



New plan will restore Everglades; protect south Florida ecosystem

By Carol Sanders
Headquarters

In a July 1 ceremony on Capitol Hill attended by many Congressional members, federal and state agency representatives, and environmental and business leaders, Vice President Al Gore delivered a comprehensive blueprint to Congress that would restore America's Everglades and preserve and protect the south Florida ecosystem. The 4,000 page Central and Southern Florida Comprehensive Review Study was developed during the past six years by Jacksonville District in cooperation with many other federal and state agencies. The plan will now be considered by Congress for authorization and funding.

"Today, we take the most critical step yet to restore the Everglades, one of America's true natural treasures," Gore said. "Clean, fresh water is the key, and our plan ensures plenty of it, both for the Everglades and for the families and farmers of south Florida."

The \$7.8 billion plan calls for a series of improvements to take place during the next 20 years to the 50-year old Central and Southern Florida Project that is the backbone of south Florida's water management system. The improvements will capture much of the fresh water that now flows to the ocean and deliver it when and where it is needed.

Eighty percent of the "new" water will be devoted to environmental restoration in and around the Everglades, with the rest ensuring adequate supplies for cities and agriculture in south Florida through 2050.

At beginning of this century, the Florida Everglades were a vibrant, free-flowing ecosystem called the "River of Grass" that provided clean water from Lake Okeechobee to Florida Bay. It was a vital haven for storks, alligators, panthers, and other wildlife.

But during the past 50 years, people in great numbers have encroached upon the ecosystem. With the arrival of people came the desire to manage the water.

The Central and Southern Florida Project was authorized 50 years ago and built by the U.S. Army Corps of Engineers to provide flood protection and fresh water to south Florida. This project accomplished its intended purpose and allowed people to more easily live on the land.

However, the project worked at a tremendous ecological cost to the Everglades. While the population has risen from 500,000 in the 1950s to more than six million today, the numbers of native birds and other wildlife have dwindled and some have vanished. The size of the Everglades has been reduced by half, and the surviving remnants suffer from a severe shortage of clean, reliable water.

To guard communities against flooding and ensure adequate water supplies for drinking and irrigation, about 70 percent of the natural water flows that are the essence of the Everglades ecosystem



The comprehensive Everglades restoration plan will help restore the natural waterflow that sustains the Everglades and its beauty. (Photo courtesy of the National Park Service.)

See related article on page 16

have been diverted to other uses.

The Water Resources Development acts of 1992 and 1996 provided the Corps with the authority to review the current Central and Southern Florida Project. The Corps was asked to develop a comprehensive plan to restore and protect south Florida's natural ecosystem while enhancing water supplies and maintaining flood protection.

The resulting Central and Southern Florida Project Comprehensive Review Study (commonly called the Restudy) was led by Jacksonville District and the South Florida Water Management District, in West Palm Beach, Fla.

In a historic partnership, the Corps and the Water Management District worked with more than 100 ecologists, hydrologists, engineers, and others from more than 30 federal, state, tribal, and local agencies to take a system-wide look at water.

The Restudy's Comprehensive Plan will be the largest ecosystem restoration ever undertaken in the U.S. By creating new water storage areas above and below ground, an additional 1.1 million acre-feet of water a year can be captured and stored, nearly doubling the amount of fresh water available in south Florida.

Additional wetlands will help filter polluted runoff, and removing 240 miles of levees and canals will help recreate the north-to-south "sheet flows" that historically sustained the Everglades.

"Saving the Everglades is a national priority, and I am confident that Congress will join us in this historic effort," said the Vice President.

"Never before have we worked on such a grand scale to restore our environment. Working together, we can ensure not only a healthy Everglades, but a strong, sustainable economy for generations to come," he added.

Louis Caldera, the Secretary of the Army said, "This Comprehensive Plan is a road map for success. If we implement it now, we will leave to future generations something far more valuable than gold. To borrow the words that President Truman used in dedicating the Everglades National Park, we leave something which 'enrich(es)...the human spirit.'"

'We are The Army,' says new Army Chief of Staff

Gen. Eric Shinseki took the oath of office as the new Army Chief of Staff on June 21. In a recent speech he laid out the six major priorities for his four-year term:

- Increase strategic relevance.
- Develop a clear, long-range strategy to improve the Army's ability to operate in a joint-service environment and to implement the goals for Joint Vision 2010, the Pentagon's joint war-fighting bible.
- Develop leaders for joint war-fighting as well as change.
- Complement the full integration of the Active and Reserve forces.
- Man the war-fighting units.
- Provide for the well-being of soldiers, civilians, and families.

Shinseki declared his goal of integrating the Active and Reserve forces by officially doing away with the phrase Total Army.

"Today I declare that we are *The Army*, totally integrated with a unity of purpose," he said on June 22 during his arrival ceremony at Fort Meyer, Va. "No longer the *Total Army*, no longer the *One Army*. We are *The Army*, and we will march into the 21st century as *The Army*."



Prep for Balkans is 'difficult, worth it'

By Maria de la Torre
Baltimore District

(Editors note: Maria de la Torre, a biologist in Baltimore District, is currently deployed to Camp Bondsteel in Macedonia. She is on a three-to-six month deployment as an Operations/Plans Officer.)

Before leaving the U.S., de la Torre underwent Preparation for Overseas Movement (POM) training at Fort Benning, Ga. All Corps employees must undergo this week-long course before deploying to the Balkans. The following article is based, with de la Torre's permission, on an e-mail letter she sent to her friends describing POM training.)

POM training was difficult, exhausting, challenging, and worth every minute. Our class had about 170 folks, divided into Alpha and Bravo Companies. They were primarily military, but we also had civilians — Red Cross, USACE, translators, and contractors. My squad had 14 Corps of Engineers people, and we were divided between Alpha and Bravo companies.

I was in Bravo Company with a great group of folks; they had lots of enthusiasm and good senses of humor. The Army folks were wonderful, helpful with any questions we had, helped us with our gear, how to wear our boots and hats properly, etc.

We spent very long days, with an average of about four hours of sleep per night, if we were lucky. The first half was lots of long lines for medical/dental/legal/Geneva Cards, etc. Lines at Wal-Mart on a weekend will now seem minor. We got classes on Kosovo and Bosnia, health, Law of War (rules of engagement, ethics, etc.), mines, booby-traps, sniper fire, person/luggage search, and we were issued our military clothing and equipment.

The Georgia sun (when the rain stopped) can be very hot when you're wearing a kevlar helmet and flak jacket. We did up-run-drop drills for sniper fire. (I'm up, see me run, I'm down.) Mind you, this is with helmet, vest, two canteens (one on each side), plus a gas mask hanging on one side. You have to drop and roll — second thoughts do not come



Maria de la Torre finds a moment to smile during POM training. She is currently deployed to Macedonia. (Photo courtesy of Baltimore District)

in to play. So when you hit the ground you feel the canteens in your side and back, rocks at your knees and elbows. But it's odd how that all becomes secondary when you have to run to stay alive.

POM also taught us what to do if we encounter mines. The key word with mines is *FREEZE!* That means, "Stop in place and put any raised foot back

in its previous position." They also taught us the word *HALT!*, which means, "I see or hear something, but it's not a mine."

Well, during one drill, someone spots a mine and yells *HALT!* instead of *FREEZE!* Before we even got to one knee, we heard an explosion, and we all hit the dirt because we thought *incoming!* Wrong; we were in a minefield. After that, just call us dead and pushing up daisies. It was funny, but it sure reinforced the deadliness of a wrong call. Better *FREEZE!* and be wrong, than *HALT!* and be dead.

We ate Meals-Ready-to-Eat (MREs) for a couple lunches. They're not too bad, and they came in handy.

Due to long days and little sleep, staying awake during classes became quite a challenge. When the lecturers were good it was easy, but get a dry lecture and people dropped like flies. The worst part is, your snoozing is pointed out to the rest of the class, and you are asked to stand up and wake up.

One day I came close to falling asleep, but I survived. Then in came the MREs, and mine had a Jolly Rancher candy pack. *They kept us awake!* I'll never take these candies for granted again. The next day, we scrounged to see who had Jolly Rancher candy and would supply.

As the week proceeded, we were all busy with lines, admin work, and trying to stay awake on four hours of sleep. Sometimes, the reality of the Balkans seemed far away. Then one day, during a Bosnia briefing, the lecturer started with a five-minute video on Bosnia — documentary footage of the bombings, deaths, refugees, exodus, children and people crying. The soundtrack was a ballad by Annie Lenox (formerly of the Eurythmics), which I believe is titled, "Tell Me Why." At the end, the video footage includes the NATO troops, and Kosovar civilians hugging them, and children laughing.

Needless to say, a lot of people in that room used tissues in those five minutes. It brings tears to my eyes just writing this. There was a deafening silence at the end. In that moment, we realized how lucky we are in this country, and we knew why we were going to the Balkans.



Corps copes with rising fatalities

By Bernard Tate
Headquarters

After five years of steady progress in reducing the number of accidents involving our employees, contractors, and citizens enjoying our natural resources projects, the U.S. Army Corps of Engineers has experienced nine fatalities this fiscal year. Two of the fatalities were Corps employees, and seven were contractor employees.

"One fatality is too many, let alone nine," said Connie DeWitte, Chief of the Safety and Occupational Health Office.

"We're studying the types of accidents and their causes to develop and implement corrective measures."

The accidents have been:

- On Nov. 11, a contractor employee in Qatar was replacing the seals on a hydraulic ram excavator. He removed the pin holding the hydraulic ram to the main boom, then began removing the hydraulic line to bleed off fluid to lower the ram. The ram fell free and crushed the contractor.

- On Jan. 5, a Corps employee in Buffalo District was operating a snowblower on top of a lock, and dropped the blower into the downstream lock approach. He lowered himself down the guard wall to retrieve the blower, fell into the river and drowned.



- On Feb. 5, a contractor crane mechanic in Louisville District was removing a 10-foot section of boom from a crane for repair. He removed the lower pins out of sequence before relocating the pendant lines, causing the boom section to fall on him.

- On Feb. 17, in Little Rock District, the padeye securing a cofferdam cell template to the cofferdam broke. The template tipped over and submerged, pushing two contractor employees into the water. One contractor was rescued; the other was trapped inside the template's latticework and drowned. Both contract employees were wearing personal floatation devices (life-jackets).

- On March 17, a contractor employee in Fort Worth District was removing a building roof when he broke through a 3.5-inch gypsum deck and fell about 20 feet. He sustained serious head injuries and died March 19 at a local hospital.

- On April 14, a Corps employee was returning to a project site in Little Rock District when he lost control of his vehicle on wet pavement. He crossed the median into the other lane of traffic and was hit by an on-coming vehicle. Although he was wearing a seatbelt, he died in a local hospital two days later of multiple internal injuries.

- On May 3, a contractor employee in Walla Walla District was driving between two job sites when he lost control of his vehicle and rolled it. He died as a result of injuries sustained in the accident.

- On June 14, a sub-contractor employee in Baltimore District fell about 14 feet from a cat-

walk through a drop ceiling during an asbestos survey. The accident is under investigation.

- On June 28, a contract employee in Baltimore District fell from a ladder and died on June 29. The accident is under investigation.

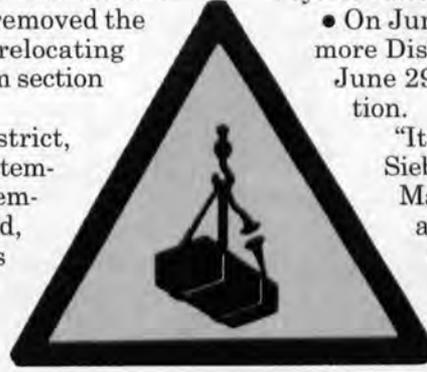
"It all goes back to basics," said Vickie Siebert, Safety and Occupational Health Manager at Headquarters. "If you look at these accidents, they are all related to the basic safety hazards. These types of accidents are not new. They involve common hazards of fall protection, working around heavy equipment, and traffic

safety. We just have to redouble our efforts to hammer home the basics of safety."

According to DeWitte and Siebert, the key points are to aggressively manage hazards associated with

field activities, including emphasizing the Activity Hazard Analysis program, making sure that all visitors and new workers receive safety orientation briefings, and ensuring that all project management personnel are trained in the Corps of Engineers' safety and health requirements.

"We can't become complacent after our safety successes in recent years," said DeWitte. "As Maj. Gen. Genetti, our former Deputy Commander, once wrote, 'Complacency kills.'"



Knowledge is key to surviving tornado

Many employees of the U.S. Army Corps of Engineers live and work in areas with a high incidence of tornadoes. The July *Engineer Update* carried a front-page article about Kevin Weber, a civil engineer in Tulsa District who survived a tornado by taking shelter under a highway overpass.

Although Weber made the best decision he could under the circumstances, and survived the storm, an overpass is *not* a good place to take shelter from a tornado. The structure's constricting geometry creates a wind-tunnel effect that actually *magnifies* the tornado's power.

In "The Urban Survival Handbook," John Wiseman writes that the best protection in a tornado is an underground shelter or the basement of a steel-framed or reinforced concrete building. But if you are caught outdoors or in a car as Weber was, Wiseman gives these safety tips:

- Never try to outrun a tornado. Tornadoes change direction quickly and can flip over a car or truck and toss it through the air. Clean-up crews found Weber's government vehicle a mile away, reduced to junk.

- If there is no shelter nearby, lie flat in a ditch or low-lying area and cover your head with your arms. (Watch out for flooding.) You will stand less chance of being sucked up by the tornado or hit by flying debris.

If you are indoors when the tornado strikes, Wiseman suggests the following.

- As the storm approaches, *close* all doors and windows facing the storm, and *open* all those on the *opposite* side. This will equalize pressure inside and outside to prevent the roof being sucked away or the building collapsing.



Kevin Weber looks over his government vehicle which the tornado destroyed. (Photo courtesy of Tulsa District)

- Take cover on the lowest floor in the center of the house, under a strong table. Stay away from windows!

"Risk management" is more than a corporate pop phrase. It is a way of thinking that protects us by building safety awareness into everything we do. Corps employees can learn from Weber's experience to in-

crease their chances of survival if faced by a tornado.

[Larry Becker of the Program Resource Branch, Vickie Siebert of the Safety and Occupational Health Office, Bernard Tate in the Public Affairs Office (all in Headquarters), and Bob Vandegriff, Chief of Tulsa District's Safety and Occupational Health Office, contributed to this article.]



Capt. James Tomassetti, officer in charge of the Dental Clinic, and Emelda Holder, head nurse, both enjoy the NATO Health facility in Brussels, Belgium.

Make-over gives NATO modern clinic

Article and Photos
By Torrie McAllister
Europe District Public Affairs

The new North Atlantic Treaty Organization (NATO) Health Facility in Brussels, Belgium, opened in March, giving Americans who serve at NATO Headquarters a first-class facility for medical and dental care, thanks to the help of Europe District.

The building looks like new, but it's actually a thoroughly modern make-over of the old clinic, with the addition of a new wing.

"The change is dramatic," said Capt. James Tomassetti, officer in charge of the dental clinic. "When we closed the old clinic the roof leaked, the sewer backed up, and the dental patients lacked privacy. The dental chairs were the old military open-bay concept — four chairs side by side. Our supplies were outside in a trailer.

"Our new dental wing represents the true spirit of medical care in Europe," Tomassetti continued. "Now there are two private dental suites, and one with two chairs divided by cabinets. We also have separate waiting areas for the medical and dental clinics. We have improved both the efficiency and

access of care. I've been to a lot of clinics in Europe, and I firmly believe this is the nicest."

The \$1.3 million modernization brings the NATO Health Facility up to the European Regional Medical Command's exacting standards for quality throughout the customer care environment. It is a bright, clean place where doctors have their own patient care areas with ample room for medical equipment and supplies. It has 28 percent more floor space, seven patient exam suites, and a separate staff support section.

"The old clinic was 28 years old," said Col. Brian Johnson, NATO Clinic Commander. "When a building is falling apart, patients wonder about the quality of care they're getting, even if they're getting the best care in the world.

"We knew we had to completely modernize to stay open," Johnson continued. "Thanks in large part to the former Assistant Secretary General of NATO, Robbin Beard, we were able to get minor military construction funds from Congress. Now we have a health facility the entire community can be proud of."

Johnson, who worked with engineers to bring the medical facility from concept design to ribbon-cut-

ting in just 15 months, offered advice to anyone involved in construction. "Get involved from the very beginning. It's nice to have engineers designing and building for you, but they aren't health care providers. You need to work with them and explain, 'It doesn't make sense to put the chair here because I work this way.' During the design phase we worked late at night with the Corps of Engineers and the European Regional Medical Command to make sure everything would be in the right place. Everyone said we would never complete construction in Belgium in a year, but by working together we held to the schedule to the day."

Other key players on the project include Europe District Project Manager Nuri Ergenekon, Europe District Project Engineer Sam Parker, European Regional Medical Command Engineer Maj. Guy Kiyokawa, Lt. Col. Thom Kurlmel from the Office of the Surgeon General Health Facility Planning Agency, and Lt. Col. Dave Farace from the 80th Area Support Group Directorate of Public Works.

Project design was completed by Tobey & Davis from Virginia, LMC from Belgium, and CDE from Germany. Project construction was completed by the International Building Organization of Belgium.

Japan District completes clinic on Okinawa

By Maureen Ramsey
Japan Engineer District

Health care on Kadena Air Base in Okinawa just got better with the opening of their new Medical Dental Clinic on July 12. The facility consolidates health care services once scattered at five locations throughout the base. It provides care for more than 20,000 people, including 8,000 active-duty.

"The primary goal of this facility is to ensure Kadena is ready to fulfill its obligations under the mutual security treaty with Japan," said Col. David Gilbreath, 18th Medical Group commander. "Defending Japan, ensuring peace and stability in the Pacific, and protecting American and allied interests are the reasons we are here."

The new four-story facility is the culmination of two years of construction and several years of planning. It consolidates medical logistics, readi-



The new clinic features a traditional Okinawan tile roof. (Photo courtesy of Japan Engineer District)

ness and medical administration in addition to its health care services. Medical services performed at the facility include general optometry, family practice, pediatrics, physical examinations, emergency services, flight medicine, obstetric-gynecology, radiol-

ogy, pharmacy, and pathology. The clinic is also home to a dental clinic, area dental laboratory, public health, mental health, and an administration and conference center.

The Government of Japan (GoJ) spent more than \$66 million to build

the 234,066-square-foot facility under its Facilities Improvement Program (FIP), a voluntary initiative on the part of the GoJ to share the burden of stationing U.S. Forces in Japan (USFJ).

"For our U.S. people to serve so far from home to help protect freedom...for two nations, this building represents the Japanese commitment to that agreement," said Brig. Gen. James Smith, 18th Wing commander.

As the Department of Defense executive agent, the Japan Engineer District (JED) oversees the FIP program for all Army, Navy, Marine Corps, and Air Force bases in Japan. Representatives from JED, USFJ, and the GoJ's Defense Facilities Administration Agency work closely together to identify, design, and build FIP projects. Congress appropriates about \$16-18 million annually for planning and design, while

Continued on next page

Marines get renovated Italian barracks

Article and Photo
By Torrie McAllister
Europe District

This summer, Marines supporting Air Force contingency operations at Aviano Air Base in Italy will have improved temporary living quarters.

Aviano Air Base, home of the 31st Fighter Wing, is a forward staging area for NATO operations. In recent years, Marine units have rotated through Aviano on temporary duty at six month intervals to support Bosnia, Kosovo, and other contingency missions. About 600 Marines lived in a tent city and in off-post contract lodging for \$100 a night.

The U.S. Army Corps of Engineers is managing the intensive fast-track renovation of a dilapidated 60-year-old Italian military barracks into a modern contingency dorm to house the Marines. The contingency dorm will reduce TDY costs and improve force protection. It will also free the tent city site so the Air Force can develop the base, where space is at a premium.

The 60-year-old Ariete Barracks housed Italian soldiers until 1997 when the Italians closed their base and transferred the property to U.S. Forces to support the increased operations tempo at Aviano. One of the major renovation challenges is speed.

"The Air Force needed the design and construction completed within nine months," said Ben Piteo, one of Europe District's project managers. Piteo is managing construction. "Many people said the building was in such bad shape it could never be done. We developed a design-build contract that combined the talents of the Italian architectural and engineering firm OK Design, and the construction contractor Cooperativa Muratori Riuniti (CMR).

"To get the project launched quickly, OK Design developed a 35 percent concept design and a 100 percent seismic design," Piteo said. "CMR then took over the 35 percent concept and finalized it during construction. We have all of the construction disciplines on site at the same time working in a tight sequence, and so far everything is right on schedule and within budget."

To track the activity, Piteo asked the construction contractor to use a system of color-coded hard hats to let Piteo quickly determine who is on a floor and what they are responsible for.

"It's my system for safety and efficiency," Piteo said. "The supervisors wear white, the hydraulic trades wear blue, the electrical wear red, and the craftsmen wear yellow. It's like watching an orchestra play. I can see at a glance where the cellos are."

The major challenge has been to seismically upgrade the four-story building while preserving the architecture. It is a historic structure designed by Piacentini, a famous architect of the Mussolini era, in the late 1930s. He also designed the new University of Rome and the main artery streets leading to Saint Peter Square.

Aviano is a Zone III earthquake area where Italy has strict new seismic codes. The old structure, which has 8,000 square feet (just under two acres of floor space) was a hazard.

The designer's elegant solution was to encapsulate the existing foundation in reinforced concrete. Shear walls were built to increase the lateral and longitudinal rigidity of the primary walls. Finally, the two towers at the ends were separated from the main building. This allows the structures to sway and twist separately and safely in an earthquake.

"More than 20 percent of the cost of the \$5 million renovation is for seismic upgrade," said Nuri Ergenekon, another Europe district project manager. Ergenekon managed the design.

The rest of the work is to provide quality living for TDY Marines. Because Ariete is a contingency dorm, the Air Force is modernizing the original open bay



The 60-year-old barracks was extensively renovated inside and out.

living configuration rather than renovating to 1+1 standards.

It's a silk-purse-from-a-sow's-ear project. The building has been torn apart to the structural walls for total rebuilding with new finishes and fixtures.

The utility and fire protection systems are being completely refurbished and interior finishes renewed. The ground floor will be offices and recreation areas including a fitness center, a game room, and a pub.

Upstairs, the sleeping rooms and gang latrines are being reconstructed with new floor tiles, suspended ceilings, fresh plaster and paint, and new utilities and fixtures.

Each floor will have cable TV, computer rooms, phones and offices.

The 31st Fighter Wing is planning to renovate a nearby dining facility to give the Marines a complete home-away-from-home while deployed to Aviano.

Okinawa

Continued from previous page

the GoJ contributes about \$800 million.

Under FIP, the GoJ funds and awards the contracts. JED performs oversight and coordination throughout the design and construction to ensure the completed facilities meet U.S. standards.

"We, in the field, have a big challenge in carrying out GoJ-funded projects," said Okinawa resident engineer Shigeru Yoshimoto. "We do not have a contract with the contractors. We do not manage the contract, yet we must assure the facilities meet the U.S. standards and the user's requirements."

Personal relationships with GoJ counterparts played an important role in the successful completion since everything was negotiated. During construction of the medical/dental clinic, JED negotiators successfully convinced the GoJ to incorporate more than 50 user-requested changes, saving the U.S. more than half a million dollars.

"Most of the changes were due to rapid changes in medical technologies," said Yoshimoto.

Allen Taira, chief of JED's Okinawa Area Design Branch, explained that his personnel were tasked with ensuring all functional, life safety, fire protection, and other specialized medical and dental requirements were met.

"Even during construction many design changes were required," said Taira. "Some of the major changes included going from a conventional to all digital X-ray system, correcting medical gas short-circuit problems, and adding a card-activated security gate for the covered parking."

Air Force Health Facilities Officer Maj. Mike Eller thanked JED for its support and the effort that district personnel provided in negotiating and coordinating numerous changes and requirements.

As the Air Force's medical engineer officer, Eller was on-site during the design and construction. Besides partnering sessions with the Air Force, Eller's

knowledge of medical facility requirements and presence provided instant feedback during the project.

The clinic features native Okinawa tile ornamentation and nine landscaped natural light courts.



Shisa dogs stand guard over the new clinic. (Photo courtesy of Japan Engineer District)

Sammy Sameshima, who retired last year as JED's Design Branch chief, advocated using traditional Okinawa building materials. Through Sameshima's efforts, the use of Okinawa tile on the roof, and natural coral wall facing in the entry lobby and other areas, were negotiated into the clinic's contract.

"Japanese law requires that natural light be provided for clinics, hospitals, housing, and schools via windows, skylights, or light courts," said Dawai Wong, chief of the Okinawa Area Office Project Program Management Branch. "We designed the light court as a break area where employees and patients can sit, relax, and enjoy the scenery."

Mayumi Nishiyama was the project engineer who oversaw the clinic's overall construction including installation of all utilities, a fire detection/suppression system, medical gas, communication and security systems, 250 tons of air conditioning, 200 pairs of communication cables, 459 parking spaces, and utility meters for monitoring utility consumption.

Support for other nations includes Native Americans

Article and Photos
By Ross Adkins
Tulsa District

Support for other nations is an important part of the U.S. Army Corps of Engineers' mission. We have worked with governments all over the world, which includes the Native American sovereign nations within our own borders.

Tulsa District is very active in this mission. In the district's geographic area, there are 39 federally-recognized tribes with a total engineering and construction budget of more than \$30 million annually. During the past couple of years, under authority of the Intergovernmental Cooperation Act, Tulsa District has signed memorandums of agreement with 16 of the 39 tribes. The services the district provides include preparing government estimates, negotiating engineering fees, and reviewing contractor performance. Here are a few examples of activities the district has completed with Native American governments:

Excess federal land transfers.

One significant activity between Tulsa District and the Cherokee nation was transferring a parcel of excess federal land beside the McClellan-Kerr Arkansas River Navigation System in Oklahoma in 1997. The federal property was initially developed as a Corps recreation area, but decreasing federal budgets forced the district to close the park and declare the property excess.

Federal law allows for the return of excess federal land to the Native American government that formerly owned it, and the Cherokees had owned the land before the tribe was moved to Indian Territory. Now that they own the land again, they have proposed to develop an industrial park and port facility.

The U.S. Department of Health and Human Services' (HHS) Administration for Native Americans partnered with the Corps in assisting the Cherokee nation with this project. The HHS provided funds and the Corps provided technical assistance.

School projects. Expanding the master plan for the Sequoyah Indian School in Tahlequah, Okla., is another noteworthy Cherokee project. The

Cherokee nation is funding the master plan with tribal dollars. Tulsa District is providing government cost estimating, contract administration, and technical oversight of the private sector engineer firm performing the study. This partnership has resulted in four requests for assistance in the past two years. The district's assistance has reduced the Cherokee nation's cost of doing business by using Corps services rather than keeping a full-time staff of their own.

More work. Other projects Tulsa District has supported include housing inspections for the Otoe Missouri tribe; overseeing the design and construction of multipurpose buildings for the Quapaw, Iowa, and Thlopthlocco tribes; a sewage lagoon for the Tonkawa tribe; water and wastewater treatment facilities for the Seneca Cayuga tribe; and a master plan for the Apache tribe. These projects and others have resulted in more than \$3 million in new infrastructure for our Native American partners.

Tulsa District has not accomplished all this without the support of other federal agencies. Besides HHS' Administration for Native Americans partnering to support the Cherokee nation, the U.S. Department of Housing and Urban Development, and the Southern Plains Office of Native American Programs (SPONAP) have become strategic partners in assisting the tribes with economic development.

More than 80 percent of the tribal projects supported by Tulsa District have been funded by SPONAP, whose mission is to provide federal grants to tribes. Because SPONAP cannot provide technical oversight of funded projects, Tulsa District became a valued partner to assure proper stewardship of their project funds.

Tulsa's initiative to share our technical expertise with Native American governments has benefited both our federal partners and the tribes. It has eliminated the need for each tribal government to maintain the engineering and technical staff necessary to manage and oversee engineering projects, and it has provided work for other federal agencies.

For more information about Tulsa District's Work for Tribal Nations initiative, contact John Wagner or John Sparlin in the districts' Programs and Project Management Office at (918) 669-7239.



(Left) Jess McKibbon, tribal spiritual leader, scatters cedar smoke during a groundbreaking ceremony. (Right) McKibbon blesses Col. Tim Sanford, former Tulsa District Engineer, with an eagle feather.

Jacksonville hosts Chilean engineers

By Christina Plunkett
Jacksonville District

In an effort to provide renewed cooperation between the U.S. and Chile, Assistant Secretary of the Army (Civil Works) Joseph Westphal and Chile's Minister of National Defense, Florencio Guzman, met in Santiago last December to begin developing a plan to aid the Chilean army in civil works, infrastructure development, and national disaster response.

As part of that plan, Jacksonville District recently hosted a Chilean team led by Brig. Gen. Orlando Carter, commander of the Chilean army's Corps of Engineers. The Chilean team visited, among other locations, the Antilles Office in San Juan, Puerto Rico, to learn about civilian and military roles in emergency response efforts, specifically in relation to the Hurricane Georges recovery where some missions are still being worked.

The visitors were briefed on how the Corps contributes to the Federal Emergency Response Plan following a natural disaster, as well as Jacksonville District civil works projects which help mitigate disasters. The visitors were especially interested in how the active Army, civilians, Reserves, National Guard, and contractors are integrated during emergency response and recovery. They also inquired about updating their construction-operations equipment and technical education programs available for both military and civilian engineers.

During their four-day stay, the Chilean team took a helicopter tour of Antilles civil works projects, and flew over some on-going Hurricane Georges recovery work, such as temporary roofing in central Puerto Rico and a debris reduction site in Salinas. The team also met with representatives from the Federal Emergency Response Agency (FEMA), the Red Cross, the National Guard, the Reserves, and other mass care and public works agency officials.

"Their trip was a complete success because the Chilean officials got a clear idea of our capabilities and the many areas we can work together in helping them move forward toward more efficient and modern programs," said Dr. Emilio Colon, Antilles Project Manager. "The Chilean officials recognize the importance of developing their force to perform their many missions, both military as well as civil works."

"The rapid response by the federal plan and use of the total Army concept provides a model for us to use," said Carter. "The concept of both Army Reserves and National Guard are interesting, in particular as a means to increase the capabilities of the forces."

After visiting Jacksonville District, the Chilean team also visited Fort Leonard Wood, Mo.; Mobile District; Fort Bragg, N.C.; the U.S. Army Southern Command Headquarters in Miami; Honduras; and Corps Headquarters, where they were briefed by Lt. Gen. Joe Ballard, Chief of Engineers. Westphal also met with them in Washington.

South Atlantic Division anticipates continuing to assist the Chilean Army as they upgrade their emergency management and construction equipment methods.

New technology enhances old mission

Article by Maurice Ruffin
Photo by Michael Maples
New Orleans District

New Orleans District has conducted hydrographic surveys since its earliest days. For most of those years, the district used lead measuring lines, shore markers, and even hand-drawn survey maps. But in recent years, thanks to a new system that works with the Differential Global Positioning System (DGPS), hydrographic surveys have become more efficient.

"Right now we're doing state-of-the-art, cutting edge stuff," said Don Clement, Chief of Operations in the Technical Support Branch. "Everything is done electronically using DGPS."

Clement said that with DGPS the district could produce accurate surveys with less manpower and equipment. For instance, the survey boats, which must conduct surveys along a predetermined range, used to be guided by electronic mini-rangers. The mini-rangers were a modern solution to the old method of using simple target signs, but they required constant maintenance. DGPS eliminated survey markers and their maintenance.

DGPS uses a constellation of Defense Department satellites. The system allows a Corps survey boat with an on-board receiver to fix its location with pinpoint accuracy. DGPS equipment can tell survey operators where they are in a range with an accuracy of three meters (about 10 feet). Clement said, "Survey boat crews take great pride in knowing that their efforts are now electronically transformed into a much-needed international product."

There are many areas that must be routinely dredged by the district. However, sometimes the district receives requests to survey a non-traditional area. With DGPS, markers no longer need to be set up in



James Foreman, river pilot, monitors his instruments as he conducts a hydrographic survey.

these areas before surveying. As a result, survey boats can now conduct surveys literally anywhere with little preparation.

While other districts use DGPS regularly, New Orleans District is the only one that uses it so extensively.

"We're using it now more than ever," Clement said. He said the district has done many innovative things with DGPS. For example, field data used to be brought to the office by courier. The same data is now trans-

mitted via satellite phones directly to the office.

Also, the district has placed all of its on-going surveys on the World Wide Web. According to Steve Paterno of Technical Support Branch's Dredging Function, the information has been placed into a format that is available to all customers. As soon as the information is posted, customers can download it from the district website (www.mvn.usace.army.mil) and use the data to their needs.

"All of our customers, the pilots, the steamship associations, the shippers, a guy sitting in Tokyo, a guy sitting in Taiwan, a guy sitting in Africa, a guy sitting in South America, can all access our site and see the condition of the Mississippi River," said Clement.

While the changes to the district's hydrographic survey procedures have been drastic, the users of the surveys have also seen significant changes in the final product.

"We've been applying the data to our chart. It's far superior than those blue-line copies they used to use," said Lt. Cmdr. Tod Schattgen of the National Oceanic and Atmospheric Administration (NOAA).

NOAA, which collects environmental information and produces its own surveys for various groups, is using the district's data in their product. "It allows us to produce a better product and a more current product," Schattgen said.

Mitch Smith, Director of Operations for the Port of South Louisiana, said he is impressed with the website. "I use the site extensively, and I've forwarded it to others who are using it."

"The district saw the value of getting the information into people's hands faster," said Ralph Scheid of Engineering Systems and Programming. He added that there are more refinements to come. As time has passed, surveys that once took months now take only hours. In the future, they may take only seconds.

1949 bank grader gets new lease on life

Article and Photo
By Brenda Beasley
Memphis District

A lot happened in 1949. President Harry Truman appointed Lt. Gen. Lewis Pick as Chief of Engineers. The Hoover Commission's attempt to confine the U.S. Army Corps of Engineers to military activity by merging flood control work under the Interior Department was defeated. And in Milwaukee, the Bucyrus Erie Company completed their 19th barge-mounted crane-dragline, Bank Grader 4919 (BG4919).

Today, Memphis District's Greenville Engineer Yard in Mississippi is using the latest technology to repower the old bank grader for continued service.

Re-powering meant removing all existing equipment inside the grader's cab, except the main hoist and drag system and the swing motors. "This was a monumental task," said Kel Shurden, chief of Greenville Engineer Yard. "It involved the marriage of new equipment into a 50-year-old grader superstructure."

Time was their biggest challenge. They couldn't start work until the grader came off the river late last November, and they had to finish before July when the 1999 revetment season begins.

Revetment work helps stop erosion and stabilizes the riverbank. When the bank erodes, the channel gets wider and shallower. So the revetment work keeps the channel open for shipping.

Actual work on the grader began in January, with installation of state-of-the-art electrical equipment. Workers also fabricated and installed many new mechanical piping systems.

Several structural modifications were necessary to accommodate the new equipment. This involved building and installing new diesel fuel and lube oil tanks with piping systems and ventilation ductwork. Work-

ers roof-mounted the radiator for the generator engine cooling system and several electrical components.

"This was not an easy task," said Shurden. "Some of this equipment had to be mounted 30 to 40 feet above the main deck of the barge."

Before installing any new equipment and repainting, all the existing lead-based paint had to be removed. Measures were taken to protect the health of the employees involved. Besides wearing respirators and personal protective equipment, the workers underwent blood tests before and after the work to check for lead and toxic substances.

Robert Wiley, Bank Protection Party No. 11's (BPP #11) crane operator, did most of the machine and drilling work on the foundation for the generator, and most of the crane work. Then the Greenville crew installed a new electrical generator and a new motor control for the hoist and drag system.

They rewound and reinstalled the existing hoist and drag motor. They removed the deck winch controls and motors, and swing motor controls from BPP #8's old mooring barge and installed them on the grader.

"We saved the government over \$600,000 by not buying new equipment for these systems, and the upgrades will continue to save the Corps about \$120,000 a year," said Shurden.

Welder Johnny Ard, crane operator Carl Hammitte, and supervisor Mack Shorter, all from BPP #11, had one of the hardest, dirtiest jobs, but it ensured worker safety. They mounted safety rails around the muffler and radiator on the grader cab roof and around the generator inside the grader cab.

"Once we got all the equipment mounted, it took about two months to pull the electrical cable to all of that equipment," said Shurden.

All work was done in early June, plenty of time before BPP #11's ship-up date at the end of June.



Johnny Ard stands atop Bank Grader 4919 in the Greenville Engineer Yard as steel piping is lowered by crane. The piping will be used to build safety rails around the top of the cab.



Build Strategic Commitment

Develop marketing and strategic communications plans to create an understanding and commitment to the corporate strategy.

Project Delivery Business Process

New approach will improve project delivery to customers

Article by Lynn Harris
St. Paul District
Artwork by Jan Fitzgerald
Headquarters

The phrase "project management" is changing to "project delivery." Whatever it's named, the U.S. Army Corps of Engineers has a long history of struggling to integrate this business process into its corporate culture. Most of us have been hearing about it for a decade. Now, more than the name is changing.

First, Engineering Regulation 5-1-11, released in February 1998, laid out new approaches to project delivery. Then, earlier this year, the Engineer Inspector General (EIG) issued a report on the effectiveness of project delivery in the Corps. The EIG's findings showed that, after 10 years, there is still a wide disparity in how project delivery is implemented across divisions and districts. The findings concluded:

- Understanding business philosophy is critical to effectively integrating project delivery into the Corps' workplace.
- Training must be consistent with this philosophy.
- Teamwork must exist at all levels and be synchronized from Headquarters to project sites.
- Changes in attitudes and culture are required before developing specific skills and abilities.

Besides the regulation's release and the EIG findings, a project delivery business process project team was formed at the direction of Lt. Gen. Joe Ballard, Chief of Engineers. The team concluded that, in the past, concepts were thrown out at people with little explanation or discussion. The natural result was little understanding.

The team members decided that the Corps needed a fresh new approach, one in which true organizational learning is reinforced by having all systems aligned. This means the project delivery concept, besides being taught and discussed throughout the organization, will also be reflected systematically, as in job selections, promotions, awards, command inspections, communications, and in the Command Management Review.

What is PDBP?

For 224 years, the Corps has delivered projects. But the world keeps changing, and so do the environments and expectations of Corps customers. To provide value-added service in an

era of continuous change, the Corps is modifying its project delivery process. The new delivery process model is built around project teams led by project managers. Now called the project delivery business process (PDBP), it ideally provides products and services to customers using multidisciplinary, cross-functional teams.

Though it has also been called the project management business process, Ballard said he prefers PDBP because "it emphasizes the desired results — project *delivery* to customers. Successful project delivery requires the focus of the entire team regardless of where you sit in the organization."

Why the struggle?

"Project delivery through project manager-led teams represents a profound cultural change for the Corps," Ballard said. "That's why it's so hard. It means a change in focus from an internal, stovepipe orientation to focusing outward on the customer. The thinking required is whole systems rather than functional. That's truly a fundamental change."

Corps leaders readily acknowledge organizational cynicism. "Some people still don't recognize the need for this new way of project delivery," said Ballard. "That's hard for me to understand. The decision to adopt project delivery as our principal business process was a product of economic, social,

political, and technological forces that extend well beyond the Corps and even the Army.

"USACE will always have engineers and scientists doing technical work, and contracting and real estate specialists doing their piece," Ballard continued. "But corporations world-wide have embraced project delivery through PM-led teams because it works best. It's proven effective in coping with cost pressures, customer demands, the information revolution, and the change these combined forces have wrought in the world today. It's not a question of whether we *should* do it. It's a question of *how well* we can do it to reduce costs and improve our ability to please customers."

To get there, Ballard said we need a much greater emphasis on teamwork, with the customer as part of the team. Getting there requires continually breaking down internal boundaries of geography and status and function.

"Every decision we make throughout the organization impacts the customer; whether it's buying a computer or a box of pens," said Fred Caver, Chief of Programs Management Division in the Directorate of Civil Works. "Everybody needs that understanding."

Where are we now?

For a little more than a year, the Corps has worked to integrate training and development with the Strate-

gic Vision so that training dollars are invested wisely. The PDBP team, made up of representatives from districts, Headquarters, and the Professional Development Support Center at Huntsville, is working to develop new ways to integrate the business philosophy into organizational learning. The team also aims to find new methods to get that philosophy out to more people.

"Our charter is to create a learning framework for the project delivery business process throughout the Corps, and to use non-traditional learning methods to drive the message home," said Project Manager Karen Northup of Seattle District. "Describing how we do that, building capabilities, developing a common language for understanding, and learning through sharing best practices and areas for improvement, are all part of this effort."

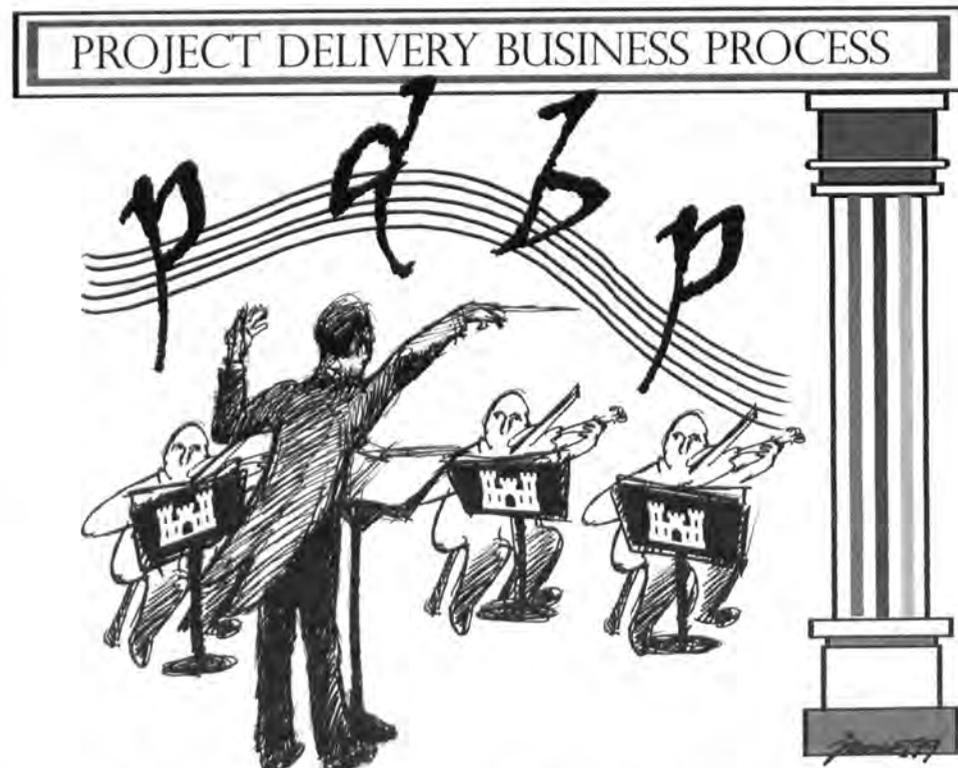
How will we have to change?

The framework addresses learning challenges at two levels, Northup said. The first is strategic — creating the culture necessary for PDBP to succeed. At the second level, tactical, the challenges are educating and developing the workforce to be effective members of project delivery teams.

"Leaders at every level must create conditions for success by focusing their organizations on customers, teamwork, results, and continuous improvement," Ballard said. "The order of that list is important. The customer comes first. Not too long ago, most Corps members would have come up with a different list — focusing internally rather than externally on the customer. Today more recognize the importance of customer focus and understand that to achieve it we must become a *learning* organization that continually improves product and service delivery."

Steve Browning, Chief of Project Management Division in the Directorate of Military Programs, consistently points to the importance of adopting new cultural roles in the workplace. "Not only do we all have to learn to work in teams, the role of the first-line supervisor is dramatically changed with PDBP," said Browning. "Under a project manager-led team environment, the supervisor's primary role is no longer that of a technical expert, but rather a talent broker. That means acquiring, nurturing, and coaching talent."

Some argue this means sacrificing our technical base, but Northup dis-



"making sweet music in service to the customer"

Continued on next page

Chaplain's Corner

Vision gives long view of future

Article by Chaplain (Lt. Col.) Tim Carlson
Graphic by George Halford
Headquarters

I recall one class session better than most during my college days, for good reason. A classmate gave an oral presentation on learning by association. He mentioned 10 items, all unrelated, then invited us to repeat the list after he spoke them only once. No one could! Then he associated each word with something interesting from his life. Within a few minutes the entire class of nearly 30 knew all 10 items by heart.

We in the U.S. Army Corps of Engineers have a Strategic Vision, and it would behoove each of us to know it by heart. And we're not the only ones doing this. Brig. Gen. Carl Strock, former Chief of Staff at Fort Leonard Wood, Mo., would ask at most staff meetings, "Have you memorized the Vision yet?" There on the screen would be our post's five-point Vision. I wonder how many people who were in those staff meetings can remember those goals to this day?

I've spent some time trying to find a similar way to commit the Corps' Strategic Vision to my own memory. One day I took our Strategic Vision booklet and looked at the seven sub-strategies. Then it hit me — there was an acronym, RBESBSA, or "Our best BSA." (This is unrelated to motorcycles,



**Strategic
Commitment**

which have always spelled near disaster for me!)

Now you might ask, "What in heaven's name does such a phrase have to do with the Vision of the Corps of Engineers?" In truth, it can mean everything or nothing. Everything, if we allow the association to teach to us. Nothing, if we're so literal-minded that it interferes with our creative thought processes. Let me explain it this way:

- R** = Reshape Culture
- B** = Build Strategic Commitment
- E** = Enhance Capabilities
- S** = Serve the Army
- B** = Build the Team
- S** = Satisfy the Customer
- A** = Align for Success

Project delivery

Continued from previous page

agrees. "This simply means shifting where we go for technical expertise," Northup said. "We no longer look to the supervisor; we look to the key discipline experts on the project delivery teams. The supervisor is responsible for providing the appropriate resources and expertise to the project manager. Once assigned to the team, members make commitments to the project manager rather than the supervisor for services and deliverables.

"In this way, quality becomes a shared responsibility among the supervisor, the project manager and the team," Northup continued. "The team is responsible collectively for project results, and project management leadership becomes critical to the technical quality of the project. The project manager plays a key role in holding team members accountable. Supervi-

sors become resource managers, *not* resource owners, and they work to sustain the talent pool. They provide support, from encouragement to additional support staff, to facilitate team success."

Why should it work now if it hasn't before?

"Key to the success of our evolving culture is developing new measurement systems to ensure the business changes we're making are achieving the desired results for customers," Ballard said. "With our Command Management Review Plus we are developing ways to measure progress and keep project delivery prominent on the radar screen. We will also align our evaluation and award systems to support integrating the project delivery business process into our corporate culture."

Reshape culture
Build strategic commitment
Enhance capabilities
Serve the Army
Build the team
Satisfy the customer
Align for success

In associative learning, something totally unrelated is used to spark collective recall. So RBESBSA, "Our Best BSA," becomes our simple way to remember that we are reshaping culture, building strategic commitment, enhancing capabilities, serving the Army, building the team, satisfying the customer, and aligning for success.

This gives us a quick, easy way to remember a cluster of difficult concepts.

In Roman times, generals would seek a promontory from which to view their troops in combat. An astute leader could see the components for success working in clockwork precision as his soldiers fought their enemy. Because of his understanding of the battlefield and his vision, the general could yell long before the end of the conflict, "It is finished!" He knew the battle was won; he had seen the outcome well in advance of its chronological arrival.

Now, I know most of us feel more like a Roman legionnaire than a Roman general. We're down in the heat and dust, shoulder-to-shoulder with our comrades, battling the challenges right in front of us. But the Corps' Strategic Vision can be a kind of promontory for us, if we keep it firmly in mind. It helps

ensure that our day-to-day efforts, many which are grueling and demanding, are focused on corporate success. It keeps us engaged purposefully, on a mission together with directed energy destined for a dynamic, continuing positive purpose.

Somewhere in this I see a prompting for all of us. Our Corps' Vision helps us take the long view of our jobs' issues and changes. But we all are creatures for eternity. This world is too small for us. As a chaplain, I find myself pondering — should we not also craft a vision that allows us to rise to a high point and assess our preparedness for eternity? I, for one, welcome such foresight and challenge.

Our Corps' Strategic Vision stretches us. It challenges our paradigms. It demands our preparation for all contingencies. As our organization embraces these and experiences their rewards, let us each also craft a vision of eternal life that will guide our individual journeys beyond time into forever. For me, that high place is a hill called Calvary near Jerusalem. Have you found a high place for yourself? I invite and encourage all of us to find such a spot; one which assures that our future is secure and our hope eternal.

To lock in learning, the project team developed a learning framework. It describes Corps culture in terms of eight capabilities needed to create and sustain the conditions essential for successful project delivery. These capabilities are:

- Leadership
 - Working in teams
 - Facilitating learning in the workplace
 - Systems thinking
 - Developing talent
 - Building customer relationships
 - Aligning the business process to customer needs
 - Sustaining technical capability
- "We defined each of these behaviorally in terms of what we would like to see 'more of' and 'less of' in four areas of responsibility — executive, resource manager (supervisor), project manager, and other team members," Northup said. "Then we described

learning methods and objectives needed to meet the 'more of' behaviors. We are also collecting examples where the desired capabilities and behaviors were applied in successful project delivery."

You may have been hearing about PDBP for a decade, but you haven't heard the last of it. It was up for discussion at the Project Delivery Conference in July, and is coming before the Senior Leaders' Conference this month, at Divisional Seminars scheduled for later this year, and at the District Commanders' Conference next December.

Work at the conferences will focus on further developing the learning model. PDBP team members will also be visiting each division to get feedback on the model as part of the development process. Soon, you'll see PDBP included in a number of training courses, from PROSPECT to a new web-based training program.

Taking terns

Corps, other agencies move seabirds to save migrating salmon

Article by Matt Rabe

Portland District

Photo by Dan Roby

Oregon State University

How do you convince 18,000 birds to move from one island to another?

That's what a team of federal and state resource management agencies, including Portland District, faced when they began to relocate a large colony of Caspian terns from Rice Island to East Sand Island. Both islands are in the lower Columbia River estuary.

The project, probably the first of its kind by the U.S. Army Corps of Engineers, is being called an initial success.

"It's still too early to say how successful we will be," said Bob Willis, Chief of the district's Environmental Resources Branch, "but the results to date are encouraging."

At this point, you may be asking why the U.S. government would want to move a colony of seabirds. To save salmon.

For several years, while scientists, engineers, and others were studying the salmon issue, the colony of migratory seabirds was growing and making its home in the estuary. They winter in Central and South America, but return to Rice Island each spring to meet the downstream migration of millions of juvenile salmon and steelhead.

The island is a dredge disposal site 20 miles from the Pacific Ocean.

"Terns prefer to nest in bare sand," said Geoff Dorsey, wildlife biologist and chief tern relocater. "Dredge disposal islands provide an abundant supply of bare sand."

Initially, having the terns at Rice Island did not concern the Corps or the resource agencies. They were occupying a low spot on the island's western tip and not impacting dredge disposal operations. But that changed when observers saw that the terns were consuming a large number of juvenile salmon during the spring and summer. The National Marine Fisheries Service asked the Corps to research the issue.

Wildlife biologists and students from Oregon State University and the Columbia River Inter-Tribal Fish Commission estimated the tern colony consumed between six and 25 million juvenile salmon during the 1997 downstream migration season. That's roughly six percent to 25 percent of the salmon making the journey.

"We don't believe that the Caspian terns are the only cause for the decline in salmon populations in the Columbia River basin," said Dan Roby, a researcher with Oregon State University. "But research has shown that the terns could be hampering the



More than 20,000 Caspian terns made their home on Rice Island where migrating salmon make a bountiful feast.

ability of the species to recover."

Other factors, including harvest, habitat, ocean conditions, hydropower, and hatcheries affect the salmon populations. However, another significant contributor raised the eyebrows of resource management agencies.

In early 1998, a Caspian Tern Working Group made up of federal, state, tribal, and university biologists and resource managers was established to evaluate the terns' impact on migrating salmon. The group decided to move the terns away from Rice Island, where they preyed mostly on salmon and steelhead, to an island closer to the Pacific Ocean, where their diet might be more diverse.

The first major efforts to relocate the tern colony began last January. Jim Beal and Robin Burrington, both from the Willamette Valley Projects, and Dorsey landed on Rice Island with two tractors, a grain drill, 30,000 pounds of winter wheat and 56,000 pounds of fertilizer.

They planted about 240 acres of wheat on the three islands. The biologists believed the new vegetative cover would deter the terns from nesting there later in the season. They left one acre of suitable tern habitat on Rice Island as a control plot for researchers to observe the birds there.

Shortly after the seeding operation, the Corps contacted the U.S. Marine Corps Reserve and recruited them to create new tern habitat on East Sand

Island. The Marines hit the beach in late February, removing vegetation and debris from about eight acres. The Corps of Engineers then spruced up the island for the terns.

As an added measure, the working group, with the help of local high school volunteers, built fences on the western tip of Rice Island in late March. Because terns prefer open expanses of bare sand, it is believed the fences will further deter nesting there. In addition, the Corps and National Marine Fisheries Service placed bald eagle decoys on the island. The decoys, initially used to keep Canadian geese off the island, also proved effective against the terns.

As a final touch, the researchers who would inhabit the two islands and observe the terns during the nest season placed tern decoys and a sound system on East Sand Island. They hoped to use the devices to lure the birds to that island as they entered the estuary.

With all the measures in place, the resource managers and biologists felt they had done a good job of making Rice Island a dismal place to nest, while turning East Sand Island into a virtual tern paradise. The test would come as the first terns returned.

The first Caspian tern arrived in the Columbia estuary in late March. Much to the surprise of the researchers, the bird landed on East Sand

land. They had hoped the birds would flock to East Sand Island after the available space on Rice Island was filled up, but to have them readily use the island was a welcome sight.

During the next several weeks, more terns returned to the area. Some went to Rice Island, others detoured to East Sand Island.

"At first there were more terns on East Sand Island than on Rice," said Ken Collis, fisheries scientist from the Columbia Inter-Tribal Fish Commission. "The next day it was the opposite. There continue to be daily fluctuations in the populations."

As of late April, up to 1,100 terns were on East Sand Island while about 3,000 were on Rice Island. Terns at Rice Island are restricted to the one acre of habitat left for them.

"The sound system and decoys appear to be working," said Collis. "We have terns coming to the island, and some are trying to feed the decoys fish, which is part of their courting ritual."

Determining whether the program is a success will have to wait until all the terns return and researchers can tabulate the number of salmon consumed by the seabirds.

"Moving the birds to East Sand Island was a short-term answer to the problem," said Willis. "If this year's efforts are successful, we may then look at the possibility of further dispersing the colony into other parts of the region."

New outfall protects juvenile salmon

By Dawn Edwards
Portland District

When engineers, designers, and construction personnel in Portland District planned a project that required building in the Columbia River, they knew the work could go beyond challenging to dangerous. The Columbia can flow at more than 300,000 cubic feet per second. And, during the winter, which is the only time construction can be done in the river because of endangered species issues, the water is cold.

But the U.S. Army Corps of Engineers tackled the job to help migrating juvenile salmon smolts get past predators at Bonneville Dam, 40 miles east of Portland. Research proved that northern pike minnows feasted on the smolts as they left the bypass channel downstream of the second powerhouse. Currents were slow and eddies made it easy for predatory fish. Mortality also was too high through the bypass system.

The National Marine Fisheries Service (NMFS), in their 1995 Biological Opinion for Operation of the Columbia River Federal Power System under the Endangered Species Act, asked the Corps to relocate the downstream migrant outfalls (release points). This would let migrating smolts emerge from the flume into fast water, and keep them out of downstream eddies. A model of Bonneville Dam at the Waterways Experiment Station identified the best location.

Construction began in fall 1997. The \$62 million project includes modifications to fish passageways inside the powerhouse, a transportation flume nearly two miles long, a juvenile fish monitoring facility, and two new outfall structures.

By last March, the bypass channel inside the second powerhouse was improved to reduce fish injury and stress, the transportation flume was ready for smolts, and the outfalls were in place. The monitoring facility will be ready next March.

All water from the spillway and Bonneville's two powerhouses funnels past the new outfalls. This convergence creates the fast currents. The result—fewer salmon smolts for dinner. Corps biologists estimate the new bypass system will translate into several million additional fish per year surviving to reach the sea.

The outfall construction was the most difficult. Six in-water piers (steel casings filled with rebar and concrete) were needed to support high- and low-level outfalls at the end of the flume. The huge casings are 10 feet in diameter. The two outermost casings are 350

feet and 400 feet from shore, and are placed in water about 75 feet deep. The longest casings are more than 190 feet long and weigh more than 100 tons.

There were many steps in the construction. The contractor first built a \$2 million-plus above-water work platform. Then crews installed templates to guide each casing into place. Each casing was swung off a barge, moved through a template, and lowered to the river bottom.

Next, "King Kong," one of the largest tandem vibratory hammers in the U.S., drove the casing more than 100 feet into the bottom of the river, then socketed it 10 feet into bedrock. Excavation tools, including flight augers and buckets, removed soil from inside the casings. Rock core barrels drilled the rock socket to securely seat the casing.

Next, rebar cages which weighed up to 100 tons each were fabricated of bundled 2.25-inch diameter rebar. The cages were built horizontally on a nearby barge, then lifted and lowered into a casing. Concrete was poured to fill the inner part of the casings to make them strong enough to support the outfalls and withstand the rushing water of the Columbia.

Piers were designed to withstand an estimated



"King Kong," one of the largest tandem vibratory hammers in the U.S., was used to drive the huge casings into the riverbed. (Photos courtesy of Portland District)

600,000 pounds of lateral force with the outfall structure submerged. The low outfall was designed to withstand a 100-year flood. The Corps conducted extensive lateral load tests to confirm that the soil around the piers was equal to or better than the assumptions used in the design phase.

The last major step was laying precast, concrete



'When you can count the benefit in millions of fish, you know the changes we've made have been extremely beneficial.'

double box girders that measured nearly six feet high by more than 13 feet wide on top of the piers. Three girders were placed end to end for each outfall. The longest girders measured 180 feet long; the heaviest half-girder weighed 330 tons. It took a 600-ton barge crane to swing the girders into position. Four-foot diameter plastic pipe was used to line the girders, smoothing the way to the exit for migrating smolts.

Between the powerhouse and the outfalls, crews laid 48-inch-diameter flume sections and a 42-inch auxiliary water pipe. The flume and pipe are mostly underground, in some places as much as 10 feet.

General Construction Company (GCC) of Seattle built the \$13.7 million juvenile bypass outfall structures. Balfour Beatty Construction of Vallejo, Calif., had the contract for downstream migrant passage-way changes inside the second powerhouse, the transportation flume, and the smolt monitoring building.

"During some of the construction, Balfour Beatty worked double shifts six days a week so the bypass system and outfalls could begin operating before the late-March juvenile migration season," said Doug Clarke, the Corps' project manager. "It's precision work, because there can't be any rough areas or sharp

corners. That required inspection of each joint, and fixes if problems were found. It was tight, but they made it. Corps folks administered the contract and inspected and tested the systems. The National Marine Fisheries Service also inspected the flume and dewatering screens."

Until the monitoring facility is completed next year, the Corps is funding temporary passive integrated transponder tag monitoring facilities, and NMFS staff to operate it. There, NMFS is evaluating the condition of smolts near the outfall after they have gone through the new bypass.

"So far NMFS tests of fish moving through the new system have shown little or no injury, so it's very successful," said Clarke.

Clarke praised GCC and the Corps team that completed the outfall construction. "The partnering agreement between the Corps, GCC and their major subcontractors was very useful," Clarke said. "We expect minimal cost growth, less than one percent, on the outfall contract, which is excellent considering the type of work, risks, and conditions. They were working over deep, fast water and throughout the winter, and installing piers deep into the riverbed. Their project manager was safety-minded, and life jackets were standard apparel. I think the success of this entire project team speaks to a good set of plans and specifications, a good contractor, and good contract administration.

"Indications are that we will achieve from eight percent to 18 percent increased survival through the second powerhouse using the modified bypass system," said Clarke. "We expect to increase overall survival through the entire Bonneville project up to four percent. When you can count the benefit in millions of fish, you know the changes we've made have been extremely beneficial."

VOLUNTEERS

*Corps people
serve 'above
and beyond'*

The real militia

'I felt my 23 years of military service and 40 years of public service might be useful to the state.'

Militias have gotten a bad reputation in the news and entertainment media lately. They are usually portrayed as little better than outlaws—either home-grown terrorists, or paranoid gun-nuts ready to fight the “New World Order.”

The truth is 180 degrees different. Twenty-four states and Puerto Rico have authorized state militias. All are organized groups of volunteers who are called on to protect lives and property in the state during times of crisis or other needs. (None use “militia” in their official organization name to avoid the stigma that word now carries.)

Militia members wear standard Army uniforms, with minor modifications. They serve without pay except when called to paid state active duty by the governor. They even pay for their own uniforms and travel expenses, but there are a few financial benefits. All the expenses of a militia volunteer are tax-deductible. And state workers' compensation coverage is in effect while a volunteer is on active duty, and during all training periods.

Despite the lack of compensation, militias perform three important missions for their states.

“We provide important back-up and support for the California National Guard by providing armory operations and security when the Guard is in federal service,” said Dr. Fred-Otto Egler, Public Affairs Officer of Los Angeles District. Egler is a chief warrant officer and Press Officer in the California State Military Reserve (SMR).

“Another mission is emergency response, where the Maryland Defense Force (MDDF) supports civil authorities in damage assessment surveys, disaster relief operations, and ground search-and-rescue operations,” said Jack Butler, a program manager in the Formerly Used Defense Sites program in Baltimore District. Butler is a colonel in the MDDF and is their Director of Operations and Training. “Our search-and-rescue operations fill a manpower void in Maryland for finding lost people, and gives the MDDF opportunities to hone our emergency response skills.”

The third mission area is community service, giving communities and county or municipal governments a disciplined support team organized along military lines. These activities range from providing assistance at a community festival, to furnishing support personnel for augmenting emergency operations centers during a crisis.

“The requirements to meet one Saturday a month for Unit Training Assembly, plus about 100 hours of community service during a year, really aren't much when you stop to think about it,” said Egler.

There is no set requirement for community service in the MDDF, but a volunteer receives a service ribbon for each five events he or she participates in.



Members of the Maryland Defense Force practice carrying a litter during search-and-rescue training. (Photo courtesy of Baltimore District)

Drills vary among the MDDF units, but most hold two-hour meetings twice a month in local National Guard armories.

The MDDF, which has about 350 members, has been called to duty for snow emergencies, flood relief, tornado relief, wildfire suppression, and ice storms. MDDF personnel recently trained to assist the state's medevac units, and the MDDF is planning advanced training for personnel who will help staff the state emergency operations center planned for Camp Fretterd, Md. The MDDF will also support various state agencies during future emergencies involving terrorism and weapons of mass destruction.

“The SMR has about 800 members,” said Egler. “We have members in the desert at Fort Irwin supporting the National Guard during annual training. Besides supporting annual training, SMR soldiers are involved in emergency communications, medical and dental support to the Guard, Drug Demand Reduction programs in schools, teaching basic soldier skills to Guardsmen, and staffing the Guards' Computerized Battlefield Operations Simulation Center at Camp San Luis Obispo.”

People have various reasons for joining militias. “At my first meeting I met lawyers, TV producers, doctors, nurses, videographers, freelance writers, business owners, chaplains, Red Cross personnel, police officers, and many others from all walks of life,” said Egler.

The common thread among them is service. Many (though not all) have

military experience. “I felt that my more than 23 years of military service and my 40 years of public service might be useful to the state,” said Egler.

“The Defense Force has given me the opportunity to use training and experience I received on active duty with the Army, and then to give something back to my neighbors,” said Al Eberwein, an information management specialist with Baltimore District. He is a captain in the MDDF, and their Communications Officer. “Working with others dedicated to the same principles has been rewarding.”

“I always wanted to wear the military uniform, and I was looking for an organization to do volunteer work in. I found both in one organization,” said Deborah Horne, a public affairs specialist with Baltimore District. Horne is a second lieutenant in the MDDF and is their Community Service Officer. “I've become qualified in CPR, search and rescue, communications, and worked on various community relations projects. It's a rewarding experience.”

For more information about the MDDF, visit their website at www.come.to/mddf.

For information about the SMR, visit their website at www.geocities.com/Pentagon/7442/csmr.html.

For more information about state militias in general, visit the website for the State Guard Association of the United States at www.sgaus.org.

(Ted Henry of Baltimore District and Dr. Fred-Otto Egler of Los Angeles District both contributed to this article.)

The columnist

'I wanted to get in touch with local people with...a friendly column.'

By Elizabeth Slagel
Huntington District

You don't have to be Abigail Van Buren (Dear Abby), George Will, or even Dave Barry to have a regular newspaper column. Greg Slarich, a park ranger at John W. Flannagan Dam, has a successful regular column in the *Dickenson Star*, a weekly newspaper in Clintwood, Va.

"Greg originally came to us about an article he wanted to write," said Ida Holyfield, editor of the *Dickenson Star*. "During our discussion over the counter out front we realized that one article wasn't enough. We needed a regular column."

"Basically, I wanted to get in touch with the local people with a column that wasn't so much a government-talk piece," said Slarich. "I wanted it to be a friendly column."

And friendly it is. Each column begins with "Howdy folks. It's time for some news from around the lake." Holyfield said Slarich's writing is informative to adult readers, yet understandable to the less educated and to children. His column informs the public about flooding, fishing, reorganization, people who work at the project, volunteer efforts, visitor safety, project policy, repairs, and general happenings. Each column ends with a short fact about the U.S. Army Corps of Engineers.

"The column gives our readers a marvelous view of what's happening at the lake, and a better perspective on the Corps of Engineers," said Holyfield. Flannagan Dam is a 1,145-acre flood control lake in southwestern Virginia. "We're going through one of our worst droughts in years, but the Corps had to drop the level of the lake 50 feet to do some work out there. We never got one complaint about that, because Greg had written about it and explained in full

why they had to lower the lake."

Slarich had no previous journalism experience before he began his column, but his name is now well known in the Dickenson County area.

"People have been recognizing me for the past year, since I was just a few months into it," Slarich said. "In fact, my wife works in the local grocery store, and every so often customers will say, 'Oh, you must be the wife of the ranger who writes that column!'"

The column is so popular that last March it expanded to a weekly feature in the *Dickenson Star*, but Slarich's workload prevents him from writing a column every week. "The column is just one part of my regular job, something I took on myself and it became part of my 'other duties as assigned,'" he said. "So I've involved the other rangers to give our readers a mixture of other topics and other points of view."

Besides his newspaper column and his regular daily work at the project, Slarich provides water safety and environmental education to the area elementary schools, which involves more than 2,000 children. He also coordinates the County Kids Fishing Day, and his column has been a big help there.

"For the first couple of hours we have the kids fishing in the stocked trout waters below the dam," Slarich said. "Then, after everyone has caught a fish, or reached their limit, we have a hot-dog lunch and a drawing for about \$2,000 in prizes donated by local merchants."

Last year the event drew just 70 kids and about 150 people total. This year, after Slarich wrote about it in his column, there were 380 kids registered and about 1,000 people at the lake.

"The column's a great asset for us here at the paper, and for the lake," said Holyfield. "I think every Corps project could probably benefit from something like this."



Ranger Greg Slarich poses with a participant in the County Kids Fishing Day. (Photo courtesy of Huntington District)

The coordinator

'The Corps gets...extra help and...volunteers get the experience...'

Article by Scott Moore
Photo by Tom Holt
Walla Walla District

Volunteers are making a difference in Walla Walla District these days, thanks to an innovative approach to volunteer coordination.

"Anyone that has dealt with a volunteer program knows that it takes a lot of time and energy to make the program work," said Phil Hixson, Natural Resources Management Section Chief.

"We decided to experiment with having a volunteer run our Volunteer Program," said Hixson. "That's right, a volunteer Volunteer Coordinator. We were looking for someone with a good understanding of how the government works, preferably a retiree who was aware of processes and could interact well with internal and external customers."

That's where Evelyn Gibson, a retired Walla Walla District Equal Employment Officer, came into the picture. Gibson retired from the district in 1988 with 34 years of experience working in engineering and as an equal employment officer.

"After a brief chat over lunch to explain the opportunity we were offering, she agreed to become our first volunteer Volunteer Coordinator," said Hixson. "She would provide the full range of services to make the program work with minimal assistance from our Natural Resources Management staff.

"Evelyn's leadership, understanding of the government, and her enthusiasm have made this program work," Hixson continued. "She has brought a new



Evelyn Gibson is the volunteer Volunteer Coordinator in Walla Walla District.

dimension to volunteerism in Walla Walla District."

Volunteers are no longer limited to menial tasks. In today's business, volunteers are likely to need computer skill development, an understanding of interoffice coordination, or how to write an official report.

"Everyone's a winner," said Gibson. "The Corps gets the benefit of extra help and volunteers get the experience of being in the workplace."

To prepare, Gibson attended a course with the Points of Lights Foundation where she learned how to structure a volunteer program and the critical elements that make it work. She is also completing the Washington State University Volunteer Certificate Course. One might wonder what volunteers have done in

Walla Walla District. So far, 15 volunteers have logged more than 3,000 hours assisting Planning with economic studies, helping Public Affairs with customer services, making significant contributions in the National Water Safety Program, and compiling records of the district's Native American coordination efforts.

Through their dedication, learning desire, and new skills, two volunteers have even received paid positions, one with the Corps and one with a contractor.

The benefits are two-fold, according to Wayne John, Operations Division Chief.

"While the Corps receives much-needed help in necessary work, the volunteer receives hands-on work experience and skills development which may assist in obtaining permanent employment," said John.

One of the first things Gibson did after receiving her initial training was to seek work requirement assessments to determine what the volunteer needs might be. Once a volunteer opportunity was identified, she assisted the supervisor in developing a position description and a set of performance standards.

"The program sounds a little like what we do with permanent employees, doesn't it?" asked Hixson. "These two actions contributed greatly to the success of our volunteer program. It helps our supervisors to ensure that the volunteer is performing the work we need to have done, and it provides the volunteer the opportunity to be evaluated on how well they are conducting their assigned tasks."

For more information or to learn more about how to establish your own volunteer Volunteer Coordinator position, contact Hixson at (509) 527-7131.

Part-time program gives working mothers best of both worlds

By Elizabeth Slagel
Huntington District

To work or not to work. That is the question for many mothers struggling to meet financial needs and career goals, but still wanting to stay home with their children.

For many mothers, the answer is to both stay home and work. For several years, Huntington District supervisors have had the option of allowing employees to work part-time, according to Darrell Bledsoe, personnel management specialist.

Federal push

About 15 years ago, the Office of Personnel Management (OPM) pushed to provide more options for family time. This push came from the Federal Employees Part-time Career Employment Act of 1978, according to Anice Nelson of OPM's Workforce Relations. A second push came in 1994 when President Clinton directed executive departments and agencies to encourage and support flexible family-friendly work arrangements.

Thanks to these, new mothers and others in the district are working part-time schedules. Kim Bacon, a hydraulic engineer, is one. She works four days a week (32 hours) and reserves Wednesdays for her son John Tyler.

"As soon as I found out I was pregnant, I went to my supervisors," said Bacon. "They were great about it."

Bacon chose the hours and days she wanted to work, and her supervisors agreed to give her part-time work a one-year trial run. So far, it has worked well. "I'm busier the times I'm here and I work harder," she said.

Benefits

Increased productivity is one of the pluses outlined in OPM's brochure for part-time work. Retaining highly qualified employees, improving recruitment, and reducing absenteeism are other benefits.

Employees see benefits as well. Just ask mother of three and architect technician Beth Sexton. Her part-

time schedule allows her to be home with her kids in the morning and evening. Sexton credits her supervisor and co-workers with being supportive. When her work sends her in the field, she and her co-workers work together to come up with a schedule that is right for everyone.

Sexton's supervisor, Chief of Structural Section John Clarkson, said he saw part-time employment as a way of keeping a valuable employee. "From my perspective, it works and we are pleased to work out this arrangement and keep Beth. It is the best thing for me, for her, and for the Corps."

Although Sexton's arrangement is successful today, she said it was not this easy seven years ago when she was one of the pioneers after her second child. The difference today is "attitudes in management and co-workers have changed," she said. "The guys I work with today really pull together as a team and realize that my job is important to me as well as raising my young family."

Trend

Clarkson said the family-friendly work environment is definitely a trend in the workplace. "You (a supervisor) are able to retain and/or recruit valuable employees that you might otherwise lose."

Rayetta Waldo, an attorney for Office of Counsel and mother of three also working part-time, agrees the family-friendly work environment is a trend of the 1990s. She says that during the 1970s, the sentiment was that women could bring home the bacon and fry it, too. Motherhood came back in the 1980s with concerns about the working mom not being home enough, while the 1990s tried to deal with the problem.

Being a product of her time, Waldo completed law school in the 1970s, had two of her children in the 1980s and began working part-time in the 1990s.

"I had to find a proper balance in life," Waldo said. That balance between motherhood and her career ended up being part-time employment after her second child was born in 1989.

For Waldo and her supervisor, the system works, she said. "For people to be productive, they can't carry all that personal baggage on the job and be on edge

when they get home."

However, accountability to your employer comes first, she said. "It's an opportunity, not an entitlement. It should only be permitted if the mission is being accomplished. With privilege comes responsibility."

All part-time employees interviewed said they agreed to be flexible when they took their positions and are grateful for the opportunity.

Sexton said, "If they give me a little bit, then I want to give them more."

However, Waldo said part-time employment is not conducive to every position. For example, if one is in a support role, his or her job may not be suitable for this set-up and job-sharing might be a better alternative.

Job-sharing is a single position shared between two part-time employees. Bledsoe said it is becoming more prevalent in other agencies with advancements in technology and the growing need for office space.

Part-time employment is not only for mothers; fathers are doing it as well. Jim Schray, a hydraulic engineer, opted to work part-time so he could take a pastoral care internship.

According to the part-time employment brochure, part-time permanent employees are eligible for the same benefits (leave, retirement, health and life insurance) as full-time employees. They can work between 16 and 32 hours each week. Part-time employment is offered to any position or grade level when the arrangement meets the needs of the organization and the employee.

Along with a pay cut, part-time employees with health insurance pay a greater percentage of the premium because the government's share is prorated. Retirement annuity is also prorated to reflect the difference between length of service.

Happy medium

So far, the mothers who have gone part-time say it is an ideal set-up. Waldo said, "I really appreciate the balance. I can participate in my children's activities. Your kids like you to be there."

Sexton said, "We feel guilty when we work. We feel guilty when we're home. This is a happy medium."



Right, Beth Sexton and her children gather at home. From left are Tanner, 16 months, Meredith, 11, and Kristen, 9. Left, Sexton works at her desk with co-workers Jason Merritt (left) and Scott Wheeler. (Photos courtesy of Huntington District)

The Moving Wall

The Traveling Vietnam Veterans Memorial, called The Moving Wall, was at Grenada Lake in Vicksburg District recently.

The Moving Wall, 252 feet long, is a half-size replica of the Vietnam Veterans Memorial in Washington, D.C.

During its stay at Grenada Lake, 16,333 people visited The Moving Wall to see the names of the 58,213 service men and women who died during the Vietnam War.

The Corps' Grenada Project Management Office and the Grenada Lake Field Office contributed to the event by serving on the steering committee, site preparation, providing temporary lighting, erecting flagpoles, providing flags, and raising and lowering those flags daily, including during the opening and closing ceremonies.



Around the Corps

Patents

The U. S. Patents Office granted patents to eight employees of the U. S. Army Engineer Research and Development Center.

Bruce Sabol and Richard Kasul received Patent 5,805,525 for "Method and Apparatus for Hydroacoustic Detection and Characterization of Submersed Aquatic Vegetation." The detection is based on a new approach to digitally process echo sounder signals to detect the bottom of a body of water through submerged vegetation.

Dr. Phil Malone and Dr. Toy Poole received Patent 5,858,082 for "Self-Interlocking Reinforcement Fibers." They "trained" bits of memory alloy wire to coil up on the ends when warmed. The wires are straightened and mixed into concrete. When the concrete warms as it cures, the fibers revert to their coiled shape, interlocking with the concrete.

Dr. Bill Marcuson and Dr. Phil Malone received Patent 5,864,439 for the "Pop-up Target System." Their system takes a solid three-dimensional target and divides it into a front and back. The target is hinged at the top and mounted to two wheeled platforms at the bottom. When the bases are pulled together, a three-dimensional target stands.

John Ballard and John Morgan received Patent 5,744,730 for the "Subsurface In-Situ Radon Gas Detection/Penetrator System." A penetrator probe with multisensor capabilities analyzes soil to determine its classification, thickness, and the presence of radon gas. Classifications are made as the probe is pushed into the soil.

Bribery charge

A former Jacksonville District employee who pled guilty to soliciting a \$25,000 bribe from a contractor during hurricane recovery efforts in San Juan, was recently sentenced in federal district court. John Seidler, a former quality assurance inspector, was removed from federal service, sentenced to three years on probation, six months under house arrest wearing an electronic device, and fined \$5,000.

Beach safety dives

Louisville District divers saved the district thousands of dollars when they performed the annual underwater beach inspections at Rend Lake.

Beaches at St. Louis District lakes have undergone annual underwater safety inspections since 1988. The inspections are usually performed by contract divers for nearly \$5,000. This year, Rend Lake saved more than \$3,000 by using the dive team from

the district's Lock and Dam 53 who handled the two-day operation.

Among the underwater hazards they found at Rend Lake's three beaches were a three-foot drop-off that had formed in the buoyed area of one beach, concrete buoy anchors in a swim area, and bottles, cans, and other debris.

Correction

In "Project information available on Internet" in the July issue of *Engineer Update*, "Resident Management System" should have read "Requirement Management System."

Thunder on Water

Grenada Lake in Vicksburg District recently hosted the 1999 Thunder on Water Safe Boating Festival, attended by more than 137,000 visitors.

Visitors participated in water safety activities, enjoyed a fireworks show and children's fishing rodeo, bought arts and crafts, and attended concerts.

Throughout the event, public service announcements and local newspapers promoted safe boating, the central theme of the festival. The park rangers demonstrated the proper use of water safety equipment, and conducted courtesy boat inspections.

There were several water safety contests. For example, water safety programs were held on stage before each concert. Several people were chosen from the audience to test their knowledge of water safety. Participants received a water safety T-shirt or a ballcap. In the arts and crafts area, visitors could win a life jacket, water safety t-shirt or ballcap, or a two-liter soda. Local businesses donated all prizes.

Chicago reservoir agreement

The Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) and Corps representatives have signed a project cooperation agreement to design and build the McCook Reservoir. The reservoir will bring flood relief to 146,600 homes and businesses in Chicago and its suburbs. Flood relief benefits are estimated at \$83.2 million annually.

The McCook Reservoir crowns the Chicagoland Underflow Plan portion of the Tunnel and Reservoir Plan. When completed, it will hold seven billion gallons of storm-water and sewage, making it the largest combined sewage reservoir in the world.

"We...salute the Corps of Engineers for their dedication to this project," said Terrence O'Brien, president of the MWRDGC Board of Commissioners. "Today's signing...only formalizes the

cooperation...between our agencies for more than 10 years, and assures the completion of this important element."

Actor praises Corps

More than 400 people gathered on Earth Day to clean up trash and debris along the Los Angeles River. L.A. Mayor Richard Riordan officially opened Rattlesnake Park. The Great Heron gates were made by artist Brett Goldstone for the park, which is one of the first elements of a Los Angeles River Greenway.

The park is supported by the Santa Monica Mountains Conservancy and the Corps. Actor Ed Begley, Jr., who serves on the conservancy board, waved a red Corps hat and said, "The outstanding cooperation of once arch-enemies Friends of the Los Angeles River and the Corps has brought about better understanding of the river. It's great to join all the young people who have turned out to help clean up this portion of the river."



Ed Begley, Jr., (left) with Los Angeles District employees Ted Masigat and Phyllis Trabold. (Photo by Fred-Otto Egeler, Los Angeles District)

Boaters saved

Recently the Corps dredge *Fry* was working in Bogue Inlet in Wilmington District when its crew noticed a couple in trouble on the water.

Mr. and Mrs. Bobby Sandland were testing their new 17-foot runabout near Emerald Isle Beach. When they tried to anchor the boat and go ashore in a 25-knot wind and a strong ebb current, the boat broke away from shore. Mr. Sandland tried to catch the boat, but instead was caught by the current himself.

The *Fry* crew motored their launch to the struggling man, who was exhausted from fighting the current. They pulled him aboard and retrieved the runabout, reuniting the Sandlands and their vessel.

'Restudy Family' wrote Everglades plan

By Carol Sanders
Headquarters

On July 1, the Vice President delivered to Congress a 4,000-page report, called the Comprehensive Plan, that outlined how to restore the Florida Everglades. The report was the product of a six-year study effort called the Central and Southern Florida Comprehensive Study, often called the Restudy. It was an occasion for much self-congratulation by hundreds of people. But a certain group knew *exactly* what that report said. They wrote it. They are the "Restudy Team."

They could just as well be called the "Restudy Family." For some six years, many of them lived and breathed the Everglades and, for much of their waking moments, thought about what was needed to restore it. They formed a "family" that numbered about 150, with people coming and going during the six years. They were ecologists, hydrologists, modelers, engineers, biologists, planners, and real estate and public involvement experts. They reached across agency boundaries and interests to work together to figure out the problem and craft a plan.

At the beginning of the century, the Everglades were indeed a beautiful place. Birds were so numerous they darkened the sky, and panthers and alligators roamed the wetlands that have been named the "River of Grass."

Today there are no super colonies of birds and the river of grass that depended on water flowing slowly through it no longer receives the water it needs. The Restudy Team found that the water must be returned to restore the ecosystem.

Goals. "It was a lofty goal," said Stuart Appelbaum, Chief of the Ecosystem Restoration Section in Jacksonville District and the U.S. Army Corps of Engineers staff person in charge of getting the plan developed and the report done. "But I think we were able to convey that this was an opportunity, and this might be the last hope for the Everglades. People understood that. It was just the right time. Everyone understood that if we fumbled we were never going to get that opportunity again."

Before taking all the credit, the team members acknowledge that they were empowered and had support from all levels, beginning with the Jacksonville District Commander Col. Joe Miller, to the other agencies, and up the chain of command to the Office of the Assistant Secretary of the Army (Civil Works).

"I give much credit to the task force, the working group, and supervisors in the Corps and other agencies who gave people freedom to work on the problem and the plan," said Russell Reed, the Corps' study manager and second in command to Appelbaum.

(The task force and working group are the South Florida Ecosystem Task Force and its Working Group. They are interagency groups overseeing the overall restoration efforts in Florida.)

The Corps study team members also worked day-to-day with the non-federal sponsor, the South Florida Water Management District (WMD) in West Palm Beach, Fla. Nanciann Regalado, the Corps' outreach coordinator, was co-located with the WMD. Both Thomas Teets, project manager, and Agnes McLean, project coordinator, were with the WMD.

Other agencies allowed their members to co-locate with the Corps. People from the Environmental Protection Agency, the Florida Department of Environmental Protection, U.S. Fish and Wildlife, and the Department of Agriculture moved full-time to the Restudy Team office in Jacksonville.

Fond memories. All agency members integrated into one study team. The actual work took place in both Jacksonville and West Palm Beach with staff often working at one location or other for brief or extended periods depending on the stage of work. For instance, Jacksonville District hydrologist Richard Punnett worked in West Palm while the WMD mod-



(Left) Col. Joe Miller, Jacksonville District Commander, and Gary Hardesty, Headquarters team member, enjoy drawings by Florida school kids. (Right) Richard Punnett, Restudy Team member, explains the restoration plan to a citizen during a public meeting. (Photos courtesy of Jacksonville District)



elers were running alternative plans through the computers. During the report writing phase in the late summer and fall of 1998, study team members all converged on Jacksonville.

Appelbaum said one of his fondest memories was Labor Day weekend in 1998.

"I got to the office about 9:30 Sunday morning," he said. "The place was full. Every workstation was occupied. There were people here from our own staff, other agencies, and the Water Management District. Everyone was in shorts, T-shirts and sandals writing the draft report. There were Styrofoam coffee cups everywhere, more food than you can imagine — donuts, bagels, and cookies. Liz Manner's daughter was sitting in the team room, wrapped in a blanket, watching cartoons. Tom Teet's wife was going to come and take her to the zoo. This tells you something about a group."

Manners, a Corps biologist, and Appelbaum were the original team members in 1993. She said simply, "I've never felt this close to people I've worked with."

"Having people from other agencies located here made a difference," said Laura Mahoney, a Corps team member. "You're sharing donuts, playing with toys, going to lunch, getting to know people on a personal basis as well as a professional basis."

Toys and chocolate. "Maintain your sense of humor, keep the toys on the table, and lots of chocolate," said William Porter, another biologist.

Toys?

A collection of wind-up toys, plastic animals, including alligators and panthers, and various spinning tops come out during team meetings. Team members say that toys around the office cut the tension during long workdays, and probably contributed to creative breakthroughs in problem-solving.

Cartoons, posters, and wise sayings (and wisecracks) adorn the team room wall. Drawings from Florida school kids ring the office door.

Stand-up comedians and smart-alecks would be at home at any study team meeting, which invariably elicit laughter at some point — evidence that these hard-working professionals take only their jobs seriously, not themselves.

Besides these elements for a successful study team, the group also cited the organization that went into the project. "There was a lot of structure and plan-

ning up front, like the way we used the Internet," said Graham Story. "It seems like a simple thing, but if it hadn't been thought-out ahead of time it would have slowed things down."

"There was a team concept for addressing even the smallest issue," said Reed. "Although many times painful for the team members, the products we got out were much better. For instance, we got together and talked about the best approach to use to answer the thousand pages of comments we got. When we left the room, although all may not agree, everyone understood how and why we chose the process we did."

Synergy. "I think it was because we were formally set up as a team, pushed as a team, working together toward a common goal," said Corps team member Stephen Sutterfield.

"Team-building meetings were important," said William Hunt, a Corps team member. "It built the synergy," Manners added.

That synergy kept the team motivated. "There was definitely the lofty goal of working on the Everglades, but there was also this synergistic effect of people working long hours (the modelers went through unbelievable efforts) and the other team members seeing that," Reed said. "It energized them to put in a little extra effort themselves."

Results. The team noted the immediate and long-range results.

"We've fundamentally changed the way government operates and there's just no going back," Appelbaum said. Manners agreed, "Yes, the Corps does things differently now. Everyone who can bring something to the table does so. I'm seeing that in the meetings I'm having on other projects."

Others liken their long-term accomplishments to getting the moon rocket to the launch pad. "Let's not lose sight that the brass ring is still down the road," said Porter. "We've got a high quality product, but that's not Everglades restoration."

"Obviously, the next phase is much more difficult," agreed Appelbaum. "But remember — if the best restoration plan is not implementable, it's the same as doing nothing. We have a plan we can implement; we're ready for a successful launch."

(For more information on the comprehensive plan, please check the website at www.restudy.org.)