



US Army Corps  
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# Engineer Update

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The 160-acre Staten Island Landfill was reopened to take the 1.62 million tons of debris from the World Trade Center. (Photo by Cryptome)

## Debris mission finished at World Trade Center

By Vince Elias  
New York District

The 10-month effort that turned the Staten Island Landfill into one of history's biggest crime-scenes came to an end on July 15 as hundreds of people gathered at a solemn closing ceremony.

For the past 10 months, trucks and barges hauled 1.62 million tons of debris from Ground Zero in downtown Manhattan to the landfill. It was a 24-hour-a-day, seven-days-a-week operation. The last load of debris arrived on June 28. Equipment was dismantled and trailer facilities were permanently closed, signaling an end to the recovery efforts.

The closing ceremony drew saturation coverage from the national and local news media. Cameras rolled or clicked as the press captured the ceremony on tape and film, which included both the piercing, mournful music of bagpipes, and elected officials addressing the crowd.

Several officials attended the solemn half-hour ceremony, including New York Congressman Charles Schumer, New York Governor George Pataki, New York City Mayor Michael Bloomberg, and Col. John O'Dowd, New York District Engineer, who supervised the U.S. Army Corps of Engineers' involvement in the debris management operation.

O'Dowd later spoke with Pataki, Bloomberg, Schumer, and Ray Kelly, the New York City Police Commissioner, plus New York police. They all thanked O'Dowd for the Corps' assistance in bringing personal items back to the families of the victims.

O'Dowd was interviewed on NBC's "Today Show," which aired July 15. He was also interviewed by the Associated Press, resulting in three national wire stories



FBI and New York City police searched through all of the debris from the World Trade Center. (Photo courtesy of New York District)

highlighting the Corps' role. German radio and the Soldiers Radio and TV service also carried the story.

"Workers expressed mixed emotions as the job ended," said O'Dowd. "It was really kind of a nasty job, what they had to do. On the other hand, the people worked under some pretty trying conditions, and that tends to bring people close together."

O'Dowd said the focus during the work was always "to bring something home to the families of those who were lost."

The 160-acre landfill was reactivated after being closed in March 2001. It became a beehive of activity where heavy-lift equipment bustled and more than 1,000 workers examined 7,000 tons of debris a day as it rolled past on huge conveyor belts.



The shaded area shows the site of the Pentagon Memorial. The site covers almost two acres, and lies along the flight path of the jetliner which struck the Pentagon. (Photo courtesy of Baltimore District)

## Pentagon Memorial contest open to all

By Bernard Tate  
Headquarters

Many people are seeking some way to honor those who died on Sept. 11.

Here's a chance to actually design a monument.

Baltimore District is managing a contest to select a preliminary artistic concept for a memorial to the Sept. 11, 2001, terrorist attack on the Pentagon. Complete contest rules and details can be found at <http://memorialcompetition.pentagon.mil>.

Stage One of the competition is open to anyone, and requires only a simple concept entry. There is no fee for entering. Deadline for registering to enter Stage One is Aug. 23; deadline for submissions is Sept. 11.

This is not just an ideas contest; DoD will actually build the winning design. The memorial will be on a two-acre site 165 feet west of the Pentagon, in clear view of the point where the airliner struck.

According to the website, "Whether it is large or small, kinetic or static, both the sponsors and the families of the victims want the memorial to address not only the loss of those murdered at the Pentagon, but the dedication to the principals of liberty and freedom that this terrible event re-awakened..."

Stage One entrants will submit one 30x40-inch presentation board that illustrates their project, including drawings, photos, or computer graphics, materials, site planning, and other elements.

A jury of judges will select five finalists at the end of Stage One. These finalists will have eight weeks to develop their concept in detail in Stage Two.

On Dec. 13, the jury will reconvene to review the final submissions and select a winner. On Dec. 23, they will announce the winning design.

Continued on page two

Insights

# Take it personally!

By Col. Lowell Moore  
Chaplain, U. S. Army Corps of Engineers

Have you noticed how impersonal our world is becoming?

Not long ago, I think I experienced the height of "impersonalism" when I was the target of a telephone solicitation, and the solicitor wasn't even a person — *it was a recording!* This company didn't care enough about me to even have a live person on the other end. Not only was I offended by the unwanted phone call; I didn't even get the satisfaction of hanging up on the offender. The robot wasn't offended when I put the receiver down rather hard.

**Chameleons.** There is a danger that comes with living in an impersonal world. It seems like there is a natural tendency in all of us to behave a bit like a chameleon and take on the color of our surroundings. If we are not careful, we can see the impersonal behavior all around us and accept this as normal. When this happens, we are in danger of becoming impersonal ourselves. I'm sure no one sets out to be uncaring and impersonal, but if we just go with the flow, we may become what we don't admire.

**The personal touch.** Not long ago I was in a brand-new airplane, waiting to take off on a trip to visit the members of our Corps family in Seattle District. I was relaxing in one of those semi-comfortable seats when dozens of little TV screens dropped out of the ceiling all around us. Handsome, articulate, well-paid professional actors began giving us the safety briefing. It was well done, but it was that same old safety stuff that you've heard so often that many of you know it better than the Lord's Prayer — "In the unlikely event

that we should encounter difficulty while over water, your seat cushion may be used as a flotation device...*blah, blah, blah.*"

I looked around the plane and noticed something that would have depressed every one of the airline executives who paid big bucks for this professional but impersonal briefing. **No one was paying any attention!**

Then last month, I made a trip to visit the Corps family in Memphis District. This time was different — I was in a smaller, older airplane that didn't have all those cute little TVs to drop out of the ceiling. I still heard the same old speech — "Please take a moment to locate the exit nearest you, keeping in mind that the nearest exit may be behind you...*blah, blah, blah.*"

And the safety speech was poorly read over the airplane's antiquated public address system. But this time a cheerful, upbeat stewardess smiled at us while she enthusiastically waved her arms to point to the exits, put a mask on her face, and snap the buckle on a phony seat belt. When I looked around, I was surprised to see that about half of the passengers **were actually watching her**, even though this safety briefing was much less professional than the production on the little TV screens.

The difference in the reaction to the two safety speeches makes it clear that even though we live in an impersonal world (maybe *because* we live in an impersonal world), we *like* the personal touch.

**Chief's philosophy.** It is important that the U.S. Army Corps of Engineers continue to be a personal, caring organization. It is self-evident that treating our customers in a personal way is good for business, but it is equally important that we treat our fellow workers in a personal, caring way also. If we like our jobs, it is probably not because of the tasks we perform. It is



Artwork by Jan Fitzgerald

probably because we like the people we work with.

Sometimes it takes an effort to do that. Becki Dobyns wrote a good article in the April *Engineer Update* that illustrates that point. In her front-page article, Lt. Gen. Robert Flowers, the Chief of Engineers, says, "People find this hard to believe, but I'm an introvert. Really. I have to work at getting out there to talk to people."

Well, I for one find it hard to believe, because Lt. Gen. Flowers is one of the most personable commanders I've ever met, always ready to stop by someone's cubicle for a chat and a chuckle. I'm glad our Chief of Engineers puts forth the effort to maintain that personal touch because it works wonders for morale.

I encourage everyone to follow the Chief's Philosophy and "treat every individual with dignity and respect." I guarantee, people will take it personally. In this case, that's a good thing!

*(The views in this article are those of the author and do not reflect the official policy or position of the U.S. Army Corps of Engineers, the Department of the Army, the Department of Defense, or the U.S. government.)*

## Landfill

Continued from page one

The Staten Island landfill was the final stop for the World Trade Center debris. More than 1.62 million tons of debris was finally examined, and the Corps was pivotal in mechanizing and improving the efficiency of the operation.

It was an extraordinary assignment for the Corps, and uncharted ground for most agencies at the site. The Corps received the \$125 million debris mission from the Federal Emergency Management Agency on Oct. 1, and spent about \$63 million of that amount.

The Corps managed the operations at the 160-acre site called "The Hill," establishing measures to protect the safety of the workers and facilitate the recovery effort. The Corps provided support to the New York City Police Department (NYPD), FBI, Environmental Protective Agency, Department of Sanitation, and 28 other agencies involved in the recovery investigation.

The primary objective of the operation was to establish an effective process to manage the debris inspection. In essence, it was a humanitarian effort to recover the



The Corps of Engineers helped automate the system to examine the debris at the Staten Island Landfill. (Photo courtesy of New York District)

remains and personal belongings of individuals lost in the tragedy, and return them to their families.

The Corps, through its prime contractor Phillips and Jordan Inc., mechanized the operation by providing labor, heavy equipment, conveyor belts, screening equipment, temporary structures for warming and storage, worker decontamination facilities, and food service facilities.

This created a safe, effective system for law enforcement personnel performing the investigation, with health and food services that improved the quality of life for investigators.

"There were a lot of Corps people supporting the contract and operations in varying degrees," said Tom Harnedy, Chief of the Construction Management Section, who oversaw contract administration.

David Leach, Chief of Construction's Metro Area Office, was lead engineer on-site for supervising and coordinating operations.

Until the Corps installed a system of machinery and conveyor belts to sort the refuse, workers examined debris by hand and rake. The machinery streamlined the operation, facilitating a faster method that increased the amount of rubble hauled and examined.

Immediately following the catastrophe at the World Trade Center on Sept. 11, the Corps assembled a nation-wide project delivery team of experts responsible for transporting tons of debris from Manhattan to the landfill. A collaborative effort continued at the landfill. About 1.7 million man-hours were expended with only one lost-time accident. The site safety committee was instrumental in the overall success of the safety program. Daily safety meetings were held and attended by all agencies involved.

Some 52,000 pieces of personal property and 4,200 body parts were recovered at the landfill, resulting in the identification of 500 victims, according to NYPD.



Commentary

# Mid-life is great (trust me!)

By Sunday Pearson  
Sacramento District

A few Wednesdays ago, I was snuggled in bed with my empty-nest-syndrome dog and my main squeeze, watching my favorite TV program, "The West Wing." Halfway through the program, a Victoria Secret commercial came on. Before I could place my hand in front of my husband's eyes to shield him from certain blindness, three scantily clad models frolicked back and forth across my television screen visually extolling the merits of purchasing a Victoria's Secret undergarment.

For the life of me, I couldn't figure out how one brand of undergarments could bring such happiness. Was it the underwire or the modeling fees? I knew I'd never find out, because the truth is, very few women can fit into their merchandise!

We have become a culture preoccupied with youth. Society tells us that mid-life is great as long as you have no wrinkles and look younger than you really are. If you have swinging flesh on your upper arms, or even a hint of gray hair, or have no idea what a SoBe drink is, you are not only over-the-hill but invisible, even when it comes to advertisements marketing basic necessities. (Read paragraph one again!)

Let me relate a true story...the scene is Bradshaw and



Folsom Avenue here in Sacramento, Calif. It's mid-July and *really* hot! A cute, blond, perky 19-year-old college student runs out of gas in the middle of the intersection. But she feels only momentary panic because she no sooner opens the door of her equally cute and perky BMW when "out of nowhere, Mom, these two guys come and push my car out of the way!"

She was sincerely thankful for their assistance and truly, as her mother, so was I. However, as I watched her tell the story, wearing an itty-bitty top revealing just

a hint of pierced belly button, I couldn't help but wonder how the story might have ended differently if the woman in distress had been, say, fifty-ish, wearing sensible shoes and enough clothing to ward off future skin melanomas!

But the truth is, mid-life is the best of both worlds. At 52 years young, I have enough youth to inspire and energize my dreams, and enough wisdom to live and enjoy them. At this point in my life, I am collecting the dividends of my labor as a young woman — incredibly secure and loving daughters, a wonderful husband, several close friends, and time-acquired professional wisdom are immeasurable gifts that I treasure.

There is no room in my daily walk for things that are trite and petty. I recall a time when a pimple could ruin an otherwise great day! Life is too short to let personal vanity or the fickleness of public opinion keep me from enjoying each God-given day.

Mark Twain once said, "Age is a case of mind over matter. If you don't mind, it doesn't matter."

Trust me on this one...mid-life is *great!*

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Commentary

# Special Olympians are amazing

By Tracy VanHee  
Portland District

I have been involved in Special Olympics for several years in many capacities, from coach to volunteer, and even participating athlete. My son Andrew is a Special Olympian, and that is where I got my introduction to this wonderful organization.

Andrew and several hundred other athletes from all over Oregon, all with various disabilities and handicaps, converged on Bend and Redmond one weekend to play basketball, ski, and have fun. The focus of the weekend was to push these athletes to heights they never imagined in their wildest dreams. Our group from Southern Oregon had athletes from young as eight up to middle age.

But the quest of all of them, regardless of age? *Special Olympic Gold!*

While they have the same desires, each participant has unique challenges and abilities. The goal for coaches and volunteers is to find the participant's individual strengths and help enhance them. Special Olympics allows these dedicated athletes to forget their problems for a little while and find out what they can accomplish with minimum help and a lot of effort and drive.

**Never cease to amaze.** They never cease to amaze me and the other people who work with them.

Some athletes are adults who live independently. They only need help with medications, or help in making sure they are in the right place at the right time while they are out of town. Some are married, and have learned each other's strengths and weaknesses to the point that they are completely dependent on each other. Some live together and have learned how to care for each other when they have seizures, or when the change in schedule or routine has frustrated them to the point of exhaustion. They have learned to calm each other down when they are angry. Many display tremendous empathy and sincere love for each other.

What I have learned is that Special Olympics athletes are no different from me, except they have disabilities



Tracy VanHee with his son, Andy. (Photo courtesy of Portland District)

they need to work around, obstacles they deal with every day. They meet, fall in love, and have lover's spats. They dance together, sing together, and compete with everything they possess. And, yes, families split up and people divorce. It is always a profound experience to see them laugh together, cry together, give each other the strength to cross the finish line, and to see the true emotion in their faces from "the thrill of victory and the agony of defeat."

**'Just put me in the game!'** From rowdy and rambunctious to profoundly serious, the effort these athletes expend to overcome their disabilities and perform to the best of their abilities is truly astounding. Some recognize their limits, and tell us so. Some say, "I can do anything, coach! Just put me in the game!"

The sincere honesty with which they wear their emotions on their sleeves takes my breath away. They hold

nothing back and will, without reservation, be brutally honest. They will tell you what they think, whether you want to hear it or not. I come away from these weekends with a new perspective on life, a new appreciation for all that I have and can do, and a renewed respect for those who deal with handicaps every day. I also come away with a renewed commitment to enjoy life as it comes and to be less hung up on appearance. These tremendous human beings taught me that. I set out to teach them how to play a game at the beginning of a season; they end up teaching me about life itself.

**Went to the well.** Our team lost all of our games that weekend but, to tell the truth, we won a significant victory. We competed with every ounce of our strength and left it all on the court when we walked away and shook hands. We did, indeed, find the limits of our ability, and went to the well of human compassion when things did not quite work out the way we wanted them to. We tore down a few more barriers that stigmatize and categorize, and met each other on a more basic level. We found out just how much we can do to help others attain a little bit of joy for a few hours.

**Lessons.** The following Monday, I returned to the mundane world of word processors, deadlines, demands, and bills to pay. But I took away the memory of those faces, and the life lessons they taught me, the principles I so often overlook in the hustle of surviving. For one weekend the world stood still, and I invested myself in the most important legacy I can leave this world — my time, and the compassion of understanding.

In the final analysis, the Special Olympics are not about winning. It is about playing the game, and the determination to simply press on against all odds.

(Tracy VanHee is a materials handler at the Rogue River Basin Project in Portland District.)

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# Learning Organization

## Lessons learned will increase Corps-wide competence

By Neal Newman  
and Debra Brey

From the Emerging Leader's perspective, it appears that every aspect of our world is rapidly changing — new initiatives, new focuses, new missions, new threats, and new opportunities. Since our involvement in the Emerging Leaders Class of 1998, we have had the opportunity and privilege of seeing our senior leaders first-hand begin to strategically align the U.S. Army Corps of Engineers to meet the future needs of our country.

They are undertaking this challenge (set forth under the People Objective 2 in the USACE Campaign Plan) with sincere commitment. Our Chief of Engineers, Lt. Gen. Robert Flowers, and our other senior leaders recognize that for the Corps to become a world-class organization, it *must* transform from an organization that simply "trains" (for increased individual competence), to one that "learns" and continually incorporates that learning into all of its business processes (for increased organizational competence).

As Brig. Gen. David Fastabend, Northwestern Division Commander, told his staff in October 2001, "All the training in the world won't change the culture. Changing how we work changes the culture."

Because changing how we work is so important and necessary to the future relevance of Corps, Flowers established the USACE Learning Advisory Board (ULAB), to help define a learning organization, and what it looks like. The ULAB is a team of general officers, senior leaders from each division, consultants, and three emerging leaders from across the Corps.

### Developing the doctrine

At first glance, the definition of a "learning organization" would appear to be self-explanatory. But when one tries to define it to a group of Corps colleagues who haven't heard of the concept, it quickly becomes difficult.

There are many popular books about learning organizations, each with the author defining a learning organization based on his or her situation and years of experience. Even if a book existed that identifies what a learning organization should look like within the Corps, it likely would not be easily embraced or understood in an organization of about 35,000 employees, both military and civilian, from various disciplines.

With that challenge in mind, the ULAB set out to define and describe a learning organization in a context (and relatively few pages) that could be understood by the general membership of the Corps. (We recognize that *any* real change *requires* understanding and action by *all* Corps members.) That effort (which involved review of many internal and external programs, and considerable hours of review, documentation, and dialogue) is contained in the Learning Organization Doctrine, which was briefed to the Corps' senior leaders and division and district Commanders at the recent ENFORCE.

### Not the same-old/same-old

The important thing to keep in mind about the Learning Organization Doctrine is that it is *not* another initiative, *not* another operational or technical manual, *not* another change in organizational structure, *not* a mandatory training exercise, and *not* another fad, theme, or cliché.

Ignoring the Learning Organization Doctrine is also *not* an option for the Corps, if we are to survive as an agency. Quite simply, the doctrine defines what the Corps thinks about learning. It encourages empowerment and a "Just Do It" attitude. It creates a baseline from which individuals can talk about learning.

This doctrine requires a holistic approach to changing Corps culture so that we can continually increase our

## USACE University & Learning Network

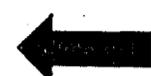
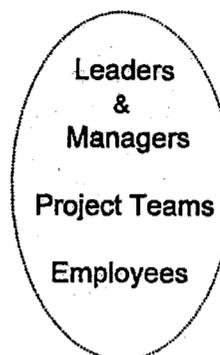
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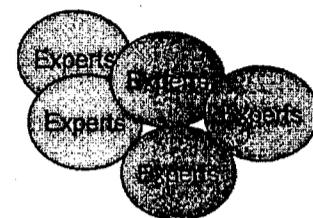


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organization's strategic, operational, and technical learning. The purpose of organizational learning is to continually increase our competence to help our customers and stakeholders succeed. If we help our customers succeed, we succeed.

The good news about becoming a learning organization is that it will cost little in additional dollars. The challenge is being *patient*, because the process will be painful. Because we are a structured organization designed to be technically operational, we often first want to know how to quickly execute or implement something new and get on with our work.

But in this case, the Learning Organization Doctrine calls for the systematic development of (or change in) our culture, and we will need time to align all aspects of the Corps' culture. Therein lies the pain or struggle of becoming a learning organization.

### What is a learning organization?

A learning organization is best defined as one that systematically learns from its experience what works and what does not work, and shares that information with others in the organization so that *no one* makes the same mistakes, and *everyone* improves on their successes. If this "systematic learning" can become institutionalized, we will all see the benefits of increased innovation, effectiveness, and performance (not to mention more delighted customers and motivated employees.)

To achieve this goal, however, it is *essential* that we create (rather than just talk about creating) a non-threatening environment where employees feel comfortable identifying problems and reporting them early so that the workforce can learn from the experience and incorporate the "lessons learned" into the way we do business.

We have not done a good job of this in the past. Many employees report experiences with "shooting the messenger."

The Corps has the opportunity to learn on several levels. Learning at the strategic level (to create the Corps' ideal future) will come from continual dialogue with our customers and stakeholders. An "ideal future" is the kind of organization and culture *we want to be*, based on foresight and analysis of the social and economic forces in today's world. An ideal future is a complete description of what a vision only states briefly.

Learning at the operational and technical levels will help us align all elements and resources to work together toward this ideal future. Sharing the learning at all levels on a continual basis will guide the systematic development of our culture.

### Cultural change required

To evaluate the cultural changes needed for the Corps to reach its ideal future, the ULAB selected the "7 S so-

cial system" anthropological model to define culture and its various aspects.

The "7 S social system" model describes seven inter-related aspects of culture that must be aligned to bring any change in an organization's culture. These 7 S's are *strategy, structure, systems, shared values, stakeholder values, skills, and style of leadership*. Unless all these aspects are addressed and aligned, the culture will not change appreciably or effectively, because they are interconnected and affect one another.

The Corps can use this model to explain why some previous attempts to change the Corps did not succeed. The Learning Organization Doctrine more fully defines the seven aspects of culture, and provides several examples to better understand each aspect.

To achieve systematic organizational learning and a higher level of organizational competence and effectiveness, Corps leaders must transform the culture of how we think, meet, plan, and perform our work. They must consciously shape the culture to the changing context of business and work affecting the Corps.

This is not easy because culture is re-created every day by the people within the Corps and the beliefs, values, mores, and concepts of culture in their minds. During times of transformation (as is currently the case), understanding culture is critical. The Corps' relevance to the world depends on this understanding of culture, and making the needed changes.

### Learning and types of leaders

The Learning Organization Doctrine discusses the different types of leaders and how they affect learning. Corps leaders at all levels will drive the change to become a learning organization.

Our strategic leaders will focus on "doing the right things" to keep our organization relevant. Their learning will occur from continuous dialogue about values and goals at the highest levels with our customers, stakeholders, and partners.

Our operational and technical leaders, who will implement the vision and guidance of the strategic leaders, will focus on "doing things right." Their learning will come from the process of designing and delivering products and services in dialogue with customers at the

Continued on next page

# Europe District rebuilds Russian hangar

By Grant Sattler  
Europe District

Europe District recently helped the Georgian State Frontier Defense Department celebrate its 10<sup>th</sup> anniversary in grand style. The opening of a renovated aviation maintenance facility on the Alekseevsk airbase tarmac, beside the Tbilisi commercial airport, marked a significant improvement for the upkeep of the Georgian (Russia) border guard's Mi-8 and Mi-2 helicopters.

The \$3.2 million renovation of the hangar and an accompanying warehouse were two initial projects completed this year under the Georgia Border Security and Law Enforcement (GBSLE) assistance program funded by the U.S. government, and coordinated by the U.S. Customs Service. The facility supports maintenance of aviation assets of the Georgian border guard and its rapid reaction group based in Tbilisi, Georgia's capital.

While building hangars is standard fare for the Corps, this renovation was extensive. The building was in poor condition, partially because it was not well built in the first place, and partially because withdrawing Soviet forces stripped it bare when they left in 1998. "When you saw it the first time, you'd never believe it was only 18 years old," said project engineer Herman Celosse.

"This project was a good start for us," said U.S. Customs Service project manager James Kelly. "Initially we thought about going with a new building, like a Quonset hut. But doing this project as a renovation enabled us to work with the existing structure the Georgians wanted. The Georgians have now seen what goes into a design from a western perspective. It's been a challenging project, probably the most difficult project we'll build here."

The hangar's single bay, large enough to park two Mi-8 Hip helicopters with the rotors folded, is surrounded on three sides by a one-story structure housing maintenance shops, offices, locker rooms, and utility and tool rooms.

Celosse said, "A major part of the work involved repair to the building's foundations, which originally were reinforced concrete panels set directly into the ground."

The lack of any moisture barrier resulted in extensive water damage to bricks and plaster walls around the base of the building. To prevent further water intrusion, a French drain system and walkways were installed around the perimeter of the building, and a rebar reinforced concrete wall was placed around the existing foundation and exterior walls up to windowsill height.

The structure also had significant erosion of its crushed slag ash roof that required complete replacement. "When you look at the hangar today, you really can't envision



A Mi-8 Hip helicopter wearing the markings of the Georgia (Russia) border patrol sits outside the newly-renovated hangar. (Photo courtesy of Europe District)

what it looked like before," said project manager Shawn Pelowitz. "There were mature, fruit-bearing trees growing in the roof."

During the initial assessment, engineers discovered the building was not built to withstand even a minor earthquake in this seismically active region.

"We took off the plaster and discovered a lot of the single brick walls were not reinforced or keyed into supporting walls," Celosse said. "After the plaster was off, you could just push them over." All were replaced with structural steel framing covered on the inside and outside with corrugated steel, and insulated with four inches of rockwool.

Work was accomplished by Morrison Georgia Ltd., a division of Morrison Construction Company, U.K., which started mobilization on the project April 16, 2001. The subcontractor for electrical systems was also British, and a Turkish subcontractor installed the mechanical systems.

Building improvements include an oil-fired boiler, heating system, and radiators; air conditioning; new ventilation throughout; new hangar doors; and a hoist. The building's fire suppression system uses underground water tanks formerly used for fuel. A new double-wall above-ground petroleum tank, and a single wall petroleum tank with a berm were installed behind the hangar.

Celosse said original drawings of the structure had to be obtained from Ukraine. "The Georgia border guard, through translators, gave us a list of what they'd like to have," he said. "But they weren't able to give us details like preventive maintenance cycles and electric power diversity factors until much later." That caused some delay in

the design phase of the design-build project. "The final design was not completed before construction was 75 to 80 percent complete," he said.

Wiring for varied electrical systems was installed in the facility, including 380 and 220-volt main power. Wiring for low voltage systems operating at 36 and 27 volts were installed in the laboratory rooms for maintaining avionics equipment.

Completion of the hangar is an important step in the Georgia Border Security and Law Enforcement (GBSLE) assistance program established in 1998 to support Georgia's sovereignty and territorial integrity.

The aim of GBSLE assistance is to give Georgia the capability to control the movement of people and goods across its land borders, coastline, and ports of entry to reduce threat of weapons smuggling and other illicit trafficking, and to increase Georgian government abilities to collect customs revenues.

Europe District will assist the U.S. Customs Service as the GBSLE executive agent with projects at Lilo, near Tbilisi, the Black Sea port of Poti, Red Bridge on the Azerbaijan border, and Kazbegi on the border with Russia.

Under the GBSLE program, the U.S. has provided the Georgian border guard, customs, MOD, and other border security and law enforcement agencies with communications equipment, vehicles and helicopters with spares/repair parts for transport and patrol, surveillance and detection equipment, computers for automation of applications, licensing and regulatory systems, and forensics laboratory assistance.

## Learning

Continued from previous page project level.

There may be leaders at all levels that can think both strategically and operationally, but the top of the organization should consist of leaders who are talented strategic thinkers and integrators.

Learning at *all* levels will focus on observing best practices, both inside and outside the Corps, then creating something better adapted to our current and future needs. This provides great opportunities for innovation.

It is important to note that *all* types of leaders and *all* types of learning are important and essential to the Corps and its future. No matter where one is in the organization, he or she has a role in integrating this learning to continually improve the organization and its competence. It will be a challenge, but one worth pursuing.

### USACE learning network

What do we do with what we learn? How do we share the information and ensure it gets to those who need to know it? This challenge will be the responsibility of those in the "Communities of Practice," groups of experts in all areas of competence required by the Corps. Communities of Practice (and their role in knowledge manage-

ment) are one aspect of the USACE Learning Network. The other aspect is the USACE University (a concept, not a place), which will update and expand training to meet current and future needs.

We all know that the information we acquire (1) by dialoguing with our customers and stakeholders, (2) through lessons learned, and (3) by observation of best practices needs to be captured so we can use this information repeatedly throughout the Corps to improve our business practices, increase our organizational competence, and make informed decisions.

Knowledge management through the Communities of Practice is essential to our survival. If we do it well, it will be the key to our success. This process is currently being worked. It will include not only the technology and tools to collect, filter, distill, and integrate information so that it can be turned into knowledge, but it will also include a mechanism for informing Corps members where the "knowledge" is available for use in decision-making.

### Now what?

The Communities of Practice will help ensure that essential information and lessons learned are distributed to

leadership and to those who need such information.

As we all move toward becoming a learning organization, we should see systematic improvements in our performance and effectiveness as public servants. We should also see more positive responses from our customers and stakeholders.

In addition, we should see more motivated Corps employees as they realize the Corps is serious about empowering employees and creating the environment where employees are encouraged to identify issues and problems early, take needed steps to resolve them, and share lessons learned with their colleagues. This will be important to the Corps' recruitment and retention efforts.

To survive and grow as an organization in the future and to remain the Army's and the nation's engineer during war and peace, abroad and at home, we have no choice but to continually learn and incorporate that learning into all our business practices.

We believe exciting times are ahead, and that we're headed in the right direction.

(Neal Newman is a civil engineer in Memphis District. Debra Brey is the Business Development / Outreach Coordinator for Omaha District. Both are members of the USACE Learning Advisory Board.)

# Contractor fights fire; saves town

By Steve Wright  
Huntington District

A contractor company working for the U.S. Army Corps of Engineers voluntarily took action during a major fire in Grundy, Va.

Bill Stokes, Grundy's fire chief, credited Bush and Burchett, a Corps contractor, with helping stop an out-of-control fire that destroyed two buildings and damaged a third on Front Street, the main street of the town's business district. There were no injuries or lives lost in the fire.

**Saved the day.** "They (Bush and Burchett) saved the day," Stokes said. "The fire got away from us fast. We couldn't have put more water on it. We talked about creating a fire break when it was clear we couldn't stop the fire."

Chuck Crabtree, Grundy's town manager, asked the town council to authorize tearing down a building to create a firebreak. Bush and Burchett employees were standing by, waiting for the go-ahead to use their excavator to create the firebreak.

The Corps contracted with Bush and Burchett to build a new business relocation site for Grundy as a part of the flood reduction program.

"They volunteered to help us and, without them, I don't know where we would be," Crabtree said. "This wasn't without danger. We were watching the excavator work, and the machine and operator fell through the floor into the basement. We thought the worst until we heard him cussing and the beep of the excavator backing up."

**Danger.** Bush and Burchett then brought in a larger excavator to winch the first excavator out of the burning, damaged building. The excavator operator was unhurt and the excavator was only slightly damaged.

Stokes said that the fire department pulled so much water fighting the fire that Grundy residents were without water. Despite their best efforts to stop the fire with traditional means, Stokes said that a firebreak had to be employed.

**Firebreak.** "Without the firebreak, the fire would have taken the rest of the buildings to Slate Creek," Stokes said. "Some of the buildings were old heavy timber wood, but even where there was a metal beam firewall, the heat transferred through the metal and allowed the fire to jump from one building to the next."

Besides using equipment to create the firebreak, Bush and Burchett workers also



Bush and Burchett, a Corps contractor working in Grundy, Va., created a firebreak which prevented a fast-moving fire from consuming much of the town. (Photo courtesy of Huntington District)

set up lights to help the fire-fighters, and brought in two water trucks to supply more water, according to Paul Burchett, the company's project manager.

**Didn't think twice.** "It's something we had to do," Burchett said. "We didn't even think twice. We just try to live in the world with everyone else. We try to do the right thing, and the right thing was to step in and help the town out."

If the fire had continued burning to Slate Creek, it would have taken two other buildings, and another seven buildings on Front Street were at risk if the fire had moved in the other direction on Front Street.

The fire destroyed houses the businesses of Southern Pottery, Rich's Adventures (a mountain bike store), and the Appalachian School of Law Bookstore located in the same store as the bike shop and Susan's Golden Gifts.

There were also two apartments in these buildings.

The fire-damaged buildings were scheduled to be demolished by the Virginia Department of Transportation as part of its U.S. Highway 460 project. The businesses would have had the option of relocating to the new business relocation site.

The new business site will be completed by the Corps and its contractor, Bush and Burchett, in 2003.

# Ceremony reconciles district, pueblo

## 'This is how the Cochitis record their oral history.'

By Joan Mier  
Albuquerque District

The relationship between Albuquerque District and the Pueblo of Cochiti has undergone a dramatic change for the better, marked by a recent sunrise reconciliation ceremony held at the Cochiti Dam outlet works. The pueblo conducted the formal ceremony to acknowledge and celebrate the improved relationship, according to Darrell Riekenberg, the district's Chief of the Office of Counsel.

The district and the pueblo have had a difficult relationship since the dam was built on the tribe's land in the late 1970s. It caused a number of problems, notably high groundwater that adversely impacted tribal farmland. A settlement agreement was reached in 1994 when the district built an underground drainage system, but difficulties remained.

### Partnering

Then in June of last year, district members began regular partnering meetings with representatives of Cochiti Pueblo to help work out mutual problems and issues.

The result is that Albuquerque District agreed to:

- Close the outlet works recreation area to public access to protect important tribal areas.
- Not obstruct an amendment to the agricultural drainage system Operations and Maintenance (O&M) agreement to allow the pueblo to use surplus funds to restore additional farmlands and bosque (small wooded areas).
- Continue the formal process of regular dialogue and

partnering meetings.

The pueblo agreed to renew the recently expired utility easement to provide power to the Tetilla Peak Recreation Area.

To begin the process leading to the reconciliation, Riekenberg said the district had to acknowledge the dam's impact on the pueblo.

"Lt. Col. Midkiff (district commander) took a more flexible approach and was open to resolving these issues," Riekenberg said. "He took a lot of time with the partnering sessions to gain a full understanding of their concerns."

### Impacts

"There have been a lot of cultural impacts on the pueblo that really altered their lifestyle," added Cynthia Piirto, an outdoor recreation planner. "A lot of their traditional farming techniques have been lost and members of the older generation have passed on without the opportunity to teach the younger ones these practices."

Partnering sessions were led by a professional facilitator, and the participants included former Cochiti Pueblo Governor Regis Pecos and current Governor Andrew Quintana; members of the tribal council; Cochiti Pueblo staff; attorneys for the Pueblo; Midkiff; Susan Shampine, Chief of Operations Division; Douglas Bailey, Cochiti Reservoir manager; and Piirto and Riekenberg.

The amendment to the O&M agreement and the agreement to continue formal "partnering" have been finalized.

### Powerful, emotional

"The reconciliation ceremony was a powerful and emotional experience," Piirto said. "Members of the Pueblo said things like, 'I had to be here for my father.' All of the elders and members of the pueblo present walked by each one of us and shook our hands. Many even embraced us."

The ceremony was marked by the formal apology given to the pueblo by Midkiff for the adverse impacts the dam had on the Cochitis' way of life, an unprecedented act by a Corps commander.

"It was progressive of him, and it took a lot of courage to do that," Piirto said.

About 40 to 50 people attended the reconciliation ceremony, including Cochiti schoolchildren.

### Oral history

"The Cochitis wanted them there because this is an important event in their history," Riekenberg explained.

"This is how the Cochitis record their oral history," said Piirto. "No media or cameras are allowed."

When the outlet works is closed to the public, more trees will be planted and more natural vegetation added to the area. In addition, the existing parking lots and some electrical units will be removed, Riekenberg said. "We will get input from the Cochitis as to what they would like to see done there."

District members are even looking at old photographs of the area before the dam was built to gain ideas about restoring the area to what it once was.

# Environmental Operating Principles

## Corps doctrine puts the seven principles into action

By Candice Walters  
Headquarters

It will take some time, but the U.S. Army Corps of Engineers' new Environmental Operating Principles (EOP) are beginning to take hold within the organization.

Last month, the Corps and The Nature Conservancy announced a new Sustainable Rivers Project. At the same time, the Corps entered into a Memorandum of Understanding with the Environmental Protection Agency to promote restoration of degraded urban rivers. Both partnerships reflect the type of values found in the EOP, which Chief of Engineers Lt. Gen. Robert Flowers unveiled March 26.

Doctrine implementing the Environmental Operating Principles has been developed to help employees fully understand the seven principles, which reaffirm the Corps commitment to being good environmental stewards.

"The doctrine gives greater detail and understanding of our intention to implement the principles," said Robert Andersen, USACE Chief Counsel, who spearheaded the effort to develop the doctrine. "It defines key terms, and basically allows us to say what we mean by each of one of these principles before others try to interpret them for us. It's the first step, after the training on the principles themselves, to make the EOP a reality of doing business in the Corps."

"The principles are broad-reaching and overarching, applicable to all our programs," Anderson added. "We needed to develop both the policy and guidance to go along with them, and that's what the doctrine is. It provides the next level of detail necessary to get the principles implemented at the working level throughout the Corps."

Andersen said he expects that the doctrine, which is available online on the Headquarters homepage

at [www.hq.usace.army.mil](http://www.hq.usace.army.mil), will lead to permanent guidance at the Project Management Business Process (PMBP) level. The ultimate goal is for the districts to develop innovative ways to implement the principles during each major activity.

### Principle one

The first principle covers our commitment to environmental

**ENVIRONMENTAL OPERATING PRINCIPLES**

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1. Strive to achieve Environmental Sustainability. An environment maintained in a healthy, diverse, and sustainable condition is necessary to support life.
   
Image: Environmental Sustainable Housing Fort Lee, VA
2. Recognize the interdependence of life and the physical environment. Proactively consider environmental consequences of Corps programs and act accordingly in all appropriate circumstances.
   
Image: Wetlands at Melton Price Lock and Dam
3. Seek balance and synergy among human development activities and natural systems by designing economic and environmental solutions that support and reinforce one another.
   
Image: Endangered Whooping Crane Aransas National Wildlife Refuge, Texas
4. Continue to accept corporate responsibility and accountability under the law for activities and decisions under our control that impact human health and welfare and the continued viability of natural systems.
   
Image: Planting a tree within Mississippi Delta
5. Seek ways and means to assess and mitigate cumulative impacts to the environment; bring systems approaches to the full life cycle of our processes and work.
   
Image: Listening to the public at Lake Hartwell drought meeting
6. Build and share an integrated scientific, economic and social knowledge base that supports a greater understanding of the environment and impacts of our work.
   
Image: Alligator as found in Everglades
7. Respect the views of individuals and groups interested in Corps activities; listen to them actively, and learn from their perspective in the search to find innovative win-win solutions to the Nation's problems that also protect and enhance the environment.
   
Image: Corps labs support research and development in Far East District

sustainability. The doctrine explains how the concept of sustainability evolved. It emphasizes the need for governmental and non-governmental entities throughout the world to combine their efforts. It also notes that by linking environmental and economic needs one can achieve sustainable solutions.

### Principle two

Evaluating all environmental consequences of the Corps' program is addressed in the second principle. The doctrine speaks of the need to focus Corps efforts to effectively use and conserve dwindling resources, develop environmentally sustainable systems, and promote methods that improve environmental sustainability.

### Principle three

The third principle addresses the balance and synergy among human development activities and natural systems. This principle furthers the goal of achieving environmental sustainability by pointing the way toward procedures that will help the Corps balance human activities with sustaining the Earth's ecosystems.

The Corps needs to examine all existing procedures and policies within the PMBP and incorporate important and relevant environmental and economic factors if they are not already a routine part of the process.

The doctrine also encourages the Corps to move beyond traditional success criteria of cost, performance, and timeliness to

also include using innovative technologies, materials, and designs to lessen the stress of activities on the environment.

### Principle four

The doctrine for the fourth principle, which requires the Corps to continue to accept corporate responsibility and accountability under the law, emphasizes the need to ensure that everything the Corps does meets or exceeds legal requirements. Responsibility and accountability mean understanding the importance of achieving sustainability, setting expectations for changes in both individual and corporate behavior, setting clear objectives for all projects and activities, and providing sound indicators to report achievements.

### Principle five

Principle number five discusses seeking ways and means to assess and mitigate cumulative impacts to the environment. The doctrine lays out definitions to three key terms in this principle — cumulative impact, mitigate, and seek ways and means.

**Cumulative impact** is the impact on the environment resulting from adding up the impacts of past, present, and reasonably foreseeable future actions, regardless of what agency undertakes such other actions.

**Mitigate** is acting in a manner that improves or modifies a program, project or decision benefiting the environment.

**"Seek ways and means"** requires making good faith efforts to continue research efforts to develop solutions to complex problems, and to secure funding and other support to continuously improve the Corps' ability to assess and mitigate environmental impacts.

Because most Corps programs already have an active environmental assessment and mitigation component, the principle stresses that assessment and mitigation be addressed both early and throughout the project's or program's lifecycle, using the best scientific information available.

### Principle six

Principle number six talks about building and sharing an integrated scientific, economic, and social knowledge base. The doctrine points out that the science and the understanding of the science behind environmental programs and sustainability are still in relatively embryonic stages. The Corps must pursue this knowledge base and work with others to fully understand the impact its work has on the environment.

### Principle seven

Finally, it goes almost without saying that being a good steward of the environment requires working with other individuals and groups, respecting their views, listening to them, and learning from their perspective.

Principle seven stresses that collaboration across the federal and stakeholder communities is a means to achieve environmental sustainable solutions, the goal we seek throughout all seven principles.



Signs and wire-mesh cages help to protect the nests of least terns and piping plovers along the Missouri River and its tributaries.

# Hi-tech gear aids in protecting birds

Article and Photos  
By Thomas O'Hara  
Omaha District

Lewis and Clark wrote about the least tern and piping plover in their journals during their explorations 200 years ago. Omaha District rangers wearing high-tech gear and global positioning (GPS) equipment would look odd to those famous explorers, but their mission would not. They spend summer hours learning about their surroundings and the fascinating creatures that live there.

Because of varying discharge levels from U.S. Army Corps of Engineers reservoirs, and also due to naturally varying flows of Missouri River tributaries, many natural nesting areas are susceptible to destruction.

As part of the Corps' ongoing effort to understand the impact of river operations on the least tern and piping plover, Omaha District has maintained an aggressive Threatened & Endangered (T&E) program since 1993.

The most visible part of the district program is the captive recovery effort, managed by Rosemary Vander Lee, biological technician.

But according to Casey Kruse, program manager for the district's T&E program, the real strides have occurred on the river and in advancing understanding of the birds in their natural habitat.

"Everything we do here centers around data gathering and growing our knowledge base," said Kruse. "From the information on maturation and diet from the hatchery to the nest locations, to habitat information and migrating activity, it all helps us improve on how we manage the river and preserve these species."

Greg Pavelka, a wildlife biologist with the team, helps coordinate the efforts of a small army of rangers during the summer who seek to locate, monitor and, in some cases, protect the nests of piping plovers and least terns.

Teams operate at all district project locations. "We have crews on the river from Fort Peck in Montana down to here, and we also coordinate the Kansas River information collected by a contractor," said Pavelka.

"Gavins Reach is probably the number one priority reach for terns and plovers," said Kruse. "Over the long haul it has the largest number of birds."

From early May into late summer, T&E crews take to the river to locate and track migrating birds. The teams



Todd Tessier, a summer employee, buries a rotten egg to discourage predators.

record information on where the birds nest, when eggs are laid and hatched, and if they are under any threat of flooding. Corps personnel post warnings to local river users to stay clear of the nesting areas, and sometimes cage plover nests to protect them from predators.

"We have to be careful to balance our presence here with interfering with the birds' natural activities," said Pavelka.

The Corps teams' permit allows the them to return to the protected sandbar nesting areas as often as every fifth

day, but Pavelka prefers to limit their presence to only every five or 10 days if possible. "If you come back too often it could disturb the birds and cause them to aban-

don their nests."

The rangers are also conscious not to spend too much time at a location. "We won't keep a bird off its nest more than 20 minutes," said Pavelka. "We may be on a sandbar for longer than that, but once we leave an area on the bar, we won't come back."

With new GPS equipment, the rangers can quickly mark, analyze, and communicate nesting information. This information is used by Northwestern Division's Water Management Center to coordinate water releases from the dams.

The GPS equipment further reduces disturbance to the birds at the nesting sites.

"We used to use hand-drawn nest cards, which worked well, but sometimes folks became too dependent on individual memory," said Pavelka. "We'd spend too much time trying to find the right nest on the right sandbar using handwritten notes and diagrams."

With the global positioning system equipment, different personnel can locate any nest in a fraction of the time.

But the rangers still get their share of experience with defensive birds. "The plovers will feign a broken wing and make a lot of noise to move you away from their nest or chicks," said Pavelka. "The terns, they like to dive-bomb you."

T&E teams spend the summer tracking these nests collecting information. All the data is used to identify and protect specific nests, or to collectively assess recovery efforts and Corps river operation throughout the Missouri River basin.

Each day when the crews return to the office, their information is uploaded into the Threatened & Endangered database, which is available on the Corps' Intranet. "This is a critical component of our ability to provide information to the decision-makers," said Kruse. "To be able to provide near real-time data is a valuable aspect of our program."

Bruce Vander Lee, another team member, uses the information as he analyzes data for a habitat conservation and recovery plan under development. "Habitat drives these birds," said Kruse. "As habitat diminishes, so do the birds."

The goal is to develop a plan that will allow operations to be conducted in a way to provide necessary navigation, hydropower, and other basin needs, and still protect and restore the natural nesting habitat necessary for the recovery of these species.

"This is a significant commitment by the Corps," said Kruse. The Threatened & Endangered program costs the district about half a million a year. "I believe our peer community recognizes that we've assumed this responsibility and are doing everything we can to do it right."

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*Putting the  
seven principles  
in action*

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# Outdoors is backdrop for partnership

Article by Jim Pogue  
Memphis District  
Photo by Jim Gandy  
Ducks Unlimited

With a pristine wetland as backdrop and songbirds providing the soundtrack, the U.S. Army Corps of Engineers and Ducks Unlimited formally agreed to work together to protect, restore, and manage wildlife habitat in the U.S. A memorandum of understanding (MOU) signing ceremony took place July 22 at the national headquarters of Ducks Unlimited in Memphis, Tenn., officially recognizing a cooperative relationship that has been steadily growing for years.

Don Young, Executive Vice President of Ducks Unlimited, and Dominic Izzo, Principal Deputy Assistant Secretary of the Army (Civil Works) cosigned the MOU that provides a foundation for collaboration between the two organizations.

"This agreement is very good for the Corps of Engineers for two reasons," said Izzo. "First, more than 20 percent of the Corps' budget is targeted at the environment and conservation. Second, this emphasizes our new mode of operation: partnering. We just can't do it alone anymore."

With an annual budget of \$4 billion,



Don Young (left), Executive Vice President of Ducks Unlimited, worked with the Corps 20 years ago in North Dakota, and wears the hat he received as a gift then. Above, Young shares a chuckle with Dominic Izzo, Principal Deputy Assistant Secretary of the Army (Civil Works).

this percentage equals roughly \$800 million each year spent on conservation work across the nation — the vast majority dealing with wetlands and water resources.

Izzo noted three areas where the Corps and Ducks Unlimited are already work-

ing in partnership. They are the Vic Fazio Yolo Wildlife Area near Sacramento, Calif., the Upper Susquehanna River Basin study in New York, and the Sherburne Wildlife Management Area in Louisiana. "Coastal Louisiana will be a great chal-

lenge for the Corps of Engineers in coming decades," said Izzo.

Izzo further emphasized the importance of the agreement by saying, "This MOU signals our intent to cooperate at the national level."

Speaking on behalf of Ducks Unlimited, Young said, "The memorandum represents a shared commitment to our nation's wetlands. We're pleased to have the Corps as a partner and we look forward to our working relationship. With our shared strength, we have a tremendous opportunity to conserve and restore landscapes inhabited by waterfowl and hundreds of other wildlife species."

Young also spoke of the Corps' recently developed Environmental Operating Principles. "Lt. Gen. Flowers has made clear they (the Environmental Operating Principles) will be applied to everything the Corps does," he said.

Collaboration between Ducks Unlimited and the Corps of Engineers is expected to have an impact on diverse landscapes in the U.S. Under consideration are plans to restore meanders in channelized portions of Arkansas' Cache River, and work in other areas of mutual interest including Chesapeake Bay, San Francisco Bay, the Pacific Northwest, and the Mississippi, Missouri, and Illinois river systems.

## Joint project will protect health of rivers

By David Hewitt  
Headquarters

On July 9, The Nature Conservancy and the U.S. Army Corps of Engineers announced a collaborative effort to improve the management of dams on various rivers across the country.

Under the new partnership, entitled the Sustainable Rivers Project, the two organizations will work together to improve dam operations, helping to restore and protect the health of rivers and surrounding natural areas while continuing to meet human needs for services such as flood control and power generation. The partnership is one that both organizations expect will improve the quality of America's waterways.

"At the heart of this agreement is a shared vision of restoring and protecting hundreds of river miles and thousands of acres of some of our nation's most important natural habitats," said Steven McCormick, president of The Nature Conservancy. "This agreement is a result of conservationists and dam managers sitting down together, stating our objectives openly, and agreeing to work together to find solutions that are acceptable to all involved."

"We intend to build sustainability into the planning, construction, and operation of our projects, and it is critical that we adapt our management of America's rivers to meet the needs of the human and natural communities," said Lt. Gen. Robert Flowers, Chief of Engineers. "The Nature Conservancy has a great deal of expertise to help us make that possible."

The Corps operates 630 dams for flood control, navigation, and other purposes on rivers across the U.S.

The Sustainable Rivers Project will consist of a coordinated review and alteration of dam operations. There are,



The Green Dam on the Green River in Kentucky is one of the 13 dams which are candidates for a coordinated review. (Photo courtesy of Louisville District)

at this time, 13 candidate dams on nine rivers in nine states. Other dams may also become part of this project.

The dams are:

**Arkansas and Missouri** — Table Rock, Bull Shoals, Norfolk, and Clearwater Dams on the White, Black, and Little Red rivers.

**Arizona** — Alamo Dam on the Bill Williams River.

**Kentucky** — Green Dam on the Green River.

**New Hampshire** — Surry Mountain Dam on the Ashuelot River.

**North Carolina and Virginia** — John H. Kerr Dam on the Roanoke River.

**Pennsylvania** — Union City and Woodcock dams on the French Creek River.

**Washington** — George, Diablo, and Ross dams on the Skagit River.

On the selected rivers, the Conservancy and the Corps plan to:

- Work together to determine the water flow requirements to restore and maintain natural ecosystem health.

- Work with the surrounding communities to determine the influences and needs of people in the area.
- Identify areas of uncertainty and potential conflict.
- Conduct water management experiments to resolve uncertainties.
- Find resolutions to conflicts.
- Design and implement an adaptive water management plan that incorporates the need for ongoing assessment and revision.

The Conservancy and the Corps are basing their expectation for success at these sites on their ongoing collaborative efforts to improve the quality of habitat and other conditions along the Green River in Kentucky. The Green ranks as the nation's fourth most diverse river in fish and mussel species, and provides water and recreational opportunities to thousands of people from around the state and throughout the region.

The Conservancy and the Corps collaborated to identify more ecologically compatible releases from the Green River Dam. These include delaying fall reservoir releases until after the spawning period for certain fish and mussel species, and using the releases to mimic natural variations.

These changes will provide significant benefits to plants and animals, without sacrificing the dam's primary purpose to prevent downstream flood damage. And the changes actually extend recreational access to the reservoir by more than a month.

The initial changes the Conservancy and the Corps proposed for the management of the Green River Dam recently passed a period of public review, and will be implemented this fall.

The Conservancy and the Corps have begun or will soon begin discussions at the other project sites. While the variables at each site will be different, the approach will remain one based on collaboration.

"The optimal solution will not always be obvious or easy, but the optimal solution is what we will work together to find," said McCormick.

"Everyday we learn a little bit more about how we can better serve the public, and that includes how we can better protect and restore our nation's natural treasures," concluded Flowers.

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# Bat cave gets iron-clad protection

Article and Photo  
By Steve Foshee  
Nashville District

Nashville District recently joined forces with the Nature Conservancy of Tennessee and the U.S. Fish and Wildlife Service (USF&WS) to protect two endangered species that inhabit caves near Cordell Hull Lake in Jackson County, Tenn.

Representatives from the partnering agencies and organizations, plus numerous volunteers and members of the caving community, built steel gates across six entrances to two separate cave systems. These gates restrict human access into the cave systems while providing suitable access for endangered species.

The cave systems contain a maternity colony of federally endangered gray bats (*myotis grisescens*), a population of the state endangered blind crayfish (*orconectes incomptus*), plus several rare invertebrates.

"This biodiversity of often overlooked and little-appreciated creatures deserves our protection," said Jackie Vied, Cordell Hull Lake resource manager. "Past human presence and distribution within these caves has been the probable cause of a steady decline in gray bat populations, and we hope this gating will protect this fragile ecosystem."

The gray bat usually weighs between 0.3 and 0.4 ounces, roosts in limestone caves,

and forages for food (mostly insects) near streams, ponds, and reservoirs up to four miles from their roost. According to Heather Garland, Cave Program Coordinator for the Nature Conservancy of Tennessee, half of all American bat species are quickly declining in population.

She also said North American bats are essential for keeping populations of night-flying insects in balance. Individual bats can catch hundreds of insects every hour, and large colonies can eat tons nightly, including countless beetles and moths that cost farmers and foresters hundreds of thousands of dollars in damaged or destroyed crops.

"Gating a cave is done as a last resort," said Garland. "We only gate a cave after other methods of protecting the habitat have failed. Disturbing maternity colonies of the bats can cause the mothers to drop their young or abandon the cave for less suitable roosts."

The Nature Conservancy of Tennessee has built similar gates at 10 other cave systems throughout the state to protect rare and endangered species.

"The Dud's and Haile cave systems, which required six gates, is one of the largest cave gating projects the Nature Conservancy of Tennessee has taken on," said Garland.

A project of this magnitude could not have been possible without the contributions of the partnering agencies and organi-

zations. The USF&WS provided the 40,000 pounds of steel required for the project, while the Nature Conservancy of Tennessee covered the cost of cave designers Roy Powers and Kristen Bobo from the American Cave Conservation Association. The Corps covered all other expenses and provided logistical support, including coordinating volunteer efforts and providing food and campsites for the workers.

Besides the on-site work and monetary contributions made by the partners, a tremendous amount of planning and coordination was completed in advance. Conservation biologists Tim Dunn and Freddie Bell with Nashville District formulated a management plan for the cave systems to ensure the long-term management of the resources, formalized the partnership agreement, and helped coordinate logistics.

"Teamwork and commitment were top priorities, for we were all working toward a common goal of protecting endangered

## Putting the seven principles in action



Freddie Bell (left), Jackie Vied, Tim Dunn, and Andreas Patterson inspect the completed 12x12-foot bat cave gate structure.

species," said Brock Jones, a park ranger at Cordell Hull Lake.

Jones assisted in the gating project as part of his first-year training as a park ranger. He was responsible for logistics, and had to determine how best to move the 40,000 pounds of steel to the edge of the woods at the back of the Ray Hix farm.

Once the steel was staged at the woods edge, it still had to be carried by hand 125 feet to the cave entrances on Corps property. Representatives from each of the partnering agencies and organizations pitched in to carry the steel to each of the cave entrances.

Jones realized from the start how important teamwork would be to complete this job safely and on schedule. "The gating project was not only about protecting endangered species and cultural resources, it was also about working as a multi-agency team towards a common goal and getting the job done ahead of schedule."

Jones realized from the start how important teamwork would be to complete this job safely and on schedule. "The gating project was not only about protecting endangered species and cultural resources, it was also about working as a multi-agency team towards a common goal and getting the job done ahead of schedule."

# Corps, EPA will work on urban rivers

Article by Candice Walters  
Headquarters  
Photo by F.T. Eyre  
HECSA

The Environmental Protection Agency and the U.S. Army Corps of Engineers are beginning to identify and start pilot projects on which to work together to restore degraded urban rivers.

On July 2, the two agencies signed a memorandum of understanding (MOU) committing them to a strategic partnership. In the next 12 months, they will use their Congressionally-granted resources and authorities to select and begin work on eight pilot projects to work on together, in partnership with state, local, and tribal authorities.

The partnership is expected to interest urban communities facing water quality, waste-water management, and other quality of life issues, and also nongovernmental environmental groups specializing in protecting American rivers, one of our most critical natural resources.

Despite water quality improvements during the past 20 years, many American rivers in urban areas suffer from contaminated sediments, degraded water quality, and lost habitat. These conditions can adversely affect the health of humans and wildlife, the ecological value of aquatic resources, and limit recreational and other economic uses.

This interagency MOU will help coordinate activities



Marianne Horinko of the EPA, and Maj. Gen. Robert Griffin, Director of Civil Works, sign the memorandum of understanding.

to address these issues to improve water quality, human and environmental health, habitat restoration and preservation, and public use and enjoyment of the rivers.

The projects will demonstrate how coordinated government and private sector efforts can restore contaminated rivers while revitalizing urban environments. The MOU coordinates remedial, water quality and environmental restoration activities under the Clean Water Act, the Comprehensive Environmental Response, Compensation and Liability Act, the Resource Conservation and Recovery Act, and the various Water Resources Development Act authorities.

The Hon. Les Brownlee, Under Secretary of the Army, signed the MOU for the Army. The EPA signers were

Marianne Lamont Horinko, Assistant Administrator for the Office of Solid Waste and Emergency Support, and Benjamin Grumbles, Deputy Assistant Administrator for the Office of Water.

Maj. Gen. Robert Griffin, Director of Civil Works, represented Brownlee at the signing ceremony. He stressed the memorandum's importance, "Balancing environmental protection and infrastructure needs, especially as it relates to America's precious water resources, is one of the nation's greatest challenges. This memorandum is another important tool for not only achieving that balance in the future, but in improving the current health of urban rivers for the benefit of the people who live along and use them, and for the surrounding environment that depends upon them."

"This is another step in the continuing commitment of the U.S. Army Corps of Engineers to finding sustainable solutions for the environment," Griffin said. "We're proud to partner with the EPA in this effort."

Horinko praised the MOU, stating that it "sets the stage for the EPA's Office of Solid Waste and Emergency Response, the Office of Water, and the Corps to bring together, in the most effective and efficient ways possible, the resources needed to restore urban rivers that have been subjected to decades of contamination. This is precisely what we need to restore these rivers, which are so vital to the health of the environment, and to our drinking water supply, recreation, transportation, and commerce."

# Biologist relaxes with drag racing

By Gay Monteverde  
Portland District

When your Monday-through-Friday job is coordinating with research agencies about the Columbia River Channel Deepening Project, trying to find environmental solutions to dredging that will please everyone, and studying creatures such as benthic vertebrates (tiny animals that live in mud), sometimes it's nice to go out to the garage on Saturday and tinker with a truck.

At least that's what Kim Larson, a fisheries biologist, thinks. But unlike many other weekend mechanics, the 1946 Chevy pickup that Larson tinkers with can cover a quarter-mile in about 15 seconds.

"I've been involved in drag-racing since I was a kid in high school, back in the Sixties," he said. He admits that in those days, drag-racing was often street racing, "but there was also a drag strip nearby. The Tucson Drag Strip opened in the early Sixties, and that's where we drag-raced on the weekends."

In another five years, Larson will be eligible for retirement, but when asked about retirement, Larson said, "When we can afford it. We just put two kids through college, and paid for part of one kid's marriage, so we're kind of broke."

**Drag racing.** In the meantime, drag racing absorbs Larson's time, energy, and spare cash. His wife Kathi is tolerant rather than enthusiastic about his drag racing.

Larson usually races at Woodburn Drag Strip. There's also a track in Bremerton, Wash., and one in Idaho that he frequents. He travels to meet three or four times a year, "when I can afford it and can get off work." The farthest he's traveled was a national meet last year in Denver. "We trailered there and raced for the weekend," he said.

A trailer has become a necessity in drag-racing. "I used to drive my truck down to Woodburn, take off the tires, put the slicks on, and race. But if you break something, you're out of luck. So I stepped up and bought a trailer."

Larson said that in drag-racing "two cars line up. They can be ordinary stock cars or built specifically for racing. The object is to go as fast as you can in a quarter-mile."

But there have been a lot of changes in drag-racing in the past 40 years. Now, the race has as much to do with timing and technique as with speed.

"When the two cars line up, they start the slower car first, giving it a head-start of two seconds or whatever," Larson said. "In the old days, they'd handicap you by setting you two or three car-lengths ahead of the other, but both cars still started at the same time. The guy would wave the flag and you'd both take off, and whoever got to the finish line first, won."

Today, the flags have been replaced with lights — three yellow, a green, and a red. If you have a handicap over the other car, your green light will flash a few seconds before the other driver's.

Drag-racers come in all shapes and sizes, from what are essentially street cars to pure race cars. Larson favors Nostalgia Races where you race older cars in classes like "in-line engines," "pickup trucks," "four-speeds," or "cars built before 1932." Larson's 1946 Chevy pickup has an old-style six-cylinder in-line engine.

**Old cars.** The fact is, he doesn't like new cars at all. "I don't work on my wife's car, which is a '91 Buick LeSabre," he said. "I just like the old cars. My everyday car is a '65 Cutlass that I'm also going to race. But if I had to keep a car running to get to work, I'd hate that. When you can go out on Saturday afternoon and play, that's fun."

The truck is running well, so Larson doesn't need to work on it much now. But he has another car in the works. "I got a project a couple of years ago, a '48 Plymouth woodie (wood-sided) station wagon that I'm



Kim Larson likes to unwind by working on and drag-racing his 1946 Chevrolet pick-up truck. (Photos courtesy of Portland District)

restoring. I only have a one-car garage, so I have to do my projects one at a time. If I had a 10-car garage, I'd probably have 10 cars, so it kind of keeps me under control."

Larson builds his engines using old equipment from the Fifties and Sixties. "It's pretty expensive, building engines that go fast," he said. "I do woodworking as a second income, and that pays for most of it."

Besides maintenance, there are other costs. "High octane race gas is \$5 a gallon. They probably just charge us that because they call it 'race gas.' It's probably the same stuff they used to sell us for 20 cents a gallon in the Sixties." And entering races involves a fee. "Woodburn charges \$50 for the Oldies But Goodies weekend."

**Safety.** Drag-racing is fairly safe, but even racing old trucks involves some risk. "We're not racing around a track, but we *are* racing side-by-side and if somebody makes a mistake, they can cross in front of you," he said. "Some of our guys go 130 miles per hour. My truck goes about 90."

Required safety equipment depends on the vehicles. "The faster you go, the more safety equipment they require," Larson said. "In what I'm racing, all you need is a seat belt, although I had a shoulder harness put in because I want to stay in the truck if it rolls over. They don't require a helmet until you go faster than 13 seconds, and the requirements go on up from there, to fire suits and rollbars."

**Winning?** Larson has never won a race, but he is philosophical about it. "I've never gotten to the finals, but I've run in the semi-finals," he said. Last year in Denver, he lost a race by four-thousandths of a second. "I actually beat him, but I broke out of my bracket by four-thousandths of a second. That part of drag-racing I don't like. It used to be all mechanics — build the fastest car, drive the fastest, and win. Now it's strategy."

But Larson admits it would be fun to win, just once. "You get a jacket if you win the Oldies But Goodies that says 'Class Winner.' That's kind of a nice goal. Some places pay money, as much as \$2,000 or \$3,000, which barely covers your expenses. I won \$30 as third runner-up in Denver."

**Show vs. go.** But there are down-sides to winning, Larson points out. "The faster you go, the more expensive it gets and the more what you drive becomes a race-only car. I can still drive my truck to shows if I want to. I haven't gotten to the point where I want a



drag-race-only car. I still want to have fun driving it on the street once in a while."

Larson used to show his truck as well as race. "It's red, with black fenders and a wood bed. It's a pretty truck. I had it in the Portland Roadster Show at the Convention Center. But showing is kind of boring. You sit there for eight or 10 hours, then they judge the cars based on peoples' opinions. It just didn't interest me as much as racing."

And the fun of racing is the point. "It's fun to work on cars, and then spend a weekend racing. The people who do it are all good people. There's another guy, Doug Powers, chief engineer on the *Essayons*, who races an old Dodge slant-six, and those guys go really fast. It's a good way to spend a weekend in the summer."

**Future plans.** Larson recently bought a 1931 Oldsmobile five-window coupe that, he says, "is in a total state of disrepair." He plans to make it into a "mostly-race car," and then sell the Chevy truck in a year or so, as soon as he gets it to go faster.

"I've always hovered around 15 seconds in the quarter-mile," he said. "I'm putting a bigger cam into it this year, and I'm going to try to get down into the 14s, which is pretty fast for a big heavy old truck. Then I'll probably take the engine out and keep it, and put another engine in and sell it as a street rod to somebody who just wants to drive around. It's fun."

(Gay Monteverde is a freelance writer in Portland, Ore.)

# Ft. Lewis to get deployment facilities

By Dave Harris  
Seattle District

In the last scene of *Raiders of the Lost Ark*, a forklift dwarfed by towering stacks of crates deposits the Ark of the Covenant in a seemingly endless warehouse of the National Archives.

Seattle District will build a similar, but more sophisticated, state-of-the-art structure at Fort Lewis, Wash., as part of a massive, automated \$31.9 million quick-response deployment facility. It is part of the \$100 million military engineering and construction program awarded by the district in February and March, said Jim Clark, Chief of Military Programs.

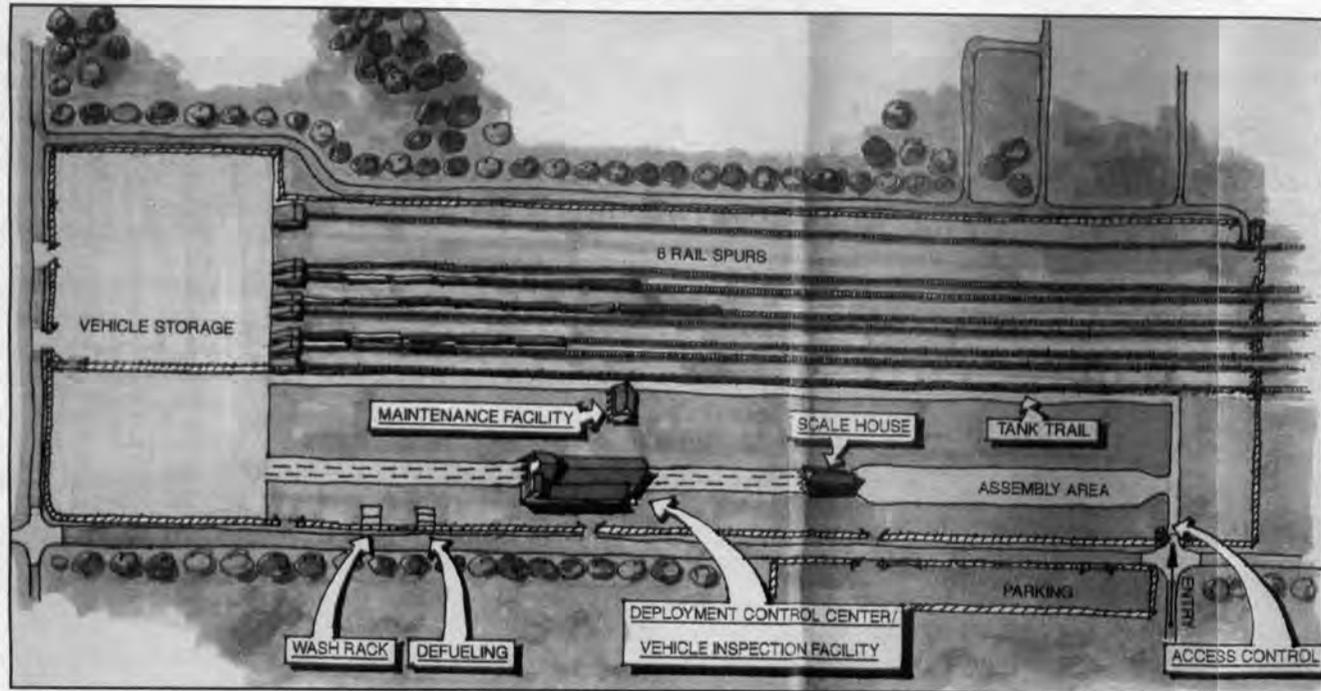
The accelerated deployment facility effort addresses mission-critical work in support of Army Transformation at Fort Lewis in response to the terrorist attacks on New York City and the Pentagon. The concept — pre-packaged goods and equipment configured to deploy within 96 hours with Army teams on missions anywhere in the world.

The Austin Company will build the new deployment facility, which includes a railhead with eight new rail spurs, a deployment vehicle inspection facility supporting Initial Brigade Combat Teams, and a 70,000-square-foot container/pallet handling facility, resembling an upscale version of the *Raiders of the Lost Ark* warehouse.

For an early look at how the facility will function, let's say the Pentagon orders a ready team of soldiers to deploy four days from now. Immediately the deployment facility hums into action.

Six hundred vehicles enter the facility in three lines and undergo a rigorous check at multiple inspection points. A truck fails an inspection. It goes to a two-bay vehicle maintenance garage, then cues up for a second look.

The vehicles must meet stringent Air Force weight and cleanliness standards before rolling to the aircraft ramp. The deployment facility puts them through a sophisticated scale system that determines the vehicle's weight and loaded center of gravity. Fuel levels are checked, adding more or defueling, before sending the vehicles to



The new deployment facility will include a railhead with eight rail spurs, a vehicle inspection facility, and a 70,000-square-foot container/pallet handling warehouse. (Artwork courtesy of Seattle District)

the wash rack, if necessary.

A second-floor control center gives commanding officers a sweeping view of all activities.

Meanwhile, a computer operator keys in a code for the specific deployment mission category. Forklifts roll into action, buzz down the interminable rows in the warehouse, and select pallets (already bar-coded) that will fit the specific mission like a glove. The containers are loaded on trucks or trains and head for C-17 cargo aircraft waiting at McChord Air Force Base, Wash.

"It took a large segment of the district focused on military program execution to make this happen," Clark said. He credits the district military project managers, project delivery teams, support offices, and engaged military customers with program success. The Northwestern Area Office has actively participated in project scope dis-

cussions and design reviews and has already ramped-up to provide construction management services for the fiscal year 2002 program. The district's Contracting Division staff has done "incredible things" in acquisition innovations, according to Clark.

"Our financial managers have been busy shuffling millions of dollars through our system to support the awards," Clark said. "And when you think about the impact of salaries and purchase of material on the local economy, and how that money is recycled through the economy, you have a multiplier effect. Studies show that the community benefits three and four times over as a result of those expenditures. We're fulfilling the military mission to provide specialized facilities in order to respond to the threat of terrorism, while also stimulating local economies."

## Deckhand sets 'Dreams in Motion!'

By JoAnne Castagna  
New York District

When deckhand Billy Fort isn't setting out on a New York District vessel into the New York Harbor, he is setting his singing career in motion.

"Dreams in Motion!" is his Fort's first music compact disc. The demo includes a sampling of 35 pop, ballad, and dance songs he wrote and produced. Fort considers his songs influenced by artists he admires such as George Michael and Sade.

Fort is called "Frankie" on the waterfront by his colleagues because of his resemblance to a young Frank Sinatra, and his 1950s James Dean look.

Fort works at Caven Point Marine Terminal, New York District's multi-purpose waterfront facility just behind the Statue of Liberty in Jersey City, N.J. The terminal houses the district's fleet of survey, drift collection, and utility boats. Fort is a deckhand on the *Dobrin*, the district's newest survey vessel.

Besides helping to maintain watercraft, Fort assists Capt. Mike Marcello in hydrographic surveys. He is also involved in transporting various politicians and Corps personnel during harbor inspections to witness dredging and, recently, blasting work in the Kill van Kull.

Fort said his work with the Corps inspired his music. "I won't quit my day job," he said. He enjoys being on the water while pursuing his interest in music. "If you have a dream, make a plan, and follow that plan."

Just hours following the attacks on the World Trade



Photo by Vince Elias, New York District

Billy Fort, a deckhand on the survey vessel *Dobrin*, has recorded his first music CD.

Center on Sept. 11, 2001, Fort was one of several district personnel who boarded the survey vessel *Hatton* with New York District Commander Col. John O'Dowd and boat Capt. Bill Lyness and went to critical command posts in lower Manhattan.

As a result, Fort is writing a song inspired by his experience. "It's about how human beings treat one another.



Photo courtesy of Billy Fort

It's about the future of humanity," he said.

One of Fort's song titles sums up his personal philosophy — "Carpe Diem!" (seize the day!) "Time goes by fast," he said. "You can't have this time back, so enjoy yourself and do what pleases you."

Fort has a web site where his music can be downloaded at [www.billyfort.com](http://www.billyfort.com).



Barry Frankel, former Director of Real Estate, and his wife Marsha on the day Frankel was inducted into the Gallery of Distinguished Civilians at Headquarters.

## Former top realtor honored

Article by Bernard Tate  
Headquarters  
Photo by Marti Hendrix  
HECSA

There is another distinguished civilian in the U.S. Army Corps of Engineers. On June 26 Barry Frankel, former Director of Real Estate, was inducted into the Gallery of Distinguished Civilians. Frankel was the 88<sup>th</sup> person so honored. The gallery is located in the corridor outside the Command Suite in Corps Headquarters.

"I was very honored," said Frankel. "If you're a civilian and you work in Headquarters, you walk by that wall of pictures all the time. Being added to that wall is a good capstone to a career."

Frankel retired Jan. 2, 1999 after a 33-year federal career. He had worked for the Corps since 1971. He was nominated for the Gallery of Distinguished Civilians for his years of work in real estate.

Frankel organized the Army's first real estate base closure office and registered the first sale of property within the Department of Defense, depositing more than \$35 million in the base closure account.

He orchestrated a leasing program to support CENTCOM in Operations Desert Shield and Desert Storm. Within 30 days, he had realty specialists on the ground in Saudi Arabia, who acquired more than 100 leases approaching \$100 million. These leases provided everything from warehouses to hospitals to barracks in support of deployed forces.

As a result of his successes in providing real estate support to deployed forces in Saudi Arabia, the Dominican Republic, Panama, and civil disasters, Frankel created the Contingency Real Estate Support Team (CREST). CREST assists operations during military conflicts and natural disasters. CREST was critical to the success of military operations in Bosnia, Kosovo, and Southwest Asia.

"I'll leave with you what my first boss told me," Frankel said to the crowd at his induction ceremony. "He was the chief of real estate in Norfolk, and he said, 'You only have to know two things and you'll be a success. You never lie to anyone, and there's always someone on the other end of the telephone who knows the answer to your questions.'"

"The Corps is a wonderful organization, and it's been a great career," Frankel concluded.

# Leaky dam needs heavy construction fix

By Janet Shelby  
Mobile District

Walter F. George Dam, on the Chattahoochee River about 75 miles south of Columbus, Ga., was completed in 1964. Since then, there has been seepage under the structure due to the limestone foundation beneath the foundation of the levees, lock, spillway, powerhouse, and non-overflow structure. The limestone foundation material is deteriorating from erosion and solutioning under normal operating conditions. Mobile District has been monitoring this problem and treating it as required.

Building a concrete cutoff wall in the earthen embankments in the 1980s stopped seepage in that area, but seepage has continued under the concrete structure and was last treated in 1996.

To eliminate this seepage, a concrete secant wall is being installed in front of the concrete portion of the dam, and will tie into the existing cutoff walls built in the 1980s. (A "secant" is a straight line that intersects a curve at two or more points.)

The project consists of a two-foot minimum thickness concrete cutoff wall from the bottom of the lake to an elevation of about 200 feet for a distance of about 1,831 linear feet, immediately upstream of the Walter F. George concrete structures.

There will be a concrete cap on top of the new wall that will tie into the existing concrete monoliths of the Walter F. George structures to seal seepage from the top.

Material excavated is transported by dredge pipe to an open water disposal area.

Part of the work will take place in up to 100 feet of water. Extensive diving will be used to accommodate construction and inspection of the project. All this will be accomplished with minimal interference with the powerhouse generation schedules and lock schedules while maintaining normal lake levels.

There are five phases to the secant wall construction:

1) Excavate a trench immediately upstream of the existing structures.

2) Fill trench with a flowable fill concrete material.

3) Excavate for secant wall and fill with concrete. A series of about 500 34-ton, 54-inch-diameter casings are lower to the bottom of the lake on the concrete material placed in step two. First the guide casing is placed from which all measurements are taken and alignment is made. Then the primary casings are set. The casing tip is seated into the limestone about 15 feet below the work surface.

Then a reverse rotating hammer platform (drill) is placed on top of the casings. This platform is used to feed the cutter head and drill stem down through water and all layers of limestone to an elevation of 200 feet. The cutter head and drill stem is then pulled out and the concrete is placed into the drilled hole.

After the primary casings are set, the secondary casings are put in place, intersecting the arcs of the primary casings, creating a sealed, continuous bulkhead, secant wall.

4) Excavate flowable concrete material.

5) Place concrete cap over new concrete wall so that the wall ties into the existing concrete monoliths of the Walter F. George structures to seal seepage from the top.

The contract was awarded to Treicos/Rodio, JV for \$50,145,755, with a notice to proceed on Oct. 4, 2001. The scheduled completion date is Sept. 24, 2004.

"Partnering, while not required, has proven successful, and has played an important part in this contract," said Don Simpson, resident engineer. "We need to work with the contractor to get the job completed, while remaining in compliance with the plans and specs. We've had two partnering meetings already and hope to resolve issues with the contractor locally."

The public has been assured that the lake levels would not be affected by this work.



Barge-mounted cranes place the first primary 54-inch casing. (Photo courtesy of Mobile District)

"The project has been received pleasantly by the public," said O.B. Earnest, Jr., Operations Manager of the ACF Project Management Office. "The local chambers of commerce provided assistance to the contractors in locating housing in the area."

The cutoff wall must be continuous, either cutting through or going around all obstructions. One obstruction was a coffer cell used in the original construction of the powerhouse. It needed to be removed, and it was thought that it could be removed in one piece. However, it proved to have more bracing than anticipated. Divers had to cut out the members and raise the cell piece-by-piece.

"This project is expected to require extensive diving operations," said Terry Cromer, dive inspector and quality assurance representative for the Corps. "To date there have been 97 dives, including both day and night dives. That's more dives than we did in the last two years in all of Mobile District. Always when we have men diving, the safety of the men comes first."

Cromer said he worries more about differential pressure than anything else. Differential pressure causes suction that could engulf the diver. To detect it, the divers listen for a sucking sound and carry a mop in front of them to detect suction. Any time the bottom is disturbed, a remote operated vehicle is sent down to check for suction.

Removing the coffer cell was probably the most hazardous operation so far. This entailed cutting with an electric torch, moving and lifting heavy pieces of metal. The divers will also be needed to inspect the lock walls, check underwater equipment, check in front of powerhouse generating units to be sure they are clear, and check trench work.

Catherine Bosold, Underwater Diving Coordinator from Mobile District, said the minimum number of people required on a dive team is four, but this operation has five-person teams. "For each diver in the water there is a dive supervisor, standby diver, and two tenders (diver's support on the surface), and a Corps dive inspector," Bosold said. "Because the depth of this project exceeds the no-decompression limits, we have a recompression chamber on site, and there are limits to the length of each dive."

# Recruiting future workforce is vital task

By Elizabeth Slagel  
Huntington District

As the baby-boomers age and go into retirement, the entire federal government is facing a steep loss of manpower in the near future.

Huntington District is no different. Twenty-four percent of the district's Engineering and Construction (E&C) Division's workforce will be eligible for retirement in the next five years, and all of their institutional knowledge will literally walk out the door.

However, E&C is not taking it lightly. A district recruitment initiative is taking off after two years in the making. Future engineer needs are projected, and a team of U.S. Army Corps of Engineers headhunters is on college campuses to find the best and brightest engineer students.

"The quality of candidates is like none we've ever seen," said Coy Miller, Chief of Design Branch, of some recently hired positions. "We're seeing students with 3.99 GPAs from esteemed schools."

One such student-turned-engineer is Ohio State University master's student Michael Likavec recruited by Dave Conley. A cum laude graduate who went to school primarily on scholarships, Likavec said he hadn't considered the Corps until he heard Conley's presentation to the campus chapter of the American Society of Civil Engineers.

Following that introduction, a rush of students put in resumes for a 30-minute campus interview with Conley. Likavec was one, and he later visited the district in person.

He hadn't given much thought as to where he would begin his career. "All I knew was I couldn't work for my Dad's company because of a no-family rule."

But the Corps wasn't Likavec's only option. He had turned down a job in Houston and one in Cincinnati. Believe it or not, the selling point for Likavec was that Huntington is a small town.

It is selling points like these that Conley and other recruiters key on when trying to interest promising engineers. "We try to portray an accurate picture so when they are here, they see it for what it is," Conley said.

Among the most common selling points are large public works projects, the variety of engineer work, broad-based training, and promotion opportunities.



Huntington District recruited Michael Likavec from Ohio State University. (Photo courtesy of Huntington District)

Of course, what is typically most attractive for new grads is pay and benefits, which doesn't always make the Corps look the most appealing when compared with the private sector. But Conley and his team member Shawn Carter have both worked in the private sector and can share the disadvantages that come with the higher salary — 50-60 hour work-weeks and redundant work.

"I tell them I have hobbies now, but didn't have them when I worked for private industry," said Conley. "I used to design ponds for coal companies. I probably designed 3,000 ponds and became good at it." But designing ponds was probably all Conley would ever get to do because it was his specialty and the better he got at it, the more money he made for the company.

Today Conley tells students of creative projects he gets to design, like floating walls at Greenup Dam, and mega-projects like Soo Locks for Detroit District.

"Most engineer students don't have a clue what we do," Conley added. "I first have to explain the Army connection and the fact that we're a civilian organization. They seem most interested in cutting-edge stuff."

The recruiters are doing their part, but one downside to the initiative is the government's long, rigorous hiring process. Engineering and Construction Division training

manager Carol Chaffin said, "Once we get a recruit in the system, and can make them an offer, they've already taken a job somewhere else." Combine this with all the confusing forms that prospective recruits must fill out, and the initial interest may be lost, Chaffin added.

Likavec said he probably wouldn't have gone through the application process if it hadn't been for Conley's help. "The application process was a pain. You pull the application off the web and you're like, 'What do I do with this?'"

However, Human Resources Mark Lycan is familiarizing E&C with a new program called the Federal Career Intern Program (FCIP) placed on the Federal Register in 2000. This program allows an engineer position to be filled quickly, bypassing the normal hiring route. In theory, a recruiter could interview a student, report back to management, and that person could be on board in a few weeks.

The one condition is that the new employee is hired on a two-year probation. At the end of probation, he or she can be either converted noncompetitively or terminated.

The reason for the rush is the need to get bright engineers into the organization and trained before the experienced engineers leave. The other reason is to be competitive with the private sector, which can hire on-the-spot.

Lycan added, "The FCIP is not open to any occupational areas. It is largely only available in engineering. It doesn't provide for hiring in any professional series covered by the Administrative Careers with America."

Consequently, Huntington District primarily uses the FCIP in its recruitment initiative for Engineering and Construction Division.

Al Branch, Chief of E&C, said, "One of the most important responsibilities we have as senior leaders is to build the USACE team of tomorrow. They will be the future, the staff engineers, technical specialists, managers, and leaders of tomorrow. Our recruits staff not only EC, but also go on to other key positions throughout Huntington District and Great Lakes and Ohio River Division. We seek to recruit, train, and retain the best and brightest to fill these roles. They will face the challenges, accomplish the mission, and shape the destiny of USACE for decades."

Conley agreed, "The better we can recruit, the healthier and stronger organization we can create, which in turn increases our longevity."

HR Corner

## TAPES work is a continual process

While most U.S. Army Corps of Engineers employees probably think of their annual performance appraisal when they hear the acronym "TAPES," the appraisal is only one part of the Total Army Performance Evaluation System (TAPES). The system is a continuous process for planning and appraising employee performance. It is designed to improve Total Army performance by establishing individual performance expectations, which reflect organizational goals and Army values and ethics, and by facilitating frequent discussion between supervisors and employees, which is key to effective performance management.

TAPES has two subsystems — the Base System and the Senior System. The Base System covers employees in WG, WL, WS/GS-8 & below, and equivalent levels in other pay plans. Annual appraisal periods for the Base System are determined locally.

The Senior System includes employees in SES, SL, ST, GM, WS/GS-9 and above; employees in equivalent pay plans and grades; and interns. The Senior System has two rating cycles. Employees in grades WS/GS 9 through 12 and employees at equivalent levels in other pay plans, except WL and WG, are rated Nov. 1 through Oct. 31. Employees in ES, ST, SL, GM, WS/GS-13 and above, and employees at equivalent levels in other pay plans are rated Oct. 1 through Sept. 30.

Performance management under TAPES includes five steps or phases — planning performance and assigning work, monitoring, developing, appraising, and rewarding performance.

**Planning performance and assigning work.** The written performance plan specifies *what needs to be done* (objectives/responsibilities), and the *standard of performance* required of a satisfactory employee.

Performance plans focus on priorities. For example, beginning with the fiscal year 2002 rating cycle, all GS-13s and above must have a Project Management Business Process (PMBP) performance objective. PMBP is the Corps fundamental business process for accomplishing work. Including PMBP in performance plans places needed emphasis on this process.

The performance plan is prepared by the supervisor (with employee input) at the beginning of the rating cycle; approved by the senior rater; and discussed with the employee. During the preparation and at the final discussion, employees are encouraged to share with the supervisor their career goals, and training and development needs.

**Monitoring performance.** TAPES requires a mid-point discussion during which the rater and ratee discuss progress to date and make adjustments in the performance plan, if necessary. While a mid-point discussion is required, the expectation is that performance discussions will occur throughout the year, not just at mid-point.

**Developing performance.** All objectives/responsibilities are "critical" for satisfactory achievement. If an employee's performance fails to meet one or more of the objectives/responsibilities, the supervisor places the employee on a written performance improvement plan. The plan specifies the performance deficiencies and outlines

guidance and assistance that is offered. Failure to improve may result in the employee's reassignment, reduction in grade, or removal from the position.

**Appraising performance.** At the end of the appraisal cycle, a formal written evaluation is prepared for employees who have spent at least 120 days under an approved performance plan. After the senior rater reviews and approves the appraisal, the rater holds an appraisal discussion with the employee.

**Rewarding performance.** Employees who exceed performance objectives/responsibilities should be considered for recognition under the incentive awards program. GS employees who receive the top rating, "Successful Level 1" are eligible for Quality Step Increases.

**Other Links.** Performance appraisals impact many personnel decisions, including training and development, pay management, promotion, and retention. For details about TAPES consult your local Civilian Personnel Advisory Center (CPAC) or check

[http://www.usapa.army.mil/pdffiles/r690\\_400.pdf](http://www.usapa.army.mil/pdffiles/r690_400.pdf)  
<http://cpol.army.mil/permis/index.html>

**A note about the future.** Performance Management will take on a new look when the web-based Army Automated Performance Management Support System (APMS XXI) is implemented. This paperless system will streamline the performance appraisal and award process. No implementation date has been set. For details about the proposed system, see <http://cpol.army.mil/library/MER/apms21/>.

# Around the Corps

## Bullet trap

Two scientists with the Geotechnical and Structures Laboratory will receive a patent for a "Durable System for Controlling the Disposition of Expended Munitions Fired at a Target Positioned Close to the Shooter."

Dr. Philip Malone and Dr. Charles Weiss, Jr., working with engineers from Terran Corporation, have developed a new type of bullet trap built from foamed fiber-reinforced shock-absorbing concrete (SACON).

The new tunnel-like trap is made from pre-cast panels and blocks of SACON, which form a grating across the front of the trap. Bullets hitting the front of the trap are directed through openings in the grating and embed themselves in thick SACON blocks at the back of the trap. The grating restricts airflow at the front of the trap and makes it possible to capture dust generated by the bullet's impact against the blocks. Spent bullets are trapped in the space behind the grating.

The trap is quieter and provides better control of lead than steel traps. The all-concrete construction reduces maintenance and allows the traps to be used with tracer and incendiary rounds. Traps can be designed for pistols, shotguns, and rifles firing almost any ammunition.

The U.S. Patent Office will issue the patent to the Army because Malone and Weiss are Army employees and developed the system under a cooperative research and development agreement with Terran Corporation. Terran Corporation will receive a license to manufacture and market the new trap.

Benefits of the patented system include safer firing ranges for the military and private sector, and virtually non-existent lead contamination from spent bullets.

## Women honored

Dr. Moonja Kim and Yazmin Seda-Sanabria, researchers with the Engineer Research and Development Center (ERDC), have received Women of Color Government and Defense Technology awards for achievements in their fields.

The awards are sponsored by *U.S. Black Engineer and Information Technology* magazine and *Hispanic Engineer and Information Technology* magazine to recognize women who excel in traditionally male-dominated fields in government and the private sector.

Kim will receive the Lifetime Achievement Award for her accomplishments in technology research at the Construction Engineering Research Laboratory (CERL), and for 19 years as a dedicated leader and role model. She is currently chief of CERL's Business Processes Branch, where she manages the research and development program in knowledge management and business process improvement.

Kim is also a Defense Leadership and Management Program participant. On a DLAMP rotational assignment, she worked for the Navy Chief Information Officer as Special Assistant to the Deputy CIO for Enterprise Integration from May 2000 to April 2001. During this assignment, she was a member of the Knowledge Management Team, and had a chapter published in the book *Knowledge Management: The Catalyst for Electronic Government*, plus an article about the Navy's "Knowledge Fair" published in the British magazine *Knowledge Management*.

Seda-Sanabria will receive the Technology Innovation Award, given to the woman who works in cutting-edge technology, who develops products or new ways to use existing products, and who mentors others in her organization and community.

Seda-Sanabria is a structural research engineer in the Geotechnical and Structures Laboratory. Her

efforts led to developing and implementing innovative technologies for rapid load capacity assessment of bridges. These new procedures minimize material and human resources necessary to determine the load rating of bridge structures in military scenarios. These technologies facilitate the logistics of deploying military forces through a region, while reducing the risks to military personnel and equipment. State highway departments can also benefit from this technology by using the load rating tools for civilian highway bridges.



Yazmin Seda-Sanabria.

## Second patent received

During the Engineer Day Award ceremony at the Topographic Engineering Center, Lt. Gen. Robert Flowers, Chief of Engineers, presented Brian Shannon with a patent for his "System for Ascertaining Height as Related to an Established Reference". The patent was granted Nov. 13.

The system allows for greater horizontal accuracy, and for the first time creates a vertical reference relative to the published navigation channel depth. Because of ocean inlets, bays, and river flows, the chart datum gradually rises and falls, creating an undulating surface. Vessels can use the system offshore or in rivers much like airplanes use the glide slope to arrive safely at the runway threshold.

This is Shannon's second patent. His first, "Method for Measuring Depths of a Waterway and for Determining Vertical Positions on a Waterborne Vessel" was granted July 3, 2001. It invention replaces traditional hydrographic survey methods for removing ocean tides, and determines the under-keel clearance of large ocean vessels approaching a coastline. Four harbors use this technology. The system is mandatory for all parties dredging in three of these harbors.

## New simulator

The Corps and the Air Force broke ground for the new C-130J flight simulator recently at Little Rock Air Force Base, Ark. Little Rock District awarded the \$8.3 million construction contract to CWR Construction Inc.

The simulator is just one of several construction projects necessary for the complete C-130J bed-down and modernization program at the base. The projects are valued at more than \$40 million. To support just the C-130J flight simulator mission alone, a \$2.5 million fuselage trainer, an \$8.1 million maintenance training facility, a \$12.9 million two-bay hangar, and a \$2.1 million engine/prop storage facility must also be built.

## Call for papers

Panelists and speakers are sought for the 6th National Mitigation Banking Conference next April 23-25 in San Diego, Calif.

The nation's hands-on conference for mitigation and conservation banking will concentrate on practice and policy. Sessions will range from the primer for mitigation banking newcomers, to panels on emerging markets, technical banking issues, techniques used in banking, and the newest information on legislation and current events in the industry.

Presentations and ideas for sessions are welcomed from experienced mitigation and conservation bankers, regulators, engineers, bank users, consultants, bonding firms, venture capitalists, nonprofits who maintain banks, and public interest groups.

Abstracts of no more than 300 words should be tailored to one of the suggested topics listed on

www.mitigationbankingconference.com (also available by calling (800) 726-4853). They can be submitted to cbahler@erols.com, or faxed to (703) 548-6299. The deadline is Sept. 4.

## Macy Award

Col. Gordon Wells, Fort Worth District Engineer received the John W. Macy, Jr. Award on May 30 in Washington, D.C. The Macy award, sponsored by the Secretary of the Army and the Army Civilian Personnel Alumni Association, recognizes excellence in the leadership of civilians by an Army military or civilian supervisor. Wells leads a mostly civilian workforce of more than 900 employees in Fort Worth District.



The *Wheeler* is the largest hopper dredge in the U.S. (Photo courtesy of New Orleans District)

## Wheeler open house

The dredge *Wheeler* docked in New Orleans at the Bienville Street Wharf on June 14, the Army's 227<sup>th</sup> birthday. More than 2,500 visitors toured the vessel guided by dredge personnel.

"The public seemed genuinely interested in the function and operations of the dredge," said Ray Newman, Chief of New Orleans District's Marine Management Section. "This was great exposure for the Corps and the Army."

The *Wheeler* is the largest seagoing hopper dredge in the U.S.



Michael Ebert stands at the helm of the *Wheeler* with his mother and grandfather as Third Mate John Bochynski (far right) explains the controls. (Photo courtesy of New Orleans District)

## Researcher of the Year

Dr. Donald Cargile will receive the Corps' Researcher of the Year honors from at the Senior Leaders Conference this month.

Cargile is a civil engineer with the Geotechnical and Structures Laboratory. He works in the Impact and Explosion Effects Branch. He was selected for this honor for advancing state-of-the-art prediction procedures for projectile penetration into geologic and structural targets. His work led to development of bunker-buster bombs used during Operations Desert Storm and Enduring Freedom. These bombs are used to destroy deeply buried bunkers and tunnels.



Dr. Donald Cargile.



Dr. Moonja Kim.

# Soldier's wife crowned Mrs. Hawaii

By Larry Hawthorne  
Pacific Ocean Division

Tara Easley has an appealing outlook on life — "I want to be a dedicated wife committed to a lifelong relationship in marriage."

That's Easley's theme, and it was good enough to convince a panel of judges that she should be crowned Mrs. Hawaii International for 2002. The 24-year-old wife of 1st Lt. Brian Easley, Pacific Ocean Division's executive officer, won out over five other finalists in competition on May 18 at Hilton Hawaiian Village. She will now represent the state in national competition in August in Tennessee when a Mrs. International will be crowned.

Easley is a second grade teacher at Lanakila Baptist Elementary School in Waipahu, Hawaii. She said she hopes her victory will help set an example for other military wives who are contemplating getting involved in the outside community.

"In March I participated in the Governor's Conference on the Arts," Easley said. "It really made me want to get active in something I cared about."

She selected Arts Education in Hawaii as her platform as the reigning Mrs. Hawaii. Easley said she will work with pageant administrators to take the message to the classroom when she visits other schools to help host art appreciation days.

The emphasis on art is apparent in the way Easley teaches her students, and also reflects her own background as a one-time professional dancer who performed on cruise ships in Hawaii.

"I've learned all types of dance, including the hula," she said.

Easley said she feels fortunate to be selected to represent the state, since she was the only contestant who was a military wife, and is relatively new to Hawaii.



Tara Easley is Mrs. Hawaii International 2002. She will compete in the Mrs. International contest this month in Pigeon Forge, Tenn. (Photo courtesy of Pacific Ocean Division)

"There is a tremendous feeling of acceptance to receive such an honor," she said. "I want to take my selection very seriously and try to give something back to the community."

The contest consisted of three major areas of judging — an interview before five judges, plus aerobicwear and evening gown competitions.

The interview, which was half of each contestant's total score, was most grueling, Easley said. Each judge asked questions about family and relationship issues, but stayed away from politics or religion.

"Of course, there were no absolute right answers," said Easley. "It really wasn't something you could prepare for. You just had to answer honestly and be yourself."

Being herself was more than good enough, culminating a successful competitive process that began last March at the urging of her husband.

"We were watching the Mrs. International pageant on television," he said. "I was just complimenting Tara. I told her I thought she looked just as good (actually better) as the contestants on stage, and could answer questions just as well."

Soon thereafter, the couple came across an article inviting entries for the 2002 Mrs. International Pageant.

"It almost seemed like fate," she said.

Easley was not born or raised in Hawaii, but that was no impediment to qualifying. Contestants only had to be a resident for at least six months in the state they represented.

An application, a series of meetings, photo shoots, and couples' dinners, followed by the normal screening process all led to the final competition. Easley, who had almost no prior experience in pageants like this, was nonplussed by her victory.

"Winning was wonderful, but it was a great time being with other wives and sharing their strong commitments," she said. "I found that being a military wife and from another state (North Carolina) made me different, but that we shared much more than we differed. And that made the whole experience worthwhile."

The final competition will be Aug. 12-17 in Pigeon Forge, Tenn. Easley will compete against winners from the other 49 states, plus territories and foreign nations.

# Army choppers survey district lakes

By Tim Dunn  
Nashville District

You've probably heard the term "Blackhawk" a great deal during the past several months associated with military missions such as Operation Enduring Freedom in Afghanistan, or the movie *Blackhawk Down* about operations in Mogadishu, Somalia.

But you probably haven't heard of them in Nashville District.

Army Blackhawk helicopters recently flew over Nashville District lakes on a completely different type of mission. Here, they supported Army civil works rather than military missions.

This unique partnering effort began earlier this year when Nashville District worked with Fort Campbell, Kyn., to use military aircraft and flight crews to help district team members conduct aerial surveillance of the district's 10 multi-purpose water resource development projects and drainage basins.

The UH-60 Blackhawk is the Army's standard utility helicopter. The four-bladed, twin-engine aircraft carries a crew of three and has a top speed of 163 miles per hour. Depending on the mission, it can carry 11 soldiers, six stretchers, or be armed with a variety of guns and missiles.

Ten Blackhawks were involved in the operation. They were from the 4<sup>th</sup> and 9<sup>th</sup> Aviation Battalions of the 101<sup>st</sup> Airborne



A UH-60 Blackhawk helicopter departs the Smithville, Tenn., airport. (Photo courtesy of Nashville District)

Division at Fort Campbell.

With one helicopter assigned per lake, district personnel completed aerial surveillance at all 10 of the district's lake projects during March and April. These flights provided project team members with a real birds-eye view of their areas.

They took aerial photographs of features at each project, and monitored the public property and easements for encroachments, trespasses, environmental compliance, and regulatory concerns.

Immediately after completing the mission over Cheatham Lake, resource manager Larry Nash praised the aircrews.

"The Blackhawk surveillance flight was the most useful patrol flight I have ever participated in," said Nash. "They were far superior to fixed-wing aircraft. The Blackhawks could stop, back up, and go sideways. Anything we asked the pilots to do, they did. We took incredible photos and looked at areas we hadn't seen for years. The pilots were professional, kept everyone at ease, and accomplished all we asked. I hope this becomes a regular program. And it was fun!"

In the past, the district contracted with individual commercial pilots to conduct similar flights using small fixed-wing air-

craft. But during the last few years, numerous factors prevented district projects from performing aerial surveillance.

The district began exploring the possibility of partnering with Fort Campbell for these missions a few years ago while issuing special use permits for Fort Campbell to conduct military maneuvers on Corps property at Lake Barkley.

Knowing that Fort Campbell's training program requires helicopter pilots to accumulate a certain amount of flight-time, and to practice flying over water, district officials recognized the opportunity to partner with them to the benefit of both parties. The district could complete aerial surveillance of lake projects with important missions while the pilots obtained required flight time.

According to Maj. Richard Shelton, Deputy District Engineer, "The partnership that has developed between Operations Officer Capt. Terry Phillips, Staff Sgt. Edward Martin, and our district leadership, as well as between the 159<sup>th</sup> Aviation Brigade (Assault) flight crews and our Corps employees in the field, is truly remarkable.

"The Blackhawk pilots and crews enjoy excellent, albeit different, training opportunities while supporting the total Army mission," Shelton added. "As a district, we gain an appreciation for these great American service members while collecting invaluable data to support our ongoing mission. The entire program is a real win-win story."