

Europe District, U.S. Customs Service improve security in Republic of Georgia

By Torrie McAllister
Europe District

Peacekeeping takes many forms. Many won't make a splash on CNN, but they still help reduce tensions and build goodwill in trouble spots.

In the Republic of Georgia, the news cameras focus mostly on Russian accusations that the republic harbors Chechen rebels on their mountain border. But behind the scenes, Shawn Pelowitz heads a Europe District project execution team in Georgia. They are making a small gesture of friendship, and sowing the seeds of political and economic stability in this volatile part of the world.

Georgia lies at the heart of the Silk Road, the ancient crossroads of Asia, Europe, and the Middle East. Located on the Black Sea, the republic shares land borders with Russia, Turkey, Armenia, and Azerbaijan. It is an important new nation with aspirations of becoming an international business and industrial transit hub.

On the ramshackle landing strip of a former Soviet air base, Europe District is working with the U.S. Customs Service to help the Georgian Border Guard improve border security.

"This is a very challenging border situation, so the Georgians need a credible, effective border patrol," said George Levitsky, U.S. Customs Service chief in Georgia. "For example, if there's any perception that Chechen rebels are operating out of Georgia, it could destabilize the region. Drug smuggling and weapons peddling affect the international community's willingness to invest. This is a critical time in Georgian history, a formative transition. This is a new country with an old methodology. We're trying to guide them towards a new approach, something the Georgians can take ownership of that ultimately brings them closer to our way of doing business and our point of view."

Last year the U.S. Customs Service asked Europe District to help the Georgians renovate an aircraft maintenance hangar. Customs has given the Border Guard new MI-8 helicopters, which need regular maintenance and repair.

The MI-8 (NATO name "Hip") is a twin-engine helicopter with a long bus-like body, five-blade rotor, and rear clamshell doors. It is used mostly for cargo and transportation (it can carry about 25 personnel), but other variations are used for combat, rescue, and artillery observation.

The Georgians use the MI-8s to fly in shift changes and to re-supply rapid reaction forces at border outposts in the Caucasus Mountains and other remote regions. The airfield is also used by the European Organization for Security and Cooperation, which flies tense border areas to inspect border patrol activities and provide independent verification for the international community.

Levitsky says the U.S. Customs Service had two goals when it invited the Corps to help in Georgia:

- Manage construction of a modern maintenance hangar and ensure U.S. tax dollars are properly spent.
- Show the Georgians the value of western-style construction management and building techniques so they learn trade and management skills to handle their own work and develop their construction industry.

Pelowitz says at first, to American eyes, the dilapidated building didn't look worth the trouble to repair. It is a hodge-podge of assorted bricks and stones held to-



Republic of Georgia patrolmen load a supply helicopter with maintenance equipment for a remote outpost. The aircraft hangar the Corps is renovating will improve conditions for this crucial mission. (Photo courtesy of Europe District)

gether by mortar so soft you can chip it out with your fingers. But to the Georgians it was a building with a roof, which made it something to be prized.

"When we first saw it, we cringed," said Pelowitz. "It was built helter-skelter with whatever materials Soviet workers had on hand that day. There were no standards, no quality control, and no craftsmanship. When the Russians left, they destroyed everything of value. They took out any equipment that could be used. We could see malicious demolition. It would be so much easier to just start new. But the Georgian view was, 'We have a building. Why would you tear down something that's standing?'"

"As we got into it, we realized that we really could fix up the hangar and return it to a usable facility," he said. "It's more work, but we're showing them how to build to a quality product to a modern standard. They're beginning to understand what we're talking about."

During the next four to five years, Europe District will complete an estimated \$40 million worth of construction in the country. This includes developing master plans for four and concept designs for two Georgia Border Guard installations, construction of a Georgia Border Guard headquarters and station, and a multiple award task order contract targeted to introduce Georgian firms to U.S. procurement and construction practices.

"It's fascinating to work with people and be touching on world events," Pelowitz said.

The Georgians claimed their independence from Russia just 10 years ago. Unemployment is still high. But Georgian president Eduard Shevardnadze has a vision for his country — to make it a conduit for trade and one



Townpeople in Tbilisi enjoy fishing on the Mtkvari (Kura) River. (Photo courtesy of Europe District)

of the most important transit countries in the world. Major road, railway, and pipeline routes between Asia and Europe cross its borders. A new pipeline is planned from the oil-rich Caspian Sea basin through Georgia to the Turkish port of Ceyhan on the Mediterranean Sea. But Georgia needs modernization before it can become a conduit for trade.

Secure borders are an essential first step towards attracting economic investment, Levitsky said.

"For the U.S. Customs Service, the long-term thrust of better border control is economic," he said. "During the long run we're trying to establish a stable country that's going to be home to cooperative business efforts. This supports Georgia's national objective of being a major transportation hub, and it suits the U.S. national interest in peace and regional stability."

"The Corps is helping us get the Georgians involved so they can learn to sustain and maintain their own operations," Levitsky said. "We're using as much Georgian labor as possible. We're teaching them western methodologies to provide structure to their approach to construction. They're learning about quality control, about business transparency, and about how to create a competitive atmosphere for selecting vendors, builders, and construction subcontractors. We're trying to keep the quality as high as possible and get maximal effect for the funding available. Most important, we're trying to help them develop a fair government procurement process so that when they allocate money, they buy the product they want."

Pelowitz says he is glad the Corps has a role to play.

"This is a first gesture we're making that's part of a much bigger U.S. plan," Pelowitz said. "Right now the project is going well and we're setting an excellent example. Down the road, we're helping form a close relationship with the Georgians that benefits both U.S. policy and the Georgian way of life. We're really out here to help both the people and our government."

(Torrie McAllister was the Public Affairs Officer of Europe District when she wrote this article. She is now the Public Affairs Officer of South Pacific Division.)

Insights

Let's face the future with optimism, not fear

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

While traveling around the Corps since Sept. 11, I have become aware that the tragedy of that day has had an impact on all Americans to varying degrees, including the members of the U. S. Army Corps of Engineers.

The first time I flew after Sept. 11, I spent three hours standing in lines for check-in and security. I almost missed my flight. When I finally got on the plane and settled into my seat, I noticed that the plane was nearly empty, so I spread out and enjoyed the flight. Since Sept. 11, none of my flights have been completely full and most were well under 50 percent of their capacity. The reason - many people are afraid to fly.

Changing plans

On a recent trip, I had a Corps member tell me that he and his wife made plans for a trip that would take place in late September. All the plans were made before Sept. 11, including having his mother-in-law to care for his two young children.

After Sept. 11, his mother-in-law made a real fuss, insisting that they cancel the trip. Now, I don't know how well-mannered his kids are, so it may be that Grandma was having second thoughts about having two little monsters tearing up her home for a couple weeks. But he assured me that his mother-in-law's resistance to their flying was motivated solely by her concern for the safety of her daughter and son-in-law.

Through her tears, another Corps member told me how she has worked all her life planning for the day she could retire and spend the rest of her days enjoying her grandchildren. She said that she had just four years to go before realizing her dream, but after Sept. 11, she thought the world was deteriorating so fast she would never see retirement.

Hidden retreat

Another Corps member showed me a picture of her cabin that was so well-hidden in the Rocky Mountains that it would be almost impossible to find. She used to tell people where it was, but since Sept. 11 she and her husband keep it a secret in case they need a place to hide.

She also told me they had decided on a heating system that used circulating hot water instead of hot air. Since it was a little more expensive, she wasn't sure they had made the right decision. But after Sept. 11, she is glad they have it because this will allow her to shut the cabin tight enough to seal out anthrax, or any other agent that might be used in germ warfare, and still be warm.

This is where she plans to go if the world situation continues to decay and it becomes necessary to find a safe place to hide. I really liked the picture of her cabin, but even though I assured her that her secret would be safe with me, she still didn't tell me how to find it.

Old fears

Some of the things I have encountered since Sept. 11 remind me of the late Fifties and early Sixties, in the depths of the Cold War. Nuclear weapons were being



built and stockpiled by Russia and America, causing us to live in fear of a nuclear holocaust.

Living under the threat of "The Bomb" caused many of us to wonder if we would ever live to see our mid-life crisis, let alone retirement and old age. And there were those who took advantage of our fears and sold us bomb shelters without telling us that we would have to be sitting in the shelter at the time of the blast for it to do any good.

I wonder how many forgotten bomb shelters are scattered around America and have done nothing but drain bank accounts and collect cob-webs.

Optimism

Let's face 2002 with optimism! We survived the nuclear threat and we will survive the terror threat too. Let's not react like a scared armadillo! Let's not put our faith in bomb shelters, gas masks, or immunizations. Let's put our faith in God, in America, and in ourselves! Let's continue to pull together, encourage each other, and behave like the brave Americans that we are. We have a bright future and we will be here to see it!

(On the second thought, you may want to hang on to your fear of flying. I'm starting to like all the extra room on those airplanes!)

(The views expressed 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.)

Letters to the Editor



Glad you're safe

(Gail Floyd wrote this letter as an e-mail to Joe Seebode in response to the article about his experiences in the World Trade Center on Sept. 11. It is reprinted here with Ms. Floyd's permission. — Editor)

After reading the article in the November *Engineer Update* describing your experience the day we shall all remember until our graves, I just needed to tell you that I am very glad you had the presence of mind to run and tell anyone along the way to do the same.

I read the thanks you gave to all those who have helped. I wanted you to hear from one of those who have *not* been able to come and work on the tragedy. How very helpless I felt watching this event unfold.

We had just arrived for work in Nashville District when I heard that an airplane had hit the first tower. I watched first in horror as the second airplane hit, then in disbelief as the towers fell. I could do no more that morning except watch the TV and cry with everyone else in the room.

There are so many more of us who wished we could be there to help, but were not given the opportunity. I can say with absolute confidence that if we had *all* been allowed to move just *one* rock apiece, Ground Zero would be completely cleared by now.

I'm one of the millions of other Americans who could only watch, yet want so much to let everyone there know, that we care and are praying for the healing only time and love can bring.

Thank you for listening. I am glad you are safe. God bless you.

Gail Floyd
Nashville District

The "Engineer Update" welcomes letters to the editor. Please write to:

Headquarters
U.S. Army Corps of Engineers
Attn: CEPA-CI (Engineer Update)
441 G. St., N.W.
Washington, D.C. 20314-1000

Or e-mail bernard.w.tate@usace.army.mil.
All letters must be signed. No anonymous letters will be published. The editor also reserves the right to edit letters, for length, grammar, and newspaper style.



Homeless kids enjoy district party

Article by Sunday Pearson
Photo by Michael Nevins
Sacramento District

People in Sacramento District have discovered that the best way to put a Christmas smile on their faces is to first put one on the face of a child. They do this by sponsoring a Christmas party for disadvantaged children.

For the past 11 years, The district has shared the Christmas spirit in this way. This year, district employees held their Annual Christmas Party for Homeless Children on Dec. 7. In return, they spent time with children who exhibit more love than adult hearts can hold!

Planning and Control Branch of the district's Real Estate Division began the tradition in 1990. Organizers work with the Sacramento Area Emergency Housing Center, The Mustard Seed School, Travelers Aide, and Women Escaping a Violent Environment to provide a safe, loving environment where the children can momentarily forget their plight.

Due in part to a declining economy, the number of homeless and displaced families increased in Sacramento, Calif., last year. So this year many more young guests arrived from local motels where, just the night before, they had been given a warm bed to sleep in. Many had been living on the street or in automobiles.

But all that was momentarily forgotten on party day as these special guests did what every child should have the oppor-



Col.(P) Larry Davis, South Pacific Division Engineer, talks with one of the children at the party.

tunity to do... *Have Fun!*

The small guests were elated when Corps artists painted their faces and helped them decorate Christmas cookie masterpieces. Most of these children had never decorated Christmas cookies before, and several gleefully ate more frosting than went on the cookies.

Of course, Santa Claus was the honored guest, but several other interesting char-

acters also showed up. Shriner clowns twisted long colorful balloons into swords, animals, and headgear. Sondra Sperr and her troupe of Polynesian dancers wowed the young audience with several traditional Hawaiian and Tahitian dances.

The sensation of the party was a trio of "super-human" Army majors who thrilled the little guests by dressing up as Batman (Maj. Paul Huszar), Spiderman (Maj. Tom

Tickner), and Superman (Maj. Duncan Ross Russell of the British Army Royal Engineers). At one time, Tickner had a small child firmly planted on his foot, but he still skillfully exhibited his rendition of the Marvel Comics character.

Becki Riker and Sasha Agent, Royal Court Dancers for the Sacramento Kings NBA team, autographed pictures for the children. Both young women and the super-heroes joined the kids and other Corps employees for a buffet lunch.

Corps hosts adopted each child and eagerly escorted him or her around the three large decorated rooms, occasionally wiping chocolate smudges from captivated little faces (and an occasional tear from their own eyes). They got to hold a small hand (usually covered with something sticky) and, for a short time, believe once again in miracles and Santa Claus.

And speaking of Santa, Harvey Don Jones, Santa's favorite stand-in, has faithfully showed up each year for this event! He patiently listened to what each child had to say, and he's the first one to tell you that his job on party day is the *best* one to have!

One small guest, seeing the decorated rooms for the first time, blurted out, "I feel like I'm in a dream." Our collective dream in Sacramento District is to someday plan this party and no one shows up, because there is no more homelessness and despair. District employees are planting seeds of hope for a better tomorrow, one small life at a time.

Corps man worked in WTC wreckage

By Vince Elias
New York District

Mark Wingate, a structures specialist with San Francisco District, deployed to New York City in September to support the Federal Emergency Management Agency's (FEMA) urban search and rescue mission. He was one of several Urban Search and Rescue Structures Specialists (USAR) dispatched from several districts to help at Ground Zero.

Wingate worked out of the U.S. Army Corps of Engineers' NYC Emergency Operations Center, and with New York City's foundation engineer consultants to maintain maps of compromised basement floors below the collapsed World Trade Center.

"The bulk of our work included subterranean collapse mapping of the World Trade Center, and structural evaluations/safety oversight during inspections of foundations, buildings that sustained collateral damage, and subway systems," said Wingate.

The job involved close coordination with many agencies, including the Department of Design and Construction (DDC) structural engineers of New York, and FEMA urban search and rescue task forces.

A critical engineering challenge was dealing with subterranean debris removal while maintaining stability of the cutoff wall (the "slurry" wall), a 70-foot high wall erected below grade to keep the Hudson River out of the Trade Center.



Mark Wingate on the 19th floor of the American Express Building, examining projectile wreckage from the World Trade Center. (Photo courtesy of New York District)

According to Wingate, several events such as inspecting the slurry wall foundation punctuated the success of the mission. "Interagency meetings and inspections of the slurry wall foundation helped to allay concerns of public and interfacing agencies."

Corps USAR structures personnel helped stabilize the slurry wall, called "The Bathtub" at Ground Zero. "There was a lot of focus from the press on a scenario of the Hudson River entering a compromised foundation and flooding the city via the PATH train subway tunnel,"

Wingate said. "But we tried to stress the considerable efforts undertaken by DDC to ensure stability of the wall."

They emphasized accomplishments to ensure the stability of the wall, including routine inspections, de-watering, and re-establishing tiebacks into bedrock.

Information exchanges between FEMA USAR structural leads, combat engineers, and ironworkers facilitated the use of improved technology like a magnesium-copper consumable rod to reinforce the WTC's heavy-steel exterior wall lattice.

"Corps involvement also led to garnering generators from combat engineers for the FEMA urban search and rescue caches," Wingate said.

District experts also provided safety oversight during subterranean inspections at the north projection slurry wall, the Marriott Hotel/slurry wall, and the No. 1 and 9 subway train tunnel. The New York City Fire Department also appreciated thermal maps of the collapsed area.

"After the subway inspection I made one last iteration to our subterranean collapse maps and delivered a set to the Duane Street fire station," said Wingate. "When John Norman (the Fire Department Battalion Chief of Special Operations) found out I was leaving, he shook my hand and said, 'We couldn't have done the mission without the Corps.' For me, after FDNY saying they didn't want outside help, that was a real testimony to our contribution to the USAR structures mission."



Corps park rangers practice using their pepper spray canisters during a training class. (Photo courtesy of Fort Worth District)



Participants in the "Train the Trainer" classes are required to experience a shot of pepper spray. (Photo courtesy of Fort Worth District)

Park rangers learn to use pepper spray

By Judy Marsicano
Fort Worth District

A park ranger responds to excessively loud noise late one night at a park campground. As she arrives, she is confronted by a large, angry man. The ranger tries to calmly question him, but the man swears at her and, without warning, lunges at the ranger.

Fortunately, the ranger in this scenario has just participated in pepper spray training and has a canister of pepper spray in a holster on her hip. She draws the canister, and a quick burst of spray sends her attacker reeling back.

The ranger was authorized to use pepper spray in this case because the man's conduct posed an imminent threat of physical contact and injury to the ranger, and she was at risk of being overpowered and put in a helpless situation.

Because the ranger cannot withdraw to report this behavior to law enforcement officials, and has no time to consider other alternatives, she is authorized to use the pepper spray in self-defense.

Training program

Park rangers in Fort Worth District were the first in the U.S. Army Corps of Engineers to receive training in the use of pepper spray. Following a two-year successful test at the district's Belton and Stillhouse Hollow Lakes, the test was expanded to include all 25 lakes.

Pepper spray is refined, concentrated oleoresin capsicum (OC). OC is the "active ingredient" in hot peppers. The higher the OC content, the hotter the pepper. Pepper spray instantly incapacitates an attacking human or animal for up to 45 minutes, regardless of size or strength, with no lasting after-effects.

The pepper spray test program, which began last March, is being conducted at Fort Worth District until the end of this month under strict self-defense policy guidance from Corps Headquarters.

As of this time, there are no reports of actual use of the spray, but "we've had several instances where the pepper spray successfully de-fused a situation," said Bobby Chapman, Operations Manager



Park ranger Greg Slarich (left), a pepper spray instructor, plays the role of an aggressor in a training scenario with park ranger Scot Finch. (Photo courtesy of Fort Worth District)

for the Little River Project Office. "Carrying pepper spray is for our rangers the same as wearing a life jacket on a boat. If the ranger falls out, the life jacket might save his life. The pepper spray gives the rangers another tool to give them some self-protection."

Before the training could begin, a District Position Hazard Analysis and a Project Activity Hazard Analysis had to be completed for all positions authorized to carry and use OC. Any person hired to fill a position identified in the analysis was encouraged to participate in the test.

Train the Trainer

An advanced eight-hour "Train the Trainer" course was taught by a pepper spray vendor, with assistance from the Corps' Natural Resources Management Branch. The course qualified 17 Fort Worth District rangers, natural resources specialists, and managers to be pepper spray trainers. These trainers received

enough OC canisters, holsters, and decontamination kits to teach the standard six-hour basic pepper spray course to the remaining full and part-time park rangers at the district's 25 lakes.

During the two-year test period, 142 district rangers, specialists, foresters and managers were trained and certified to carry pepper spray.

Option

Participants in the standard six-hour course have the option of being sprayed during training, seeing another participant sprayed, or viewing a video of someone being sprayed. But trainers are required to be sprayed during their training. The actual spraying of students is recommended so the park rangers will have a thorough appreciation of how pepper spray affects a person.

Authorization to carry and use pepper spray is not granted to an employee until the training session is completed.

Using pepper spray is a last-ditch measure. Park rangers are also trained to use verbal persuasion to de-fuse a hostile situation and to recognize the threat of imminent danger such as sweating, direct eye contact, quick breathing, and excessive salivation.

OC cannot be used in response to offensive language alone. If there is time, the ranger must give a verbal warning that he or she has pepper spray and will use it if necessary. And if OC is used, the park ranger is trained to assure the safety of the attacker after he is sprayed, and other appropriate aftercare.

The park ranger must then contact supervisors and local law enforcement immediately informing them that OC was used and under what circumstances.

"After the testing is complete, Fort Worth District will provide USACE with a report and recommendation, through Southwestern Division, and we'll determine whether to expand its use to Corps lakes nationwide," said Stephen Austin, outdoor recreation planner at USACE and program manager for visitor assistance. "We need to provide a measure of protection to our 1,500 park rangers who find themselves in hazardous situations in their day-to-day responsibilities."

Thumbs-up

Until now, rangers have relied on Title 18 and the authority that comes with their uniforms, along with the verbal judo and physical self-defense training they have received, to get them through confrontations. Title 18 states that it is a federal crime for anyone to assault, resist, oppose, impede, intimidate, or interfere with any civilian official or employee of the Corps engaged in the performance of his or her duties.

Overall, park rangers are giving pepper spray "thumbs up" reviews.

"We feel more mentally confident when we're carrying the pepper spray while we are out there working," said Robert Waznick, a park ranger from Belton and Stillhouse Hollow Lakes. "We're less vulnerable if a situation gets out of hand when we have some sort of defense equipment."

Divers repair capital's water supply

Article and Photos
By Mary Beth Thompson
Baltimore District

An Army dive team spent parts of June and September at the bottom of McMillan Reservoir in Washington, D.C., performing a number of tasks. The reservoir is part of the Washington Aqueduct system, which supplies drinking water to more than one million residents in the nation's capital, Arlington County, and Falls Church, Va.

Baltimore District operates the aqueduct system.

Earlier this year, aqueduct employees noticed plumes of dark brown water directly above the circulating conduit, or pipe, that runs along the reservoir's floor. According to Nathan Cole, chief of the aqueduct's Civil, Structural and Mechanical Section, that indicated water was escaping from the pipe.

"We knew we had a hole," Cole said.

The conduit is an integral element in the function of the reservoir. It channels water from the point where it enters the reservoir at the East Shaft Gate House to an outlet at the far end of the basin. The water then travels through the reservoir's pond by gravity for a few days, allowing a certain amount of sediment to separate out naturally before the water is drawn into the treatment plant.

In June, Cole called in the 74th Engineering Dive Team from Fort Eustis, Va., to conduct a survey to identify the work needed at McMillan.

The list they developed included mapping and surveying the entire reservoir, structural inspection of the interior and exterior of the circulating conduit, and repair of four cracks they had found in the conduit, along with other fissures that might be found during the full inspection. Later, a check of the reservoir's silt screen was added to the list.

The dive team returned in September to accomplish the work.

For the divers, most of the mission proved typical. But one task was unusual — swimming and working in the reservoir's lengthy underwater conduit. The cave-like conduit runs horizontally 1,549 feet across the bottom of the reservoir. It is roughly nine feet in diameter with walls of concrete-covered brick about 20 inches thick.

"We don't get to do penetration dives like this often, so this is a good opportunity to get out and train and also help the Corps of Engineers with what they need," said 1st Lt. Shawn English, the team's commanding officer, as his divers prepared to enter the conduit.

A penetration is any dive into a cave-like area with only one entrance and one exit.

"That makes it a little more dangerous," English said.

Army dive teams almost always use surface-supplied air, although for this mission they also used scuba tanks. The team brought a recompression chamber and a battery-powered, seven-man inflatable boat to the site. They floated a bridge section into place next to the outlet structure to serve as a work platform, and loaded it with their gray cylindrical air tanks and an air compressor.

Divers, clad in olive green dive suits and bright yellow helmets with lights attached, entered the water from a structure over the outlet. They descended about 20 feet below the surface and swam into the conduit to work on the first 1,000-foot section. They later worked the remaining 600-foot segment from the East Shaft Pumping Station.

On the work platform, specialists monitored their air supply at a panel array of gauges. Team leaders barked out commands and information, and team members relayed and repeated them.

Underwater, the divers visually inspected the conduit, foot by foot, documenting the inspection with a video camera. Later, they also submitted a written report.

The divers underwater and the team members on the platform watched the direction of the divers' air bubbles. Air bubbles escaping through the walls of the conduit to the surface of the reservoir helped to show the location of fissures. They repaired the holes and cracks as they found them by packing each with a mixture of grout and oakum, a coarse hair-like material that expands in water.



A diver with the 74th Engineering Diving Team checks his equipment.

A surprisingly swift current thwarted their first attempt to dive from the gate house. Aqueduct employees shut off the flow, reducing the water velocity in the conduit to about one knot. That made moving against the current easier for the divers.

Surface-supplied-air dives require umbilicals, or cables including air hoses, communication lines and, in this case, video feed. They also provide data, such as water depth measurements. The umbilicals for each of the three divers assigned to each dive segment were bound together and color-coded.

"You have your primary diver, who would be red, secondary diver, who would be green, and the safety diver or standby diver, who would be yellow," English explained. "Two divers go down. One diver will stay at the opening of the enclosed space, while the other diver actually goes in and penetrates it. We do it that way for safety reasons."

The standby diver remained above water, suited up and prepared to dive immediately in an emergency.

The 600-foot umbilicals the dive team normally uses were not long enough for this mission, so they ordered 1,000-foot cords. The airport closures that followed the Sept. 11 terrorist attacks prevented the extra-length video cables from arriving as scheduled, but the dive team finished virtually all of their other tasks before they were called away.

"Considering the national emergency that occurred while they were here, they completed as much of the work as they could," Cole said.

"The structural inspection is done in its entirety, and they found the conduit to be in good shape," Cole said.

They also mapped and surveyed the reservoir, charting its depths and contours.

"That will give us a better idea of how much sediment has been deposited in the reservoir during the years," Cole said. "It will help us decide if we need to dredge and determine what other types of work may need to be done."

The divers checked the condition of the 590-foot-long, 20-foot-deep silt curtain installed in one section of the reservoir, too. The curtain prevents sediments that result from the treatment plant's filter backwashing operation from migrating into the main reservoir.

The Army divers original plan to return in November to complete the video record and repair the few cracks that did not completely seal was postponed due to the



A diver descends a ladder to enter the circulating conduit to make repairs.



Specialists monitor the gauges that supply air to the divers.

ongoing terrorist threat. The dive team plans to return to McMillan during the winter months and incorporate the remaining work into their cold-water training.

"Using Army divers for this work has advantages," Cole said. "There's substantial savings and greater flexibility."

This Army dive team is one of several that regularly deploy from Fort Eustis. Their missions include port clearance, river reconnaissance, de-mining, boat repair, pier rehabilitation, dam inspections, and salvage. Army dive teams work frequently with the Corps of Engineers.

"It's a really good marriage," English said. "You just give us an overall mission of what needs to be done, and then we can adapt."

Corps supports reduced military presence in San Francisco

By Dennis Drennan
South Pacific Division

In 1990, the San Francisco Bay Area was home to a robust military community. Soldiers of the 6th Army marched at the venerable Presidio of San Francisco. Navy aircraft carriers and their support fleet sailed to the Western Pacific from their homeport at Naval Air Station Alameda. Steelworkers and pipefitters plied their trade at Mare Island, the Navy's oldest West Coast shipyard. P-3 Orion submarine hunters patrolled the Pacific from their homebase at Naval Air Station Moffett Field.

A significant support infrastructure including two military hospitals, commissary, and exchange facilities at several of the military installations, and more than 5,000 DoD housing units met the quality of life needs of servicemen and women and their families.

Fast-forward now to 2000. Base closures in 1991, 1993, and 1995 have closed nearly every military installation in the Bay Area. The Presidio has been annexed into the Golden Gate National Recreation Area. The carrier piers at Alameda are empty except for one vintage carrier (*USS Hornet*). The steelworker's torch at Mare Island has been turned off. The P-3 squadrons from Moffett Field are gone.

Management of most of the bases has been turned over to local redevelopment authorities for their ultimate clean up and disposal. At Moffett Field, the runways and operations area have been transferred to NASA Ames Research Center, and 803 units of housing have been transferred from the Navy to the Air Force.

But even after all of the base closures, there remains a

population of some 1,400 military families in the San Francisco Bay Area. This community includes recruiters, ROTC instructors, servicemembers in graduate school, active duty servicemembers in reserve units, and small commands like South Pacific Division and San Francisco District. And nearly 1,800 are assigned to Coast Guard units in the San Francisco Bay Area.

By 1999, the only housing for military families was 306 units at the Presidio made available by the National Park Service under a permit, 292 units at the Naval Weapons Station Concord, and the 803 housing units under Air Force control at Moffett Field.

But even this housing had an uncertain future. The permit for the 306 units at the Presidio would expire on Sept. 30, 2000, and the Presidio Trust was under a legislative mandate to get fair market value for the housing. BRAC '95 had directed the realignment of Onizuka Air Force Station, custodian of the 803 housing units at Moffett Field, and directed the disposal of the housing units. As 2000 drew to a close, the Navy announced its intentions to close the 292 housing units at Concord.

And military families faced the specter of living "on the economy" in the highest-cost housing market in the U.S.

In late 1998, the Air Force "screened" the so-called Moffett housing for interest by other DoD and civilian federal agencies. NASA Ames had a plan to develop partnerships with incubator, high-tech businesses, and to develop a business park at NASA Ames. The Air Force housing would provide affordable housing to entice incubator businesses to NASA Ames, so NASA requested the property from the Air Force.



Much of the military housing in the San Francisco Bay area is indistinguishable from other contemporary California homes. (Photo courtesy of South Pacific Division)

Seeing the passing of an opportunity to partially satisfy the housing needs of military families in the San Francisco Bay Area, the South Pacific Division (SPD) commander solicited the support of the Army staff, including the Army Chief of Staff, to acquire the housing from the Air Force.

Because the Army, like many of the services, was divesting itself of housing (primarily through privatization), acquiring the Moffett Housing was swimming against the current. To the credit of Army leadership, the SPD commander received the support that he sought, and the Army formally requested transfer of the housing.

In April 2000, the Assistant Secretary of the Air Force approved the transfer, and in July the housing formally transferred to the Army, which renamed it Moffett Community Housing.

The housing is under administrative control of the U.S. Army Forces Command (FORSCOM); real property accountability is vested in Fort McCoy. SPD is FORSCOM's executive agent for operations and management of the housing. Most significantly, that housing was now available to all servicemembers.

To ensure a smooth transfer of the housing operation from the Air Force to the Army, and to ensure sound management of the housing, SPD chartered a Project Delivery Team and established command and control.

Sacramento District's Real Estate Division, led by Mike Bain, was instrumental in collecting and compiling the volumes of inventory reports, maps, legal descriptions, agreements, and other documentation necessary for the transfer. The district's real estate and contracts offices worked hand-in-glove to develop a housing management scope of work, and to advertise and award a contract for housing management services.

San Francisco District contributed to the effort with expertise in information management and logistics.

This article started with a look in the rear-view mirror at where we've been. Let's now look through the windshield at what's before us.

Military families now have a home they can be proud of. Ninety-three of the Moffett housing units were substandard and were demolished this summer. Thirty-two-bedroom units will be converted to four-bedroom units to meet the demand of larger military families.

Looking ahead to fiscal year 2003 (FY03), SPD is working with FORSCOM to promote a housing privatization initiative to attract private capital and make this housing community even more attractive to service families. At the Presidio, SPD has negotiated an agreement to secure 22 housing units through FY05 for Army families. We are also supporting Travis Air Force Base's efforts to secure the housing at Naval Weapons Station Concord, which the Navy intends to close in FY02.

Our efforts at ensuring quality of life for Bay Area service families doesn't stop at housing. We are working with the Defense Commissary Agency, Navy Exchange Service, and Army & Air Force Exchange Service to ensure that they will maintain a presence in the Bay Area to serve our military families and retirees.

For many military families assigned to urban areas where there is no installation support structure, quality of life is too often an unfulfilled promise. In the San Francisco Bay Area, quality of life is a promise fulfilled.



The Corps also provides traditional-looking homes for military families in the San Francisco Bay Area. (Photo courtesy of South Pacific Division)

Fort Campbell military construction program exceeds \$500 million

By Todd Hornback
Louisville District

The U.S. Army Corps of Engineers and the Fort Campbell (Ky.) Public Works Business Center have implemented precedent setting programs that have enhanced trust and cooperation in managing the more than \$500 million military construction program at the installation.

Programs include placing Corps' specialists on base to work directly with the Fort Campbell staff, inviting two-way communication through staff meetings, and setting standard guidelines for contractors and architect-engineers.

"We view the Corps, Louisville District specifically, as an extension of our staff," said Judi Hudson, deputy director of the Fort Campbell Public Works Business Center (PWBC). "We have a number of Corps employees who sit here (at Fort Campbell). There's a total integration of what we do. We've always had a good relationship with the district, but there used to be an 'us' and 'them' attitude. For us, this is a good situation. This is an engineer family."

PM Forward

The transition to these improved programs began in 1996 when the Corps placed Keith Rogan, a project manager, to work with operations and maintenance and small construction projects at the base. Known as the PM Forward, the position has grown to be a two-way information exchange for the Corps and the PWBC. In 1997, the district placed Bob Ott, environmental project manager, in the base's environmental division office. Ott works with a multitude of projects from environmental compliance, pollution prevention, and conservation programs. Projects cover air permits, spill containment, National Environmental Protection Act, endangered species, water and waste water programs, forestry roads, landfill maintenance, and exploded and unexploded ordnance on ranges.

Ott's position is funded through direct charges to projects, while the Corps Division office funds Rogan's position. Both positions bring to life the "One Door to the Corps" philosophy.

"I'm the one Corps of Engineers door for environmental," said Ott. "Not all work at Fort Campbell is done by Louisville. We've had good support from our sister districts. The program is growing; since 1997, we've doubled our work."

Program growth

In fiscal year 2000, funding for the environmental program reached \$2.5 million. In one year, the work grew to \$18.6 million, with Louisville District's portion \$4 million. The remaining work is divided among Baltimore, Kansas City, Mobile, Nashville, Norfolk, and St. Louis districts.

In 1999, a Louisville District realty specialist joined the team at Fort Campbell. The position, now filled by Robert Wright, a Louisville District realty specialist, had been funded partly by the district. Now, with its success, Fort Campbell has paid for the position except for a small percentage funded through reimbursable real estate projects. Wright shares office space in the master planning section of the public works facility.

The base's workload merits the position, according to Lloyd Foe, Corps Real Estate Military Branch chief. The workload includes advising the base's public works co-workers, writing business letters, processing real estate actions, and briefing members of the installation staff. All of this helps the installation staff become more efficient in streamlining processes, and in increasing



Soldiers prepare to train in rappelling at the Air Assault Training Area at Fort Campbell, Ky. (Photo courtesy of Louisville District)

efficient work processes.

"It could be precedent setting for the rest of the country, at least for the larger installations," said Foe, referring to the realty specialist stationed at Fort Campbell. "We see this as definitely 'One Door to the Corps' for Fort Campbell. We learn the installation's business practices and processes and the installation learns ours. We develop an understanding between the installation and the Corps. It becomes *we* instead of *us* and *them*."

In military construction, the Corps' Fort Campbell construction office employs around 60 employees who administer the construction contracts and assure quality work. As the senior resident engineer, John Brigg attends weekly staff meetings with the Fort Campbell staff, and oversees the annual \$100 million in construction placement.

District help

Back in Louisville, district employees in the contracting division support the facility by awarding design, construction, and services contracts. In the engineering division, master planning representatives help prepare documents for military construction projects and assist the Fort Campbell staff in the \$400,000 to \$500,000 annual program. Numerous others manage project designs completed by architect-engineer firms or perform the designs and prepare plan and specifications themselves.

Another program that continues to evolve is the Technical Design Guide that can be found at the Website www.lrl.usace.army.mil/ed/. This living joint document brings together ideas from Corps members and the engineering and operations and management branches of public works. The guide sets the standards, identifies criteria and system preferences, and specifies process requirements for architect-engineers or contractors to follow when designing, renovating, or building Fort Campbell projects.

This process of doing business has opened communication so the Corps can build projects that meet or exceed the expectations of Fort Campbell facility users. Corps projects at Fort Campbell support the Army Strategic Mobilization Program to improve the Army's ability to deploy from the U.S.:

- A new rail connector provides direct access from the base to the CSX line. Project completion was expedited in reaction to Sept. 11.

- The rail marshalling yard project provides acres of concrete and 10 rail spurs to hold 200 rail cars for faster deployment.

- Real estate services helped acquire 130 acres for a new runway at the Sabre Heliport expansion project.

- The Military Operations in Urban Terrain range trains soldiers in urban combat operations.

"Whenever the U.S. is threatened, it will call the 101st Airborne Division or the Special Forces groups at Fort Campbell to get troops and equipment out through the airfield and rail facilities," said Rick Lotz, Louisville District's project manager for military construction.

No "us" and "them"

In his eight years of working with Fort Campbell, Lotz has seen an expansion of Corps' work to include educational facilities and Army readiness projects such as the railroad connector project.

Lotz attributes this increase in work to the programs and improved relationship between the two agencies, as well as the strategic importance for the 101st Airborne Division (Air Assault).

"We offer technical advice, serve as part of the staff, part of the resolution and solution," Lotz said. "Whether military, environmental, or real estate, Fort Campbell gets us involved. We've fostered a sincere partnership full of trust — open and honest. There is no more *we* and *they*. We're all one engineer family and we deal with any issue or problem together."

Dredge Potter

Oldest dredge in Corps fleet gets new engines, new lease on life

By Ed Voigt
Philadelphia District

The U.S. Army Corps of Engineers' oldest dredge is now also one of its youngest.

The dustpan dredge *Potter*, the Corps last and longest-serving steam-powered dredge, helped keep the Mississippi River open to navigation for almost 70 years. Now she is back home at the St. Louis District Service Base after a \$20 million repowering project by the district and the Corps' Marine Design Center (MDC). Halter Marine, Inc., of Gulfport, Miss., was the contractor. She departed Halter's New Orleans shipyard Sept. 29 with the same overall profile (minus smokestacks) and capabilities, but with an all-new stern and a diesel-electric power plant.

Named for Brig. Gen. Charles Lewis Potter, Memphis District Engineer from 1900 to 1903, and President of the Mississippi River Commission from 1920 to 1928, the *Potter*, originally a steam-powered paddlewheeler, was built for \$520,000 and launched in 1932. She is the oldest member of the Corps' dredging fleet, a year older than the *Jadwin*, which was launched in 1933 and repowered in 1985.

Mission. The old steamer maintains the nine-foot-deep Upper Mississippi River Federal Navigation Channel between river miles 0 and 300. Dustpan dredging is the mode of choice along most of "Old Man River," where sand and fine-grained soils from the Missouri River dominate the channel. Of the Corps' Mississippi fleet, only the *Thompson* in St. Paul District is a cutterhead dredge, better suited to the rocky Upper Mississippi.

The *Potter* is authorized to dredge year-round, with its schedule driven by shoaling and constrained by river stages and seasonal "windows." The Corps' river dredging fleet handles about half of the annual federal channel maintenance along the Mississippi, with contract dredgers accounting for the rest.

The crew is organized into three shifts, with two alternating and one off at any given time. The *Potter's* master, pilot, and first mate each lead a shift, so there is always one officer on board with a master's license.

Nor has the ship's dredging equipment changed, ex-



The *Potter* cruises upriver sporting the stacks of her new diesel-electric powerplant. (Photo courtesy of Philadelphia District)

cept to replace old components. The new equipment is more efficient and state-of-the-art, but the operation remains the same. The *Potter's* dustpan cuts a 32-foot-wide swath along the river bottom. It is raised and lowered by a hoisting winch, and pulled forward by a pair of hauling winches.

The dredge pump (a new high-density model that nearly doubles the old capacity) sucks bottom sediment in through the intake pipe, facilitated by the jetting pump, which shoots water through 20 nozzles lining the bottom of the dustpan to stir up the sediment.

Most of the dredge's dimensions are also intact — length 240 feet, six inches; beam 46 feet; draft seven feet, six inches; displacement 1,600 light tons.

As for the rest, the *Potter's* first engineer, Dennis Austin, said "Everything on the inside (at least everything that makes this dredge run) is new."

New stern and equipment. That is certainly true of the stern, which was completely replaced below the upper decks. The MDC set the functional requirements, then Halter determined the most cost-effective way to satisfy them.

"To accomplish all the needed modifications, the contractor had to remove large sections of the stern," said Alan Epps, who managed the repowering project for MDC. "But we gave them the choice of either replacing the entire stern or rebuilding the existing structure."

The most visible changes inside involve the boiler room, or rather the space it once occupied. In its place are three Caterpillar 3516B 1,825-kilowatt diesel generators (two for operation and one for standby) that feed a 600-volt main bus.

"Three was the ideal number for redundancy, allowing two in operation and one in reserve," said Epps. "Looking at the space, the Caterpillar 3516B offered the most efficient configuration."

The bus distributes power to four 1,200-horsepower GE Electric motors (two for propulsion and two to drive the dredge pump), a smaller motor for the jetting pump, and a Reliance 365-kilowatt motor generator set.

Controlling the propulsion and pump motors are state-of-the-art digital silicon control rectifiers that convert the 600 volts of AC power from the generators to 750 volts DC. As a result, total horsepower is now up to 2,400 for both propulsion and dredging, compared to 1,800 and 1,400, respectively, before repowering.

The Reliance motor generator set supplies house power, lighting, heating and cooling, compressed air, and other utilities through a 480-volt bus.

"Installing a separate motor generator set was a choice we made based on experience from the *Jadwin*," said



This is how the *Potter* looked when she was launched in 1932. Note the twin stacks of her steam powerplant. (Photo courtesy of Philadelphia District)

Continued on next page



The crew of the *Wheeler* practices an abandon ship drill in a swimming pool at the University of New Orleans. (Photo courtesy of New Orleans District)



The *Wheeler* is the largest dredge in the Corps' fleet. (Photo courtesy of New Orleans District)

Wheeler crew up to speed on safety

By Capt. Ed Morehouse
New Orleans District

In the maritime world, the latest buzzword is "STCW," and the dredge *Wheeler* is buzzing with it.

It stands for Standards for Training, Certification, and Watchkeeping, and are part of a vast nationwide effort to ensure that all U.S. oceangoing vessels comply with International Maritime Organization (IMO) treaty standards for Safety of Life at Sea (SOLAS).

Originally begun in 1978 as an offshoot of SOLAS, studies, conventions, discussions, and modifications finally hammered out a treaty signed in 1995 by 133 nations (including the U.S.), representing 98 percent of the world's seagoing vessel tonnage. The intent is to bring all ships up to

high safety standards, not only to protect these ships and their crews and cargoes, but also to ensure member ports that 90 percent of the ships that enter their ports hold to the same safety standards.

Certification. A great part of this treaty adherence involves the STCW Certification of all seafarers by February 2002. This has been a tremendous undertaking for nearly a decade, and is now drawing to a close. Hence a rush for training and certification.

After February 2002, any vessel or seaman traversing international waters without documentation will be subject to fines and license revocation for failure to honor international treaty requirements. Certification must be renewed every five years.

The U.S. Army Corps of Engineers

maintains four seagoing dredges capable of and certified for immediate worldwide deployment (*Wheeler, Essayons, Yaquina, McFarland*). As such, it is important to the Corps that these ships are qualified and certified under the new STCW requirements.

Training. At New Orleans District, the officers and crew of the dredge *Wheeler* have undergone intensive STCW training and certification during the past three years to bring the vessel under full treaty compliance. This is a monumental accomplishment, achieved despite emergency dredging responses, shipyard overhauls, crew scheduling, and manpower shortages from mission reductions. Training has included:

- Global Maritime Distress & Safety

Systems equipment, which replaced the old Morse Code SOS distress system with modern satellite and long-range automated distress and communications.

- Automatic Radar Plotting Aids training which replaced old plot-on-screen radar systems with computerized collision avoidance radar.

- Bridge Resource Management training which teaches officers to work together on the bridge as a team with modern equipment, reducing tragic errors.

- Advanced Firefighting Techniques to teach officers and crewmembers firefighting theory and teamwork to better combat shipboard fires.

- Medical/First Responder and Person-in-Charge training to train select officers and crewmembers in modern lifesaving/medical emergency techniques, including EMT-level emergency procedures and use of defibrillators.

- Basic Safety Training, the most widespread training for everyone. It involves a week of intensive training in firefighting, personal survival, CPR/first aid, social responsibility, and personal safety.

Schools. The *Wheeler* officers and crewmembers attended three facilities to accomplish this certification — Maritime Institute of Technology and Graduate Studies in Baltimore, the Marine Engineers "Calhoun" school in Owens, Md., and a specially-scheduled STCW school in August at the University of New Orleans' (UNO) Delgado Community College, and the Delgado Fire Suppression School.

Wheeler crewmembers spent five days in classrooms, firefighting fields, and UNO's Olympic swimming pool becoming proficient in all the exercises discussed above. The team environment provided by sending numerous crewmembers at one time not only maximized the amount of training, but also gave crewmembers confidence that all their shipmates could be counted on in an emergency. This automatically enhances crew morale and provides for a smoothly operating safe ship on the high seas. This is the aim of STCW and the international treaty.

(Capt. Ed Morehouse is the master of the dredge "Wheeler.")

Potter

Continued from previous page

Epps. "After its conversion from steam to diesel-electric, there were a lot of computer and electronics problems related to interference from the main generators. This eliminates that problem by giving us 'clean' house power."

Ballast. The design also compensated for the loss of the boilers. Said Austin, "We had to load 158 tons of steel-shot ballast below the deck just to make up for the loss of those boilers, so the dredge would sit at the same level in the water."

While most of changes were from the main deck down, the contract included some enhancements to the living areas, such as new flooring all through the galley. A new water purification system that uses heat from the engines to distill river water into drinking water.

Another quality of life improvement was an internal stairway from the main to the upper deck. (All stairways were previously outside). The St. Louis District Engineer made the request to ensure the crew no longer had to weather the elements to move about in the ship.

Beyond physical changes, the *Potter's* conversion from steam to diesel-electric brought changes in both fleet and crew

size. The dredging operation used to need six other vessels — the tenders (workboats) *Kimmswick* and *Prairie Du Rocher*, two fuel barges, an anchor-handling derrick barge, and a storage barge for supplies and parts.

The conversion eliminated one fuel barge.

"Fuel oil consumption was so high with the steam plant that we had to refuel almost daily, so we needed two barges, one to refuel the dredge and another to refuel itself," said First Mate Terry Bequette. "But with diesel, she can go more than a week without refueling, so one barge is enough." The less frequent refuelings also means fewer man-hours.

Like a Cadillac. The crew reduced from 59 to 50 due to eliminating the boiler room with its switches, valves, and other manual controls to operate and maintain. Retirements and transfers accounted for all nine positions, so no one had to be let go.

For the crew that remained, two weeks of field trials in October along a 300-foot-wide stretch of channel south of St. Louis introduced them to a much different *Potter*.

First impressions? For starters, the

dredge is more fun to drive. "Driving it then versus now is like going from a Model T to a 2002 Cadillac," said Bequette. "It's like a dream."

"We have a third more horsepower, but it feels like even more," said Austin. "The new power plant is a lot more efficient and easy to handle."

Cleaner. Dredge equipment operator Carl Raines cites the elimination of the "bell stand," a bell on a stand used to communicate between the bridge and the engine room. Said Raines, "Whenever I needed to move the dredge, I had to first let the engine room know. Now it's all computerized and I control everything from here on the bridge."

"Cleaner, too," said Austin. "I notice I don't wear as much grease as I used to! That boiler room required a lot of maintenance, and most of it was pretty messy."

And there are always the intangibles. "What do I miss," asked Bequette. "The romance of steam, the memories of an era that's gone. What do I *not* miss? The smell, for one!"

So with somewhat less character, but a lot more capability, the *Potter* and her crew are back in business, carrying out their historic (and future) mission.

SCAPS crew in Spain

By Larry Crump
Kansas City District

Few people in the U.S. Army Corps of Engineers get to travel to Spain as part of their everyday duties, but it happened last year to Kansas City District's Site Characterization and Analysis Penetrometer System (SCAPS) crew. Since March, crew members have traveled between Kansas City and Moron Air Base in Spain three times either individually or as a group. They are doing investigative work at Moron for the Air Force Center of Environmental Excellence (AFCEE).

And while Spain is described as a treasure-trove of arts and culture, the crew has had little time to play tourist.

Moron Air Base, in southwest Spain near Seville, is home to the 496th Air Base Squadron. It is a strategic staging base to project U.S. and allied air power throughout the European, Mediterranean, African, and South-west Asian regions. It supports the Air Force Space Command, and it is an abort landing site during space shuttle launches.

The SCAPS crew is used to traveling. They have traveled throughout the U.S. working in 23 states. The trip to Spain came about when AFCEE contacted Kansas City District about supporting Air Force efforts at Moron. The air base was building replacement fuel transfer lines and pump houses, but the possibility of hydrocarbon contamination threatened to shut down construction.

Air Force officials and representatives of the Spanish government were negotiating on the scope of an investigation and clean-up criteria. The SCAPS crew does most of its work for AFCEE, headquartered at Brooks Air Force Base, Texas. Hence, the call to Kansas City.

SCAPS can be used to detect underground hazardous, radioactive, and toxic waste. The heart of its system is a truck weighing some 43,000 pounds, loaded with sophisticated testing gear and equipment, all worth from \$600,000 to \$1 million. At the site the truck pushes a cone penetrometer (probe) into the ground to detect contaminants that are then characterized and measured by the equipment in the truck.

Since it wasn't known whether SCAPS testing was possible in the subsurface conditions at the air base, Kathleen Older, project manager for the SCAPS crew, flew to Spain in March with Jerry Hansen, AFCEE's project manager and environmental engineer, to look at the site and collect information. Once it was learned that the site was a candidate for SCAPS testing, preparations began, such as studying the subsurface information, selecting sites for clearances, and buying supplies.

That was the easy part.

The truck and its equipment and the SCAPS crew were

to fly from Lackland Air Force Base, Texas, to Moron Air Base by an Air Force C-5 Galaxy, the largest aircraft in the U.S. inventory. Older said the real difficulty came in preparing the truck and equipment to fly to Spain. The crew worked with the Aeronautical Systems Center's Aerial Delivery Group (ADG) at Wright-Patterson Air Force Base, Ohio, to obtain air-transportability certification for the vehicles.

They had to get approval from the ADG on all the truck weights and tie-down hooks before they would grant permission to fly on a C-5. The fuel systems were drained to the limits the ADG required, and a whole host of other details had to be taken care of.

It was a month-long process.

Finally, in May, the crew traveled to Lackland near San Antonio, to await the flight. After a loading ramp was built and a few other delays were overcome, the crew departed Lackland and flew with a seven-person Air Force Reserve crew. For the Reservists, it was a routine training mission to Europe. For the SCAPS crew, it was an adventure.

Theirs was a busy schedule, working six days a week to gain all the information they could. The crew worked with AFCEE and base personnel as well as geologists from Epista, a Spanish consulting firm. The crew installed a small-diameter well for ground water sampling and to obtain ground water elevations. They collected laser-induced fluorescence (LIF) data to determine the presence of hydrocarbons, and they surveyed locations and collected ground water and soil samples for analysis.

The analysis came from a variety of sources. Soil classification data and LIF data were available in the field. Some field analysis of ground water was conducted by AFCEE, Epista, and the Environmental Protection Agency's Kerr Lab in Ada, Okla. Groundwater samples and soil samples were sent to either Kerr or to a Spanish lab identified by Epista.

The results of the crew's work went directly to AFCEE. Initial field data in May indicated more work would be likely. As AFCEES negotiated for a trip to Germany and decided how much more work could be squeezed in at Moron, the SCAPS crew flew home in mid-June, but left the equipment in Moron.

On August 6 a three-man crew returned to Moron for more of the same type of work. They were joined by a chemist and mass spectrometer operator who often works with the district's SCAPS crew to collect and analyze in-situ samples for volatile organic compounds.

The crew traveled to Germany at the end of August to do testing at Rhein-Main Air Base near Frankfurt. The crew and the equipment returned to the U.S. in mid-September.



Dredged material is rebuilding Poplar Island to the same contours it had in 1847. (Photo courtesy of Baltimore District)

Project rebuilding island

By Marshall Hudson
Baltimore District

Using silt and sand that were once considered undesired by-products of dredging, Baltimore District, in partnership with other federal and state agencies, is restoring Poplar Island in the Chesapeake Bay to its original size. It will become a wildlife refuge.

Using material dredged from the Port of Baltimore, the district will restore the island, located in the middle of the bay off Talbot County, Md., to about 1,140 acres, the same size it had in 1847.

By 1999, erosion had reduced what had once been Poplar Island to five remnant islands covering less than three square acres. Without action, the island would completely disappear.

"Saving this island is a really special project," said Scott Johnson, project manager. "It's an interesting engineering challenge because of the complexities involved in designing and building realistic working wetlands. It also means a lot to all of us to be part of something that helps keep the port (of Baltimore) economically viable while doing so much good for the environment."

When completed, the island's 1,140 acres will be about half upland habitat and half wetlands. The uplands will support small mammals like foxes, squirrels, and possibly deer, while the wetlands will be home to vegetation, small fish, and birds such as bald eagles, herons, egrets, and osprey.

The Corps became involved with the project in 1994 through an interagency team that included the Maryland Port Administration and federal and Maryland environmental resource agencies, such as the U.S. Fish and Wildlife Service and the Maryland Department of Natural Resources, according to Wesley Coleman, coastal chief of Planning Division.

"Though the cost is higher than some other options for the dredged material, re-establishing habitat in the bay made the cost well worth it," Coleman said.

Without dredging, the Baltimore harbor and channels would not stay deep enough to support commercial shipping. The dredged material currently used is coming from a project to widen the Brewerton Channel Eastern Extension to improve the efficiency of the Port of Baltimore harbor and channel system.

The next source for dredged material will be the Tolchester S-turn project. That project will straighten a series of turns that is difficult to negotiate and has caused ships to run aground in the past.

The Poplar Island project will be completed in 10-14 years, depending on the inflow rate of the dredged material. For more information on the project, visit the district site at www.nab.usace.army.mil/projects/Maryland/poplar-brief.htm.



The SCAPS truck unloads in Spain. (Photo courtesy of Kansas City District)

National shrine is a gem in Hawaii

Article and Photo
By Michelle Cain
Honolulu District

For more than 50 years, the National Memorial Cemetery of the Pacific has been the final resting place for thousands of Americans who gave their lives for their country. Designed by the U.S. Army Corps of Engineers, the cemetery and the Honolulu Memorial are in Puowaina Crater, an extinct volcano called the "Punchbowl" because of its shape. Puowaina means "consecrated hill" or "hill of sacrifice," and the site offers a view from Diamondhead to Pearl Harbor.

From the announcement in September 1948 of the opening of bids for construction at the Punchbowl, to the present, Honolulu Engineer District (HED) has played a vital role in building this national shrine.

"The Corps was there at the beginning, and through the years has continued the front-line construction support," said Fred Nakahara, HED's program support manager for projects of the Department of Veterans Affairs/American Battle Monuments Commission.

Burials. The first interment, an unknown victim of the attack on Pearl Harbor, was made on Jan. 4, 1949. Burials were carried out daily while Army engineers continued construction. As "Taps" was played during each interment ceremony, all construction ceased as the workmen stood reverently at attention.

The burial of Ernie Pyle, a well-known war correspondent killed during the invasion of Okinawa, marked the opening of the cemetery to the public on July 19, 1949. There are now 33,230 gravesites at the Punchbowl representing fallen warriors from World War II battles at Guadalcanal, Guam, China, Burma, Saipan, Okinawa, Iwo Jima, and prisoner of war camps in Japan. The cemetery also holds the remains of 848 U.S. servicemen who died fighting in Korea.

The Honolulu Memorial, honoring the achievements and sacrifices of Americans in the Pacific during World War II and the Korean War, was dedicated on May 1, 1966. It was enlarged in 1980 to include those killed or



The Honolulu Memorial is a striking sight from the entrance of the National Memorial Cemetery of the Pacific. It overlooks the graves of the 13,900 veterans interred there.

missing in action during the Vietnam War.

The memorial includes a chapel, two map galleries, and a 70-step staircase leading from the crater floor to the Court of Honor. Flanking the massive staircase are 10 Courts of the Missing, where the names of 28,778 war heroes missing in action or lost at sea are recorded. A 30-foot female figure known as Columbia graces the front tower of the memorial, under which are engraved the words of sympathy expressed by President Lincoln to the mother of five sons killed in battle, "...The solemn pride that must be yours to have laid so costly a sacrifice upon the altar of freedom."

Under an interservice agreement between agencies, HED's support has continued through the years in repair and maintenance projects throughout the cemetery.

When work needed to be done, "the Corps of Engineers came to my aid in a heartbeat," said Gene Castagnetti, cemetery director. "We began a partnership to preserve this national shrine. They've worked diligently to restore the memorial."

Projects. Completed projects include the repair and improvement of roads within the Punchbowl, and installing irrigation and valve control systems. Restrooms at the Honolulu Memorial have been renovated to conform to Americans with Disabilities Act standards. The interior and exterior surfaces of the memorial have been cleaned and sealed, metal handrails have been restored and preserved, and the grand staircase has been cleaned and sealed. Repair and restoration work has also been done on the reflecting pool and pumping system.

"The Corps of Engineers does a great job because they're responsive," said Castagnetti. "Our customers are all veterans; there's a military family connection."

Future projects to be completed by HED include cleaning and sealing the Courts of the Missing, repair or replacement of the upper and lower plazas, and procuring tents/sunshades and chairs to accommodate the nearly 100 ceremonies conducted each year at the cemetery.

Good relationship. "We want to continue the very good partnership we have with the Corps of Engineers," said Castagnetti. "They take on jobs up here which really are small compared to some of the massive million dollar jobs they have. We're comfortable with them. We're confident with them. They do a professional job."

The jobs that HED takes on at Punchbowl may be relatively small, but the district's efforts have a wide impact. The National Cemetery of the Pacific has become an international symbol of selfless sacrifice, accommodating visitors from all over the world, said Castagnetti. More than 5.5 million visitors come to these hallowed grounds annually to pay their respects.

"Every job is important, no matter the size," said Nakahara. "It's always a pleasure to do work for them. Many of the contractors feel it's their way of paying respect to America's veterans."

'It doesn't get any better than this.'

By Torrie McAllister
Europe District

Let the *Guinness Book of World Records* and historians take note. In the annals of awesome contracting feats, Europe District's solicitation package for the Israeli Southern Infantry Training Base is a record — the biggest electronic bid set (EBS) ever by the U.S. government.

The electronic bid set compressed more than 2,600 construction drawings and 1,470 pages of specifications onto four CD-ROMs. Even more remarkable than its size, it efficiently delivered a procurement package that could be read and understood by both U.S. and Israeli firms. More than 70 U.S. and Israeli firms requested the solicitation package. Eight firms (six U.S. and two Israeli joint ventures) submitted proposals.

Challenges. "It was well worth the effort, but the challenges were formidable," said Gordon Simmons, Chief of Technical Coordination for the Israel Program Office. "Besides the volume of drawings, one thing that made this EBS difficult was the fact the Corps' involvement started very late.

"The design was 70 to 80 percent complete by the time the Israeli Ministry of Defense started working with the Corps," Simmons continued. "They were using nine different Israeli architect/engineering (A/E) firms and several different Israeli government agencies, all with different computer-aided drafting and design systems and different technical abilities and expertise. None had heard of an electronic bid set! They had no experience with the U.S. method of contracting or the drafting standards re-

quired for EBS or the required CALS (Continuous Acquisition and Life-Cycle Support; the DoD standard for raster graphic images) format for submitting drawings. Their CADD systems used versions of AutoCAD, photo formats, and other drafting packages that were unknown in America."

There were other obstacles as well:

- The software for CAL files could not recognize the Hebrew fonts (letter styles) used in the drawings.
- Operating system differences between U.S. and Israeli versions of Windows and AutoCAD.
- There were no standard sheet sizes.
- Some drawings were more than 6.5 feet long when plotted, a size the CAL software would not recognize.
- Finally, several drawings had to be shown in color, something not commonly done in an EBS.

New base. Undaunted by the challenges, Europe District pursued electronic bids set because of the magnitude of the project. The Southern Infantry Training Base involves building an all-new training base on 180 acres of desert in southern Israel. (The built-up area will be 180 acres; the entire base covers thousands of acres.)

The Corps sent bidders more than 16 volumes of drawings. More than 70 U.S. and Israeli firms responded to the *Commerce Business Daily* request for proposals.

"We were able to mail them CD-ROMs of electronic bid sets in a matter of days," Simmons said. "To reproduce and mail hard copies would have taken weeks. We saved more than \$100,000 in reproduction alone. It also saves the contractors time and money when they provide drawings to their prospective subcontractors, because it's easier

to print and send them only the relevant pages."

The job of reconciling their work into a consistent procurement package fell to Ed Hiles, Europe District's CADD manager. Hiles worked with each A/E to find ways to "shake hands" between their systems and ours.

"We were lucky because Ed knew EBS inside out," Simmons said. "He helped develop the EBS process for the Corps in his previous assignment as CADD manager at Mobile District."

Europe District. Europe District held partnering and training sessions between the Corps, the Israeli Ministry of Defense, and the A/E firms. Together, they merged the design documents that had been produced with the requirements to make an EBS. Hiles worked with Simmons, Rob Saari, Ragan Glandon, Jim Noble, and Louie Brackett to provide training and technical assistance to the Israeli A/Es. He identified different methods to create the CAL files, and the drafting standards that should be used.

The Southern Infantry Training Base is just the first of several large projects in Israel being solicited by EBS. Contracts for the Central Storage Base and the Northern Infantry Training Base were awarded last year.

"The Israeli Defense Force engineers and architects are amazing," Simmons said. "Together we decided, 'We can do this. Anything is possible.' I've never worked with so many wonderful people on such a fantastic program. Israel is exciting. It doesn't get better than this."

(Torrie McAllister was the Public Affairs Officer of Europe District when she wrote this article. She is now the Public Affairs Officer of South Pacific Division.)

Wellness

'Be Healthy' is taken seriously throughout Corps of Engineers

By Peggy Plaisance
New Orleans District

The Chief of Engineer's philosophy card has four important points. One is to *Be healthy*.

A lot of people in the U.S. Army Corps of Engineers take that advice very seriously. Most districts have a health and wellness program, and report solid improvement in employee morale and productivity.

Here's how one such program works in New Orleans District. Their Wellness Program is implemented through its Occupational Health Office. Employees are encouraged to take full advantage of this program and to be responsible for maintaining good health.

"Those who take the time and effort know the many benefits that you derive from eating well, exercising, and/or knowing your physical condition and limitations," said Col. Thomas Julich, District Engineer. "Doing those things can have an overall positive impact on a person's attitude toward themselves and their work."

How it began

The Wellness Program officially began last January. Since then, more than 450 employees have participated. Here's how it works:

We give each employee a Health Risk Assessment (HRA) booklet filled with questions about personal and family health history, current symptoms, physical activity, eating practices, social health, and safety. After completing the booklet, blood is drawn for a complete chemistry panel, including liver enzymes and lipid profile, and complete blood count with differential and prostate specific antigen for men.

The information is added to the HRA booklet and sent to Wellsource, Inc., to be scanned. We answer the employees' questions about their lab results and, if needed, refer them to their own personal physician for guidance.

Wellsource sends back a Personal Wellness Profile booklet, which is an educational report designed to help evaluate current lifestyles, identify health risks, and decide where and how to make improvements. These reports are totally confidential and for the employee's benefit only. We encourage them to keep their records to compare their results every year and to make them available to their personal physician.

We maintain a database of information to show improvements and to answer queries. For example, 46 percent of the people tested have a total cholesterol greater than 199. Next year when we do the blood tests, we will be able to compare the results. Eight percent of those tested had blood pressure greater than 140/90. Many were unaware of this and are now taking steps to lower their cholesterol and blood pressure by exercising, losing weight, having their pressure monitored, and keeping their personal physician informed of changes.

Mike Dupuy is a great example of what a Wellness Program can do for people, and he told us his story in a recent letter.

"When the e-mail message came out about the Wellness Program, I thought it would be something good to do since I would be 50 years old this year," Dupuy's letter began. "I had my blood work done, filled out the questionnaire, and began to have my blood pressure monitored. I went to see my doctor for my yearly physical and he wasn't pleased with my numbers. My blood pressure was at or above 140/90. My cholesterol was 221 with the bad cholesterol really bad and the good cholesterol not good. And my weight was just about 200 pounds.

"My doctor said I needed to be on blood pressure medicine," Dupuy continued. "I asked if I could have one more chance to lose some weight. He said, 'Who are you trying to BS?' At first I got really mad, but after I thought about it, I realized he was right. A year before I promised I would lose 20 pounds. Instead, I gained two.

"So, he put me on the medicine and I went home to



Mike Escarra teaches karate skills to Paul Oakland (right) and Bill Klein as part of New Orleans District's wide-ranging wellness program. (Photo courtesy of New Orleans District)

decide what to do about the rest of my life," Dupuy wrote. "I re-read the results of my Personal Wellness Profile and decided I would get myself into shape. I wanted to be around for retirement and grandkids.

"I started using the equipment in the exercise room twice a week, and walking two miles around my neighborhood twice a week," Dupuy said. "I put myself on a diet based on information provided by the speakers scheduled by our health office. I continue to have my blood pressure monitored. The diet is not easy and exercise is not something I look forward to, but they have both worked. I have lost 30 pounds. My blood pressure is around 120/70 and my doctor has taken me off of the blood pressure medicine. And finally, my cholesterol is 176.

"I can honestly say the Corps' Wellness Program is what put me on this road, and I shelping me maintain where I am now," Dupuy concluded.

We have received a number of positive responses like this from other employees.

In March, we started a Weight Watchers group with the help of our Recreational Activities Committee (RAC). The RAC sponsored all of the employees who joined Weight Watchers by giving them a discount for the first session. In the first 10 weeks, 40 people lost over 350 pounds. They've lost more than 650 pounds since March. There is a lot of camaraderie; people feel better, looking better, and are more energized. Paulette Salassi, who lost more than 30 pounds, said, "It's so convenient to have Weight Watchers at work on our lunch time."

Free exercise classes

We have some wonderful volunteers here at New Orleans District. Mike Escarra has been an employee for more than 27 years. Escarra has 32 years of karate training and is a certified teacher. When I asked him if he would teach a karate class, but told him we could not pay him, he jumped at the opportunity. He said, "Even if only one person shows up, I'll be there."

He has taught since February and loves it. We get letters all the time from his students expressing their appreciation for his dedication.



Jackie Callender rides a stationary bike as part of his personal wellness program. (Photo courtesy of New Orleans District)

Free line-dancing also began in February. I heard Jim Courville was a line-dancing instructor of the Honky Tonk Stompers, so I asked him if he would teach a free class. Without hesitation he said, "Sure, no problem, when do you want to start?"

We are fortunate here at New Orleans District to have caring individuals who want to help other people. One

Continued on next page

Aquatic plant control spans 101 years

By Christina Plunkett
Jacksonville District

"We've won many battles in the past century, but not the war," said Dr. Bill Zattau, chief of the Aquatic Plant Control Section in Jacksonville District. Zattau refers to the U.S. Army Corps of Engineers' Aquatic Plant Control Operations Support Center's (APCOSC) fight to control exotic pest plants throughout Florida and the nation.

This year the APC team members celebrate a century of battles with weapons ranging from herbicide, to mechanical, to biological controls.

Jacksonville District was the Corps' pioneer in establishing an aquatic plant control program 101 years ago, and continues to be the support center for planning and operations nation-wide.

As the story goes, a Mrs. Fuller bought a water hyacinth from the New Orleans World Fair in the late 1890s. The South American plant took over her goldfish pond, so she pulled it up and threw it in the St. Johns River. By 1897, the plant threatened navigation along the St. Johns River. Congress enacted the Rivers and Harbors Act of 1899 to maintain open channels in federal waterways.

Thus began the Corps' Aquatic Plant Control Program, which in the early 1900s kept water hyacinth-clogged channels open along the St. Johns River with pusher boats, log booms, and barriers to contain the exotics in small creeks and tributaries.

In the 1940s Jacksonville District in-house crews began using mechanical and chemical control. Mechanical methods, such as boats with circular saw blades and cranes, brought immediate relief, but did not provide long-term control. The herbicide Dichlorophenoxy acetic acid, at two-to-four pounds per acre, proved to be the most effective for controlling water hyacinths.

But it wasn't long before another exotic, alligatorweed, became one of the top waterway-blockers. Here again, a discovery decades ago is another APC success story. The first biological control agent ever used by the Corps was the alligatorweed flea beetle. First released in 1964, it has virtually eliminated alligatorweed as a navigation problem in Florida.

Water hyacinth and alligatorweed are only two of many nuisance exotic water plants that the APC team battles. Today's main aquatic nuisance species in Florida are water hyacinth, water lettuce, hydrilla, and melaleuca. All are



A variety of methods are used to control aquatic nuisance plants. Left, the hack-and-squirt method helps eliminate melaleuca at Lake Okeechobee. Right, workers spray exotic vegetation in South Florida. (Photos courtesy of the South Florida Water Management District)



fought with chemical, mechanical, and biological controls in APC programs.

APC work revolves around three Corps authorities that provide for the Removal of Aquatic Growth (RAG) Project, the Aquatic Plant Control (APC) Program, and Operations and Maintenance Operations.

RAG is 100 percent federal funded and targets vegetation impeding navigation in 600 miles of Florida's federal waterways covering about 650,000 acres. These waterways include the St. Johns, Oklawaha, Crystal, Withlacoochee, and Kissimmee rivers, and the Lake Okeechobee and Okeechobee Waterway.

Jacksonville District works with the Waterways Experiment Station, which researches new control technologies for the APC Program. The APC program is for public waters outside of federal navigation projects and is cost-shared 50/50 with Florida.

Operations and Maintenance removes vegetation that interferes with Corps-managed water resource projects

including flood damage reduction, navigation, irrigation, water supply, and fish and wildlife conservation.

"Although the purpose of these programs are similar, each one has its own focus," said Ashton. Along with Ashton and Zattau, biologist Jon Lane makes up the district APC team. In the field, APCOSC personnel include field biologists, administrative staff, airboat operators, and herbicide applicators.

There are two APC field offices in Florida—the North Florida Aquatic Plant Control Field Unit in Palatka, and a satellite office co-located with the Florida Department of Environmental Protection in Orlando.

Crews and biologists from the field offices lend a hand each spring when local alligatorweed flea beetles are collected and supplied to other public agencies and Corps districts in the southeastern U.S., because colder temperatures kill off their supply of the beetles during the winter.

Providing a biological control agent collection service is just one of many on-going APC activities. The team is also the focal point and public/customer interface on matters related to assigned programs, and the national contact and distribution point for information exchange and technology transfer with federal, state, and local agencies.

APC staff also assists Headquarters in training and certifying Corps pesticide application personnel.

Information exchange is crucial to the never-ending battle of controlling nuisance exotics. Zattau, Lane, and biologist Catharine Johnson are all a part of the Noxious Exotic Weed Task Team, an interagency team that is helping create invasive plant management plans.

In addition, staff members are assisting Florida to develop an invasive species management plan. APC staff also participate in the Lake Okeechobee APC Interagency Group that includes FDEP, South Florida Water Management District, and the Florida Fish and Wildlife Conservation Commission.

Ashton periodically gives talks and teaches various classes on how to control nuisance exotics. Recently, Ashton and Johnson gave a training class to the Miccosukee and Seminole tribe members. This training also included information from Dr. Ken Langeland and Dr. Vernon Vandiver, professors from the Institute of Food and Agricultural Sciences at the University of Florida.

"Because we're all partnering to keep the nuisance plants at bay, cross-sharing information is important," Zattau said.

With up to 80 problem plant species in Florida, Jacksonville District's APC team will continue to be challenged in the war against nuisance exotic water plants.

"Controlling exotics falls under the same principle as treating your yard for fire ants," said Ashton. "You may get a lot of them, but some will move to your neighbor's yard. It's the same with exotics. You may remove them in one area, but their seeds could blow to another area."

Wellness

Continued from previous page

student commented, "After exercising I feel so good. I look forward to coming to work now; this has really changed my attitude."

Courville retires this month, but the class will carry on. Charlotte Cook stepped up to the plate and said, "I'll help out any way I can."

That is the attitude of so many here. Priscilla Paige and Sheryl Austin prove that. We needed an aerobics class and they volunteered their services. Austin said, "I didn't realize I was going to have so much fun." Paige commented, "This is going to help me to stay in shape."

Other activities of our Wellness Program include colorectal cancer screenings, prostate and breast cancer screenings, stress reduction classes, lectures on food and fitness, hypertension and high cholesterol, weight training, suicide prevention, smoking Cessation, and our annual health fair. Much more is planned for 2002.

We also have a gym with circuit training equipment and free weights. For some programs, such as suicide prevention and breast cancer awareness, we use the Employees Enrichment Series (EES) to provide effective and efficient delivery of the Wellness Program topics.

Investment

There has been an investment to make this program a success. The money had to be added to the budget, the Wellness Program had to be formed, volunteers have to invest their time and energy to organize and lead exercise

classes, and the employees have to make the commitment to change their eating habits and start an exercise program. And stick to it.

Moreover, supervisors must make an investment by allowing their workers to go to the lectures, and realize that a healthy employee is a happy employee. Studies prove the return on money invested in wellness programs. The University of Michigan study that tracked 4,000 Steelcase workers for five years found that high-risk employees who shed all but one or two bad habits cut their medical costs by 54 percent. Workers between 45 and 65 with six or more risk factors cost *four times* as much as those with none. The potential insurance savings when a person starts to exercise is \$260 per year. When someone stops smoking, the average savings is \$1,110 per year.

Spirit

Lt. Gen. Robert Flowers, the Chief of Engineers, knew what he was doing by getting his employees to make the commitment to be healthy. Being healthy feeds the soul. People feel good about themselves, have more confidence, reach beyond the TV controls or the donuts, and reach deep within themselves to find a person of value who is worth the investment. An employee who feels good, has more energy, and more confidence is a harder working, happier employee.

(Peggy Plaisance is the Occupational Health Nurse at New Orleans District.)

New fossil site under Corps district care

By Dená McClurkin
Rock Island District

More than 250 people glimpsed Iowa's geologic past at the Devonian Fossil Gorge during the site's official dedication ceremony last year. They came to watch Rock Island District become official caretakers of the gorge's new \$500,000 visitor and learning facility.

Flood of 1993. Eight years ago, the flood of 1993 uncovered a quarter-mile stretch of Devonian-age bedrock that is now called the Devonian Fossil Gorge. (The Devonian Age was 410-360 million years ago.) The floor of the gorge is a tiny segment of a coral-rich limestone bed that extends 100 miles from Waterloo, Iowa, to Davenport, Iowa.

Today, the gorge is transformed into a major point of interest with an elaborate entry plaza lined with limestone monoliths. The monoliths are six feet wide, a foot-and-a-half thick, and up to 11 feet tall. There is also a walkway lined by a succession of 14 large Cedar Valley limestone boulders leading down to the gorge floor.

As the project landscape architect, Kevin Holden of Engineering Division, assisted the site's creators, Devonian Fossil Gorge (DFG), Inc., a non-profit organization, in developing their vision for the facility design.

"I thought it was important that the form of the facility, and the materials used, be a response to the nature of the gorge and its Devonian-age features," said Holden. "The colored concrete relates well to the natural stone of the gorge; massive limestone monoliths were used to create an outdoor space that might suggest more ancient times; the octagonal motif comes from the six-sided form of one of the site's most prominent fossils, a coral called *Hexagonaria*."

Features. This facility, which also features a limestone fountain and informational graphics, will let the public view the fossils, free. After years of hard work and collaboration with Rock Island District to develop the site, DFG Inc. raised half-a-million dollars to pay for the center. Donations came from several state and local government agencies and many private individuals.

"I commend them for their excellent efforts," said Lt. Col. Torkild Brunso, Deputy District Engineer. "Many people worked hard to make this dream a reality. They



The entry to the fossil gorge is lined with limestone monoliths. (Photo courtesy of Rock Island District)

should be proud, as the Corps will be proud, of the important interpretive services they provide the millions of citizens who will visit this gorge over the years."

Organizers hope the center will capture a sense of discovery as visitors explore and learn about the geological and historic features of the site. "What we're trying to do is present the information about the gorge in a way that's easy to understand," said Tom Woodruff, president of DFG Inc.

Excitement. Some educators are excited about the new center and plan to incorporate it into their teaching curriculum. "This new site will allow us to show our students all the things they have read in books," said Linda Maxson, dean of the College of Liberal Arts and Sciences at the University of Iowa. "Touching these fossils will make the experience real for our students and teach them in ways a computer or book can't."

The gorge, just south of the Coralville Dam's emergency spillway contains rock with 365-million-year-old fossils that are embedded into the exposed surface. Some of the most typical types of fossils found at the gorge are corals, crinoids (a kind of ancient sea urchin with a somewhat cup-shaped body and five or more feathery arms), and brachiopods (marine invertebrates with a pair of arms bearing tentacles inside bivalve shells).



Visitors search for fossils in the floor of the gorge. (Photo courtesy of Rock Island District)

HR Corner

One database stores all position info

For decades, the U.S. Army Corps of Engineers maintained the "books" separately for civil- and military-funded staff positions. To complicate matters, organizations below Headquarters maintain this information in an array of formats, making it difficult to get a true picture of USACE staffing.

In the past, no one saw a need to integrate or monitor position data. However, in recent years, Headquarters has responded to an increasing number of data calls from Department of the Army. This meant ad hoc data calls to the field, and a spiraling workload for manpower managers who gathered, analyzed, and synthesized the data before reporting to HQDA and the Office of Management and Budget.

In 1999 Dan Borges, then Chief of the Corps Manpower and Force Analysis Division, proposed the USACE Integrated Manning Document (IMD), a single database storing all USACE position information, and initiated action to fund its development. His vision was to build a Web-based system providing a standard set of edit, query, and report tools for manpower analysts throughout USACE.

Although Borges is now in Pacific Ocean Division, Manpower and Force Analysis Division followed through

on his vision. Micah Systems Technology, Incorporated, contracted to USACE via the Business Information Integration Technology program, initiated development of the IMD in early 2000.

The IMD was officially deployed throughout USACE last August and September. The IMD database is the official USACE source for real-time corporate-level manpower position and organization data. The IMD is intended for position (not personnel) data, and no confidential or personal information is stored in the database other than the employee's name, which may be stored at the option of the local manpower office. The system is password protected to maintain the integrity of the data.

Manpower analysts at the lowest organizational level maintain the IMD. It provides field users a vehicle to maintain current local manning information, plus supports the reporting needs of Headquarters and the Regional Management Boards.

The important distinction is that field analysts need much more detail for local purposes, since they track recruitment and fill status. More than half the IMD data fields are designated for optional use by local manpower analysts. Headquarters will use the IMD to update the Federal Activities Inventory Reform Act coding, and to

meet other reporting requirements, thus eliminating the need for separate data calls to the field.

The IMD may also be used to update the Table of Distribution and Allowances, and it will facilitate Headquarters support to the Chief Financial Officers Act and the Government Performance Results Act.

The IMD is a win-win. It provides a system for the field to record and track position data, and satisfies the manpower data and reporting needs of Headquarters.

In developing the IMD, the Manpower and Force Analysis Division used hardware and software already available in USACE. The system consists of a corporate ORACLE database and Headquarters-owned Web-editing, reporting, and querying tools. The database was built using data submitted by the field in November, 2000. Users access the tools from a Corps Enterprise Management System server using their Internet browsers and software tools provided by Headquarters.

The IMD will provide visibility of USACE manpower resources, and has the potential to improve the accuracy of manpower data, thus reducing the hours spent generating and submitting manpower reports.

The point of contact for IMD is Elizabeth (Betty) Brown, (703) 329-2269.

Around the Corps



Bill Hubbard of New England District presents a district coin to former President George Bush. (Photo courtesy of New England District)

Former president coined

Bill Hubbard, chief of New England District's Environmental Resources Section, presented a New England District Coin to former President George Bush on Sept. 15 at Bush's home in Kennebunkport, Maine.

As chair of the Coastal America team in New England, Hubbard was asked to get a statement from the former president to be part of a video production commemorating the 10th anniversary of the Coastal America program.

"It was like having coffee on the coast of Maine with a group of people concerned with the health of America's coastlines," said Hubbard. "The former president and his staff were interested in salt marsh restoration, and we discussed harbor dredging and the proposed Kennebunkport Maintenance Dredging project."

Bush requested the anniversary video, shown at a meeting of the Coastal America Program in the Senate Building on Oct. 2, to celebrate coastal restoration and protection successes since 1991, when then-President Bush launched the Coastal America partnership to ensure the country used all tools available to solve coastal problems.

"I established Coastal America to help find and maintain just that balance, and I'm pleased to see the tremendous progress you've made in addressing environmental concerns while ensuring economic progress," said Bush in his statement. "I also wanted 'shovel in the ground' projects to demonstrate that we can create a true partnership for action, and you've done just that."

In 10 years, the Coastal America program has initiated nearly 600 coastal restoration and protection projects. They have restored hundreds of thousands of wetland acres, reopened thousands of miles of streams, and protected habitats for threatened fish, birds, and mammals. New England District has led many projects, in particular Gallilee, R.I., and Sagamore Marsh at the Cape Cod Canal.

Hispanic speaker

Transatlantic Programs Center (TAC) hosted Victor Vasquez, Jr., as guest speaker for a community event.

Born into a migrant farming family, Vasquez has worked for three governors, and was appointed by President Clinton to positions with the Departments of Agriculture and Defense, including Deputy Assistant Secretary of Defense for Military Community and Family Policy.

TAC's Hispanic Heritage Program and the Blue Ridge Post of the Society of American Military Engineers planned two separate presentations. Early in the morning, Vasquez met with about 40 students and teachers at John Handley High School in Winchester, Va. Most students were from Spanish-speaking countries.

Vasquez shared his personal history with the students. "I went to work in a small town and one of the foremen got upset with me and started the name-calling, and talking about how much better the organization was before 'our

kind' came around," Vasquez said. "I calmly listened. He finally asked me what I was going to do about what he was saying. So I said, 'I think I'll have your job.' Two years later, I went back there and, though I didn't have his job, I was his boss's boss."

Vasquez encouraged everyone to complete their education. "Education is what is really important," he said. He earned a bachelor's degree in Education from the University of Oregon and a master's in political science from Harvard's John F. Kennedy School of Government.

"You just have to decide what you want, stay focused, and do it," he said. "When I was eight years old, I remember one hot, humid Texas afternoon. I was working hard in that heat when I saw someone about my age riding down the road with a towel on the back of his bike. I knew he was going swimming and I wanted to go swimming. But I couldn't because I had to work. So I decided right then that some day I would go swimming whenever I wanted. That was my goal, and I reached it."

The second session was a SAME luncheon at TAC headquarters where Vasquez spoke about leadership.

Black Engineer of the Year

There will be a USACE career workshop on Feb. 14 at the Baltimore Convention Center in conjunction with the Black Engineer of the Year Awards Conference Feb. 14-16. The conference recognizes America's successful Black engineers, scientists, and technology leaders.

The workshop will enable Corps employees to hear directly from senior leaders on issues relating to their career development and advancement. USACE attendance is encouraged at both events. Headquarters point of contact for more information is Lisele Okojie at (202) 761-0232, e-mail Lisele.A.Okojie@usace.army.mil.

Smith Island

It's not often that a Corps project is received by a community with such gratitude as displayed by the residents of Smith Island in the Chesapeake Bay. To mark the end of the crab season and show their appreciation to the Corps and other officials, the watermen and their families gave a feast Oct. 28 in Tylerton, Md.

About 150 people attended the celebration, including Baltimore District team members. They enjoyed steamed crabs, fresh oysters, open pit beef, clam chowder, and homemade salads and cakes prepared by the islanders.

Baltimore District built a 2,700-foot bulkhead along the island's western shore to prevent erosion of the shoreline. Along the island's southern edge, a low stone wall will be

built to slow erosion and shield nearby wetlands and submerged aquatic vegetation.

Smith Island straddles the Maryland-Virginia line. A unique culture of watermen descended from the original settlers populates the island. The project is part of a larger effort to restore and protect Smith Island, Maryland's last continuously inhabited remote island in the bay.

Without this work, Smith Island would probably succumb to the same fate as other eroding Chesapeake islands that are no longer inhabited. The Corps and the state share the \$3 million cost at a 75-25 ratio.



Baltimore District built this 2,700-foot bulkhead to protect Smith Island from erosion. (Photo courtesy of Baltimore District)

Another Mather award

At its fall meeting in Dallas, Texas, on Dec. 7, the American Society for Testing and Materials (ASTM) International Committee C01 on Cement made the first presentation of a new award to Dr. Bryant Mather. Mather is the Director Emeritus of the Corps' Structures Laboratory in Vicksburg, Miss.

The award, to be called the Bryant Mather Award, is for "efforts of outstanding merit that further the continuing development of standards for hydraulic cements."

Mather, a former chairman of the committee, is now an honorary member of the committee, and an active member of several subcommittees. He is also a past president and honorary member of ASTM.

Mather is one of the nation's foremost experts on concrete and cements. President Carter made him a charter member of the Senior Executive Service in 1979. Mather was employed by the Corps from 1941 until his retirement in 2000, when he was named Director Emeritus.



Heave-ho!

A team from Louisville District participated in the UPS/Special Olympics-Kentucky Plane Pull at the Kentucky Air National Guard facility in Louisville, Ky. Thirty-nine teams competed to see how fast they could pull a 757 12 feet. The plane weighs 210,000 lbs. The Louisville District team placed ninth out of 32 teams in the Co-Ed division with a time of 7.45 seconds. They raised about \$2,900 for Special Olympics-Kentucky. (Photo courtesy of Louisville District)

Communications Workshop

Telling the Corps Story

By George Halford
Headquarters

When he first took over as Chief of Engineers, Lt. Gen. Robert Flowers asked that every U.S. Army Corps of Engineers member prepare a 30-minute "commercial" or elevator speech with basic information about who we are, what we do, and why it matters. Each commercial serves as a way for us to tell our story to other members of the Corps, the Army and government, our customers, friends, and families.

Now we want to "kick it up a notch" and ask every member of our organization to actively help tell the Corps story using short vignettes or personal stories from your experiences. This will help make the Corps "real" to the listener.

In this and other articles in future *Engineer Updates* we will offer tips on how to identify, prepare, and tell your story. We also plan to showcase good examples in future columns.

Do I have a story?

Everyone has a story! It is up to you to decide if it is a story you want to tell. You may want to tell a story about a particular project or program you were or are involved in. You may want to tell about a co-worker or team that impressed you. Or, you may choose a historical piece or figure that interests you.

If your story doesn't come immediately to mind, ask yourself:

- Why did I choose to come to work for the Corps every day?
- Have I responded to a natural disaster or other emergency?
- When was I proudest to be a member of the Corps?
- Did I work on a project or program I am proud of and want people to know about?
- What kind of people do I work with? Are they professional, ethical, and reliable?
- How did the Corps of Engineers come to be, and how have we shaped the nation?

All these and more are fodder for your story. And all of them have something important to say about the Corps.

What makes a good story?

A story is more than a related collection of words with a beginning, middle, and end. A good story draws your attention, captures your imagination, and takes you somewhere you want to be, even if you didn't know you wanted to go.

Some elements of a good story are:

- A single theme, clearly defined.
- A plot.
- Style (vivid word pictures, pleasing sounds and rhythm).
- Characterization.
- Appropriate for listeners.
- Length.

Theme. Your Corps stories should be brief, something you can drop into a conversation without taking

over. Focus on a single theme or message. What idea are you trying to convey with the story? For example, is the point of your story the courage or initiative of Corps employees, the importance or contributions of Corps programs and projects, or the long history the Corps helped build and shares with the nation?

Stick to your theme without getting sidetracked.

Plot. Your story has to go somewhere, and a plot takes you there. There should be a beginning, middle, and end in logical order. Plots are important because they give you a framework and support your story's main point.

Think of the plot as a trail through the woods. There is a "trail-head." "Once upon a time..." is a cliché, but it's a good example. The *beginning* tells people there is more to follow and sets the tone for the journey.

The *middle* takes you on the trail through the forest. There may be plenty of interesting sights, sounds, and people along the way, but they are clearly stepping-stones to a much more interesting destination.

Finally, there is the *end*. This is why you hiked the trail, to see the view you couldn't see from the road or the parking lot. It is the point of the story. It should be clear to your listeners, and you should stop when you get there.

Style. You should develop your plot with style, using active words and vivid images. If you just plod down the trail, looking only to end the trip, and not enjoying the sights along the way, your fellow travelers will quickly look for side trails to head off on their own.

Vividly describe things the listener can identify with. Build your verbal images to evoke the emotions you felt in your listeners and help them see what you saw. Use your language to make your story real to your audience.

Take special note here. Too often, we talk about the Corps in numbers and acronyms. In telling your story effectively, you need to re-frame in terms of *people* and *meaning*.

Characterization. You should also use your language to make your characters real to the audience. What did they look like? How did they respond to you or the situation? What emotions did they convey?

We instinctively care more about people we can see or know. Help your listener know the people in your story.

Appropriate for listeners. You should tailor your stories for the audience. Everything from theme to language can be adjusted. For instance, if you are telling your story to first graders, use descriptions and words they can understand. Don't talk down to them, but adjust to their way of talking and hearing.

By the same token, when speaking to engineers or Army officers, use the language they are comfortable with. Heck, hit them with a couple of acronyms and statistics if that is appropriate for your story.

The bottom line is to present your story in the way

and in the language that is most readily accepted by your listeners.

Length. Finally, you should keep your story *short*. (Yes, this might be a little hard considering the elements discussed above.) This is important to keep the attention of your listener until you finish and make your point. So many things compete for your listener's attention, you must make sure you can tell your story while you have the chance.

To whom should I tell my story?

You will have plenty of chances to tell your story if you just watch for them.

If someone asks what you do for a living, use your story as an illustration. If you are asked to speak at a program or meeting, weave your story into your presentation. If *60 Minutes* shows up at your door...well, you get the picture.

Do you have an example?

What kind of workshop or guide would this be if it did *not* include an example?

Here's *my* story...

On Sept. 11, shortly after the attacks, we stood stunned around the office television watching events unfold. I knew the Corps would move rapidly into New York, and I told my boss I could and would go on a moment's notice. I felt it was something I had to do.

Three days later, I was standing at

Ground Zero. My perception of the world and of myself changed. I wondered why I was there. I questioned whether I had anything to offer that could possibly make a difference.

I felt inadequate, alone, and lost.

Much later that night, I stepped onto the elevator at the hotel with a mother and her young son. She looked at me in my bright red jacket with the white castle emblem across the back.

"Long day?"

"Yes ma'am, and it looks like another one tomorrow."

"When did you get here?"

"Last Friday."

We were staying on the same floor. When the elevator doors opened, her son darted off down the hallway, but she lingered to talk with me. She told me she lived in Battery Park and was staying in the hotel until it was safe to go home. She started to cry as she told me that she had seen everything from the window of her apartment.

She had never felt so helpless, so alone.

I stood with her for a moment, trying to say the right thing, but she beat me to it. She looked at me, and she said, "Thank you. Thank you for coming here. Thank you for helping. God bless you." Then she went down the hall after her son.

I *knew*, then, why I was there. I *knew* what I had to offer, and that I could make a difference.

And the next day didn't seem nearly as long.