to some of the more interesting places like Seattle, Phoenix, San Francisco, San Diego, Minneapolis, St. Louis, New Orleans, Philadelphia, Cincinnati, and Boston.

One year, during a course at Portland, Ore., the teaching team was redirected to teach in Hawaii in anticipation of volcano activity. Thinking it would be a once-in-a-lifetime chance to see Hawaii, Brigance quickly got his wife a ticket, added a day of leave, and headed for the islands. To save government dollars, the group departed from teaching at Portland on Friday, which gave them an extra weekend. The week of training was sandwiched between two weekends and Labor Day, which allowed for sightseeing and island hopping.

But instead of being a one-time experience, the Brigances later made four more trips to Hawaii to visit their son who served there with the Air Force.

Mixed feelings. Brigance said that he didn't need to retire to travel or do what he wanted. The job provided it all, but the job couldn't take care of Peg. "I lost more than a few nights of sleep wrestling with the decision. I want Peg to get on her feet."

But once the decision was made, Brigance refused to revisit it, but he leaves with mixed emotions. "Retirement is something that's facing us all," he said, but he's looking forward to it.