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# Engineer Update

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## Yolo Basin Wildlife Preserve

# President dedicates wetlands project

By Jason Fanselau  
Sacramento District

President Bill Clinton helped dedicate Sacramento District's Yolo Basin Wetlands Project on Nov. 15, calling it a "huge success" and a citing it as a model for all other water development projects.

The 3,700 acre, \$16 million project just outside Sacramento, Calif., is the largest public/private wetlands restoration effort in the Western U.S. The area is a major stop for migratory waterfowl using the Pacific Flyway.

Clinton praised the U.S. Army Corps of Engineers for its hard work and dedication restoring the environment. "They have not only changed their image, they've changed their reality," Clinton said. "They're working hard not only to give us water projects, but to give us the kind of environmental conservation that we need for the long run. I thank you very much Colonel (Dorothy F. Klasse, Sacramento District Commander), and I thank all the people from the Corps for what you've done."

This marked the formal transfer of the wetlands from the Corps to the California Department of Fish and Game. The ceremony, with rain and cold wind, was not for the faint of heart. Clinton, wet and wind-blown himself, toured the site and commiserated with those attending.

"I am so proud of you," said Clinton in his remarks to the crowd. "I know that you believe in this project or you wouldn't be standing out here in the cold and rain listening to me talk."

The project is of particular importance due to its large public and private partnership. A partial list of partners includes the Corps, U.S. Fish and Wildlife Service, California Resources Agency, California Department of Water Resources, State Reclamation Board, Ducks Unlimited, Yolo Basin Foundation, City of Davis, Calif., California Department of Fish and Game, and the California Department of Transportation.

Before the turn of the century, the Yolo Basin area was part of a huge wetland basin that stretched from Sacramento to the Sacramento River delta. As the area developed, the basin was engineered to provide flood control for the urban area of Sacramento. The basin was a flat, open floodplain that was used during dry periods for farming row crops. After several years of drought, the Yolo Basin began to dry up. Local environmentalists and sportsmen recognized a need to restore and conserve the important wildlife area.

One major problem with the restoration was that wildlife habitat could hinder future flood control for the area. Threatened or endangered species occupying the refuge could hamper maintenance work or flood control operations. The issue was resolved when environmental advocates concluded that without habitat there would be no wildlife, and it was better to have some habitat damaged during flood operations or maintenance than to have no refuge at all.

"Environmental restoration is one of the most important missions of the U.S. Army Corps of Engineers," said Klasse. "This project shows that wildlife, flood control and agriculture can co-exist in a



President Clinton was the featured speaker at the Yolo Basin Wildlife Preserve dedication on Nov. 15. The 3,700 acre preserve near Sacramento is the result of a partnership among the U.S. Army Corps of Engineers Sacramento District and other federal, state and private organizations. (Photo by Frank Rezac, South Pacific Division)

large urban setting."

On-site work began in August, 1995. The plan called for restoring seasonal and perennial wetlands, riparian forest, and upland/grasslands. Sacramento District was the lead federal sponsor for the project, and now that it is completed, the wildlife area will be managed by California Department of Fish and Game.

The plan called for a variety of recreational activities including hunting, wildlife viewing, and educational tours. In the 1994 Memorandum of Understanding between the project sponsors, an agreement was finalized regarding endangered species, habitat conservation, and flood control operations. The agreement, signed by the Corps, California Resource Agency, California Department of Fish and Game, California Department of Water Resources, and the U.S. Fish and Wildlife Service, authorized project construction and future operations.

Clinton was also pleased with the partnership and cooperation that took place to accomplish the project. "...this is a huge success," the president said. "You're doing the right thing and you're doing it in the right way. What you have done (here) was based on the cooperation of state, federal, and local governments, based on public need. That's how we should be dealing with all of America's problems."

Dr. John Zirschky, Acting Assistant Secretary of the Army (Civil Works), also attended the ceremony.

He presented Doug Wheeler, California Resources Secretary, with a plaque as the symbol of transferring ownership of the 3,700 acre site from the Corps to the state.

Zirschky also thanked the district. "Colonel Klasse and her staff have done a tremendous job in helping bring this project to completion," he said.

President Clinton also took the opportunity to thank the Corps for the levee restoration work after the January 1997 storms which destroyed California's levee system. "I want to say a word of thanks to the Corps of Engineers and others who have done all the work in rebuilding after the floods," said Clinton. "Within the next few weeks, the Corps will finish all remaining repairs. It's the most extensive flood restoration ever done in this short amount of time. It's another reason we should thank the Corps of Engineers for what they've done here."

In closing, the President took the opportunity to mention other nationally important restoration projects. "We're working hard across America on projects like this," said Clinton. "We're making progress in reclaiming the Florida Everglades, in restoring Lake Tahoe, and in saving Yellowstone. I've seen the wetlands here today, and some of you may have seen more than you wanted to see. But I'll tell you what else I've seen. I've seen a glimpse of America's future, and I like it."

(Gary Britter also contributed to this article.)

# Commander's holiday message

This past year ranks as one of the best of my career. I am truly blessed to be leading this great organization and working with some of the finest people in the Department of Defense.

As I reflect on the past year, I have ample reason to be proud of the way you have supported the United States and our soldiers. The Corps has protected U.S. forces in the Middle East and continues to support our soldiers in Bosnia. We built numerous facilities at Army and Air Force bases around the nation to enhance their capabilities as power-projection platforms, and to enhance the quality of life of families. We also have the lead in renovating the Pentagon, the nerve center of the entire Department of Defense.

As always, our support to the nation remains steady. Corps team members saved lives and property by fighting floods in California, the Pacific North-

west, and the Ohio River and Mississippi valleys. The Corps continues to restore wetlands and wildlife habitat, including taking an active part in restoring the Everglades, the world's largest environmental restoration project.

We cleaned and decontaminated toxic waste sites, including former defense sites, in order to turn them back to public use.

Perhaps most importantly, we continue to look to the future, and we have established a Vision and Strategic Plan to guide us as we face the coming challenges. I look forward to the coming year with great anticipation of what we can accomplish together.

The Corps family wishes you and your family happy holidays and a joyous and prosperous New Year.

**Joe N. Ballard**  
Lieutenant General, Commanding



## Vision commentary

**Editor's note:** This is one in a series of commentaries relating to cultural aspects of the Corps Vision. The commentaries will be a regular feature in the "Engineer Update." Each is the opinion of the writer and will hopefully provoke thought and discussions. Please feel free to write if you feel strongly about a commentary's message, or if you have suggestions for a future topic.

I recently witnessed a disturbing scene during a headquarters meeting in which a manager mentioned a correspondence problem. He was complaining that the U.S. Army Corps of Engineers uses the same procedure to respond to queries from both the public and Congress. This means that our policy is just as responsive to members of the public as it is to members of Congress. His message was, the public does not deserve the same responsiveness from the Corps, and we should delay responses to the public in favor of a keener response to Congress.

His line of thinking disturbs me deeply, and I suspect he is not the only one with such an attitude. We give a lot of verbal homage to customer service. But many of us often overlook our most important customer -- the American public. As I understand it, the government (and that's us) is of, by, and for the people. It is not of, by, and for Congress.

To me, the bottom-line question is -- Why can't we be responsive and courteous to all our customers? Shouldn't that be our concern?

Then a colleague said, "Becki, come down to Earth. Here in the real world, people often need incentives to do the right thing." He points out a painful truth. While we in the Corps talk a lot about good customer service, we have not set up the internal mechanisms to ensure it. We do not have the incentives in place.

For instance, if I answer my office's general information line, I can almost count on a question from the public. This question may require some research, additional phone calls, or mailing out some information -- all activities which take me away from the duties I am rated on.

No one counts how many times I answer that phone and give the public the right answer. No one

notices how cheerful or cooperative I might have been. And my boss doesn't much care if I answered that phone or not. He cares about deadlines.

No, I shouldn't need an overt incentive to serve the American public. But the truth is, when you're really swamped, no incentive is disincentive.

Worse yet, our top managers have no more built-in customer satisfaction incentives than we common folk. Being rated on whether or not you spent your full allocation has nothing at all to do with pleasing the customer.

And, as Maj. Gen. Russell Fuhrman, Director of Civil Works, so aptly pointed out in his recent Board of Directors briefing (titled "Quality Crisis"), mission execution is not the equivalent of quality work. If the barracks windows won't close, the customer doesn't care if the project was completed on time. "We need to create a climate for quality," he said. "We need commitment from the top to recognize and reward quality. Quality assurance is not just another program."

I, for one, couldn't agree more.

If Corps leaders are serious about quality, and serious about customer service, we need more than a litany of lip service. They're correct, of course, in concluding that the best remedy is a shift of consciousness. By that I mean people renewing their focus on customers, both internal and external, simply because it's the right thing to do. A change in work habits would naturally result in a change of mind and a change of heart. But let's be realistic. A shift of consciousness is hard to achieve, and communication alone will not do it.

Therefore, revamping the critical elements on our performance standards should be the first order of business. We all serve one customer or another, be it the public at large, other government agencies, the office across the hall, or our office mates. Shouldn't each and every one of us be rated for how well we serve our customers, whoever they may be?

Maybe we should also take a serious look at an altogether different performance rating method. How about the 360-degree system? It's in use at the Huntsville Engineering and Support Center and being tested



### Think metric

In the article titled "Partnership tests long-lived concrete" (October *Engineer Update*), there are some examples of how much we need to practice our metric units of measure.

For example, the mixed unit "15 lbs. per cubic meter" should have been "kilograms per cubic meter." Perhaps a percentage by weight or volume might be more technically correct.

Also, conversions such as 1,220 meters to 1,334.2 yards may be correct arithmetic, but the four significant digits in the original measurement should not have been converted to a measurement with five significant digits, which overstates the original measurement accuracy.

The longer we use the crutch of conversions, the longer it will take us to learn to think in the world system. It would be better to dispense altogether with the conversions to "customary units."

**George Lehtinen**  
South Pacific Division

*It is the "Engineer Update's" policy to use conversions because many Americans still have no frame of reference for thinking in metric units.*

### No safety harnesses

I was reading the October issue of *Engineer Update* and felt compelled to send you a message that relates to safety. I'm a biologist, so I'm certainly not a safety expert. However, we hear and see so much about safety these days that osmosis has taken place.

On pages six and seven, there is a photograph of contractors replacing the roof on the Carolina Inn at Pope Air Force Base. In the foreground of the photo are two workers, one of which is wearing what appears to be a safety harness with no visible safety line. Lying on the roof behind them I see what I believe are safety lines.

Also in the background of the photo, I can see

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elsewhere, and is devised so that people are rated by the customers they serve. In addition to a rating from the boss, each person is rated by internal customers such as their peers and co-workers, and in many cases by external customers as well.

We in the Corps like to do a lot of studies. I'd like to have a task force look at some other ways to make the average Corps employee truly customer-conscious. We've been saying "the Corps cares" for years. Let's keep saying it, but let's also work on fully doing it.

**Becki Dobyns**  
HQUSACE



# Brownfields: small but growing program

Article by George Hanley  
Photo by Larry Crump  
Kansas City District

Brownfields are abandoned or little-used properties, possibly lightly contaminated, which blight the inner core of most cities, and even some rural areas. The Brownfields Program is a small but growing interagency initiative which is giving the U.S. Army Corps of Engineers an opportunity to demonstrate its environmental cleanup and restoration expertise.

This September, the Environmental Protection Agency's (EPA) Third Annual Brownfields Conference brought together 1,700 government officials from all levels, real estate developers, community activists, environmentalists, and engineering personnel. They came to discuss creative solutions to brownfields cleanup, restoration, and sustainable development challenges.

Brownfields represents a new opportunity for the Corps -- working proactively with communities on the cleanup and restoration of these idled properties. This relatively new program is deceptively small, but has won sufficient administrative and Congressional support that it has more than doubled in one year.

Only a \$36 million program in fiscal year 1997 (FY97), it has grown to \$86 million for FY98. Some Corps old-timers may remember how small the Wastewater Grants and Superfund programs started, and later how significant they became for both the country and the Corps.

"Brownfields represents an opportunity for the Corps to apply its one-door-to-the-Corps concept," said Maj. Gen. Milton Hunter, Corps Director of Military Programs. "It's an initiative in which all our core capabilities can apply, and one in which the whole Corps can get involved, from engineering and project management to real estate."

Corps districts have successfully used two existing authorities in developing brownfields projects. First, the Corps can provide both products and services on a fully cost-reimbursable basis under its support for others authority. This allows the full spectrum of services that can be provided to government-run brownfields projects. It's



The Blue River Project, on the far east side of Kansas City, Mo., is a good example of a brownfields area discussed during EPA's third annual conference.

an authority which the Kansas City District (KCD) has used successfully.

Second, civil works funding can be used on a cost-shared basis under existing legislative authorities. Under a reformulated Defense Environmental Restoration Program, military funding could also be used, depending on the circumstances of each the site. On the Civil Works side, more than 14 authorities may be applicable to brownfields. Chicago District used the Planning Assistance to States Program to cost-share 50-50 a two-phase study of properties suitable for development into an industrial corridor.

Broad authorizing legislation covering typical urban brownfields properties, currently outside the scope of existing authorities, could further promote the program. Compared to \$1.4 billion in tax incentives awaiting those

who want to clean up a site, a \$200,000 seed grant offered to a community to establish a pilot program seems inconsequential. But there are other issues beyond the dollars. As Hubert W. Humphrey III, Attorney General of Minnesota, pointed out, "...the goals are a safer and more beautiful community, more jobs and economic development. Brownfields can convert an environmental injustice site into a vital remade community."

His words were echoed by Paul Helmke, mayor of Fort Wayne, Ind., and President of the U.S. Conference of Mayors, who urged making brownfields a national priority. "In 10 years, an area the size of the states of Rhode Island and Connecticut have been declared ready for urban development," said Helmke. "Thirty-nine cities have more than 2,100 brownfield areas."

While the program may seem new to most Corps districts, KCD has been involved for several years on three fronts. First, the district is overall project manager for decommissioning U.S. Food and Drug Administration Laboratories in Kansas City, Buffalo, Chicago, Rockville, Md., New Orleans, Cincinnati, New York, and Los Angeles. The district has prepared Phase I and II Environmental Site Assessments, and the local Corps district then handles the actual cleanup.

On the second front, the district is a member of the Kansas City Brownfields Initiative Steering Committee. Through the district Brownfields Program coordinator, Vince Bilardo, the district team composed of a technical manager and planner participates from site selection through development of a chosen site.

Third, and most important for the district's image, is the Blue River flood protection project in Kansas City, Mo., that runs through a blighted heavy industry corridor. Final completion of that work, underway since 1982, will affect this under-utilized brownfield area and adjacent properties drastically. The city's Economic Development Corporation initially asked for Corps participation to develop a marketing document that establishes the project, and adjacent brownfield areas, as the city's heavy industrial area.

Other brownfields projects are in the works for KCD, including the Kansas City Heritage (biking and hiking) Trail, which will link Kansas City (Kansas and Missouri), the riverfront, Union Station, and numerous historic sites.

I would question whether this photograph was reviewed by a safety officer, and whether there are any safety problems in this photograph.

On the positive side, however, I offer the following two points. One, I enjoy reading the *Engineer Update*, and I read it carefully. Two, the Corps' efforts on safety awareness are having an effect on everyone.

**Edward E. Bonner**

We referred your letter to safety experts for comment. According to Vickie Siebert, Safety and Occupa-

tional Health Manager at headquarters, the contractors in the photo were required by regulations to be wearing safety belts/harnesses, regardless of the pitch of the roof, and there should have been safety barriers at the roof edge.

However, Darrell Crutchfield, the Safety and Health Officer in Savannah District, says the contractors in the photo were not Corps contractors. They were hired by Pope Air Force Base, N.C. Savannah District's safety office has referred the photo and your comments to Pope AFB for action.



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the edge of the roof. There appears to be no safety rope or other apparent safety mechanism to keep people from falling off the roof. (I understand there are standards that apply to this, depending on the slope of the roof, and that this might be perfectly acceptable.)

# Cooperative load test pulls in savings

Article and Photo  
By Don Getty  
Nashville District

In a classic example of cooperation and teamwork, Nashville District, Waterways Experiment Station (WES), and Tennessee Valley Towing Co. (TVT) recently conducted a unique hawser load test for a 15-barge tow moored downstream of Kentucky Lock and Dam. (A hawser is a heavy rope for mooring or towing.)

This test was critical in the design efforts for a new 110x1200-foot lock at Kentucky Dam and potentially saved seven million dollars from its cost. Kentucky Dam is in western Kentucky at Mile 22 on the Tennessee River.

The hawser load test used a coupling device designed by Ron Carter, Planning Branch. The project took just one month from concept to completion.

The Kentucky Lock design team met with representatives of the navigation industry to select between two alternative discharge systems that were separated by seven million dollars in cost. The navigation industry was leaning toward the more expensive system because it was certain to allow tows to moor to the downstream guidewall during a lock discharge. However, both the design team and industry agreed that more data was needed before a decision could be made.

The most important piece of data was the allowable hawser load a tow could experience while moored to the downstream guidewall. The hawser load is simply the tension in the mooring lines when a tow is tied to the wall. Although this seemed like a straightforward piece of data, we soon found it wasn't readily available.

After a fruitless search for existing hawser load data, Jose Sanchez from WES suggested we perform our own test. WES could obtain all necessary



This coupling device, designed by Ron Carter of Nashville District's Planning Branch, weighs 500 pounds and is designed to handle loads over 100 tons.

test equipment except for a coupling device that Nashville District would have to design and build.

We had to work under a tight timeframe. The design schedule required a decision on the discharge system by the end of September and the best time to perform the test was at the end of Kentucky Lock's dewatering, scheduled for Labor Day.

Carter designed the coupling device in two days. It weighs about 500 pounds and was designed to handle loads greater than 100 tons. After minor modifications, a Corps contractor built the device. It was delivered to the lock several days before the test. Steve Moneymaker, Physical Support Branch (Plant Section), allowed us to borrow a new, 2.5-inch polypropylene line from our fleet. Since tows often break these lines, we did not want to risk using one of TVT's lines.

On the day before the test, Carter inspected the coupling device and discovered it had not been fabricated according to his design. The fabricator

had tried to improve it but instead created a weaker connection. Robert Nesbitt, a welder from Florence Repair Station, spent about five hours reinforcing the device to bring it up to acceptable strength.

On the morning of the test, we tried to glue four strain gauges to the coupling device using glue that is restricted to military use because it is so strong and sets so quickly. According to Murphy's law, the glue did not stick as advertised, but we finally got it to work. It was fortunate the 15-barge tow was late so we had time to work out these problems. Time was also reserved for a safety meeting with all personnel involved.

When the barges arrived, Carter and I briefed the deckhands and the towboat pilot while a crane lowered the coupling device onto the barge deck. After a surprisingly easy effort tying the device to the barge and lockwall, we started the test.

James Wyatt, a lock operator at Kentucky Lock, operated the two emp-

tying valves that would discharge 29.5 million gallons of water directly in front and under the barges in less than 20 minutes. Just two weeks before, a tow broke a mooring line under similar circumstances.

Everything went smoothly for the first of three lock discharges for which we were running tests. Data from the four strain gauges fed directly into a portable computer that Guillermo Riveros of WES monitored on top of the lock wall.

At the end of the first discharge cycle, things got interesting. We had the coupling device tied so it could not become submerged and get the strain gauges wet, but we neglected the detail of keeping it from swinging low enough to get between the barge and the lock wall when the mooring line went slack. So the coupling device became sandwiched between the barge and the lockwall. Even though it did not damage the device, the big squeeze sliced two of the four wires attached to the strain gauges.

Fortunately, Riveros had brought extra strain gauges that Carter and I attached to the device on the barge deck. After this slight mishap, things went smoothly for the final two tests that involved a faster emptying valve and a different mooring location.

The maximum hawser load we measured in our test was 20 tons. With this information, we again met with the navigation industry. Our computations showed that the lower cost discharge system would produce hawser loads less than 20 tons under most circumstances. Since our test data showed that tows are successfully experiencing these loads with the existing lock, the industry representatives unanimously agreed that the lower cost system would be acceptable and should be the system selected for final design.

## Los Angeles District battles advance of giant reed

By Eric Stein  
Los Angeles District

Eradicating invasive exotic aquatic weeds is an ongoing mission for the U.S. Army Corps of Engineers nationwide.

The Regulatory Branch of Los Angeles District has an important support role in battling weeds in the Santa Ana Watershed.

Effective control of invasive aquatic weeds requires a coordinated inter-agency effort throughout a watershed. In 1992, federal, state, local, and private organizations formed Team Arundo to eradicate giant reed (*Arundo donax*) from the Santa Ana Watershed. The 2,450-square-mile watershed is the largest river system in Southern California and covers San Bernardino, Riverside, and Orange counties.

Since 1992, Team Arundo has published documents on problems and con-

trol strategies for giant reed infestation, fostered partnerships by holding regular team meetings and equipment

demonstrations, explored sources of revenue, hosted a symposium on giant reed control, helped establish other re-



Aerial spraying of herbicides is one method of controlling invasive aquatic weeds. (Photo courtesy of Los Angeles District)

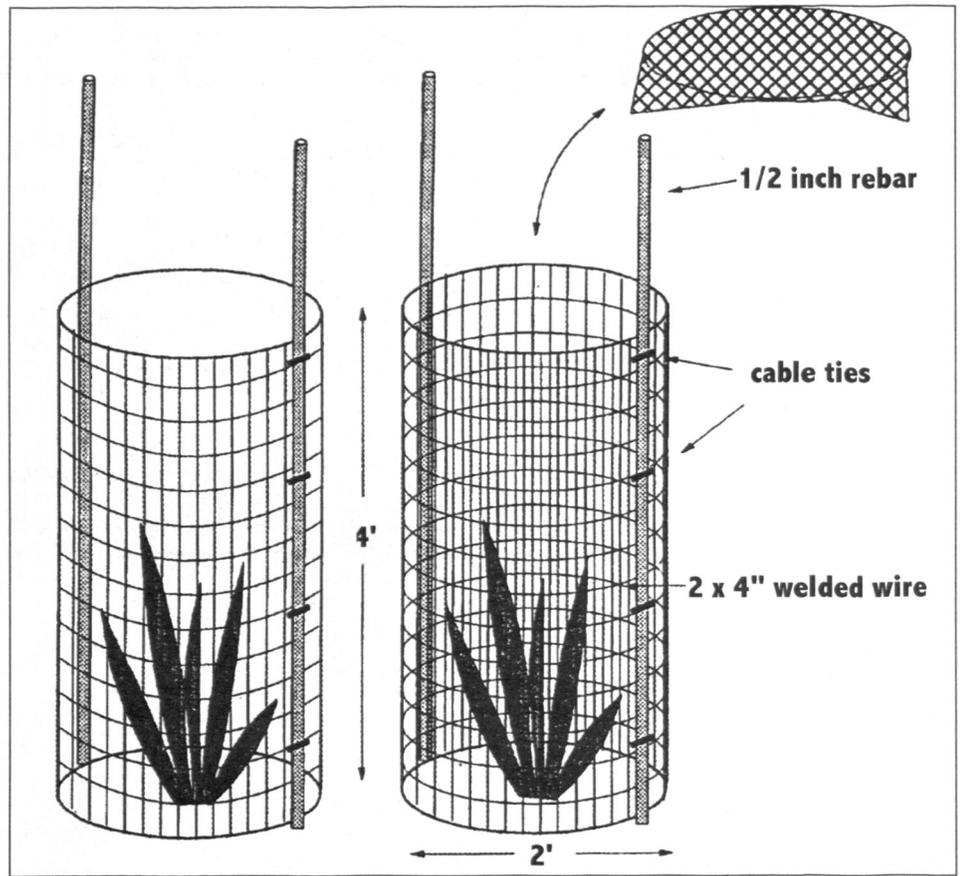
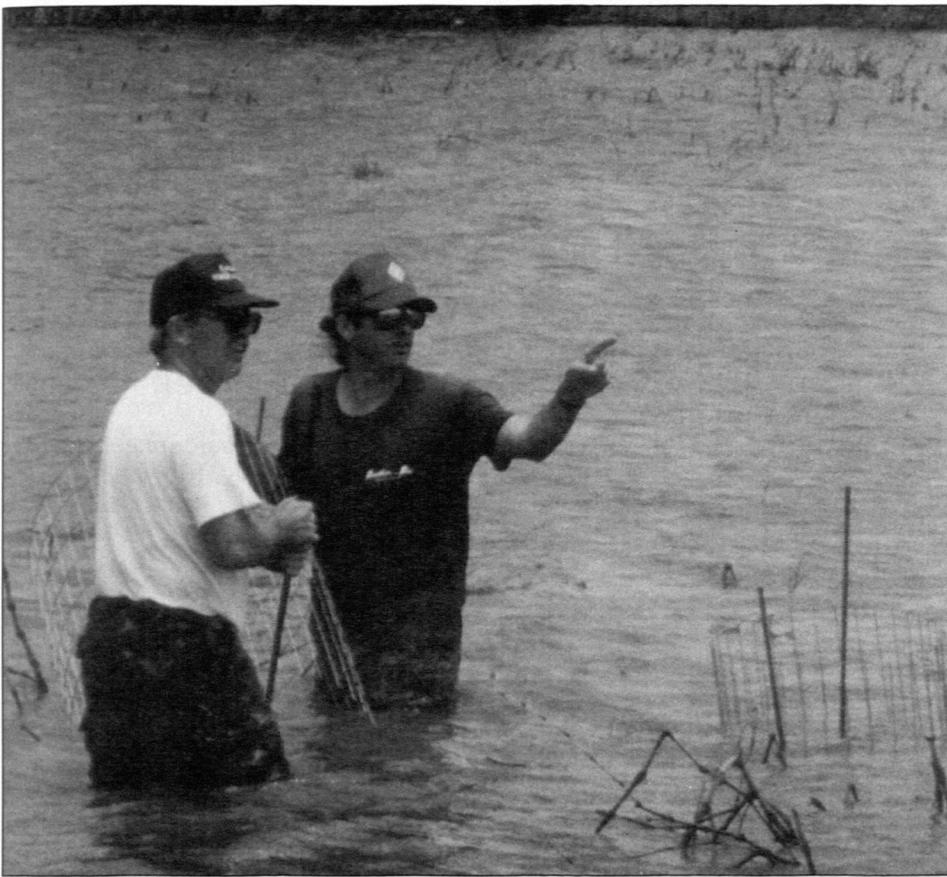
gional teams, streamlined regulatory processes, and provided innovative opportunities for wetland mitigation.

The Regulatory Branch of Los Angeles District played an important role in the last two items. They have been an active participant on Team Arundo and issued a Regional General Permit (RGP) for invasive weed control, and were instrumental in setting up a wetland mitigation bank based on eradicating giant reed from the Santa Ana River.

Removing giant reed and other invasive weeds often means working in streams or wetlands subject to Corps jurisdiction under Section 404 of the Clean Water Act. But many of the worst infestations occur in large watercourses, below headwaters, where Nationwide Permit 26 does not apply.

Most of these invasive weed control projects restore or enhance aquatic re-

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Above, workers place cages in a Tulsa District lake. The cages, wire mesh and rebar constructions, are similar to tomato cages used in home gardens. (Photo courtesy of Tulsa District)

# Home gardening tool protects aquatic plants

By Mary Beth Hudson  
Tulsa District

The age-old gardening technique of fencing-in plants to protect them from animals is being applied at two lakes in Tulsa District. If it works as planned, the projects will improve fish and waterfowl habitats, water quality, sediment stabilization, and reduce shoreline erosion.

The restoration projects are at the U.S. Army Corps of Engineers' El Dorado Lake northeast of Wichita, Kan., and Arcadia Lake just north of Oklahoma City. They are authorized under the Water Resources Development Act of 1986.

The lakes are muddy, caused by normal operation for flood control and water supply. The reduced light prevents aquatic vegetation from growing. On top of that, turtles and carp eat the

few plants that grow. Without adequate vegetation, the spawning and nursery habitats for bass, crappie, and blue gill have deteriorated.

Restoring aquatic plants is relatively new. Founder colonies of native aquatic plants are placed in protected plots. The plots are planted in areas which are favorable for growth.

They're protected by fences ranging in size from small "tomato cages" to areas measuring 16 x 32 feet. Using cages prevents turtles, muskrats, beavers, and carp from coming in and eating the plants.

The restoration projects are planned in two-year construction phases. During the first year, several species will be planted in test plots using various planting and protective methods. These test plantings will indicate the most suitable plant species and the level of protection needed. This infor-

mation will be used when additional plantings take place during the second year. These founder colonies inside the protective enclosures will spread to adjacent, unvegetated areas of the reservoir.

The Waterways Experiment Station's Lewisville Aquatic Ecosystem Research Facility in Texas developed the plan.

"The hardest part is to go from *no* vegetation to *some* vegetation," said Dr. Michael Smart of the research facility. "Once you get a little vegetation going, it's like positive feedback. If the plants grow, the water clears, the sediment stabilizes, light penetration increases making conditions favorable for further growth."

Plantings of up to a dozen different varieties of plant species began last summer. Throughout the plants' dormant periods, the Kansas Department

of Wildlife and Parks at El Dorado Lake and the Oklahoma Department of Wildlife Conservation at Arcadia Lake will monitor the plants and gather data.

"There's myriad benefits that you really don't think about when you go out and stick a plant in the water," said Ron Marteney, a fisheries biologist with the Kansas Department of Wildlife and Parks. "A lot of things result and most of those are good results. Vegetation will help provide fish habitat and nursery habitat for young fish, and secondary benefits include better water quality and stabilized mud plazas."

Margaret Johanning, Tulsa District's study team leader for these projects, reports that the results are encouraging. "From the reports we're receiving, there appears to be better than 90 percent growth and survival in these two projects."

## Reed

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sources and have minimal adverse effect on the environment. Therefore, Los Angeles District issued Regional General Permit #41 (RGP 41) to reduce unnecessary duplication and burden to the regulated public, and speed up authorization for weed control following floods and fires, when such efforts are particularly effective.

The RGP authorizes mechanized landclearing, mulching, chipping, and excavating living or dead invasive plants and any associated debris from U.S. waters and wetlands. Native aquatic vegetation must be avoided as much as possible. If native aquatic

trees larger than three inches in diameter must be removed from fully infested stands of exotic weeds, they must be replaced on-site at a two-to-one ratio.

The RGP also authorizes stockpiling excavated invasive plants and associated debris, except during flood season. Stockpiles must be placed in disturbed or degraded areas, cannot be placed within 50 feet of flowing water, and must be disposed of in 30 days by removal to an upland disposal area, or by burning.

The RGP authorizes building roads of minimum width and length necessary for access to the removal site, provided that roads are restored with appropriate native aquatic or wetland

vegetation once they are no longer needed for site monitoring, restoration, or maintenance.

This RGP is valid in 11 Southern California counties.

A Section 404 permit is not always necessary for an invasive weed removal program. Prescribed burns, herbicide application, and using hand-held tools to cut plants do not require authorization from the Corps. Corps permits are necessary when mechanized landclearing, excavation, stockpiling, or other activities occur which affect rivers, lakes, or wetlands.

Projects impacting waterways or wetlands under Corps' jurisdiction are often required to mitigate impacts by creating, restoring, or enhancing

aquatic resources.

Los Angeles District views invasive weed control as an innovative, effective means of restoring degraded aquatic resources, which is appropriate for use as mitigation.

To this end, the Corps worked with Riverside County Park and Open Space District to establish a mitigation bank on 174 acres of the Santa Ana River. The Santa Ana River Mitigation Bank (SARMB) will reestablish native aquatic functions by removing invasive weeds.

Restoring this reach of the river will be an important component of the inter-agency plan to eradicate giant reed and other invasive vegetation from the watershed.



Annie Davis discusses career growth with protege (mentee), Edmond Russo. (Photo courtesy of New Orleans District)

## Mentoring program launched

By Joyce Tsai  
New Orleans District

There are a few common denominators behind every successful person -- hard work, determination, motivation, and the guidance of a few wise souls. Many districts, divisions, and labs in the U.S. Army Corps of Engineers have built mentoring programs to provide that guidance. New Orleans District is the latest to get on the mentoring bandwagon.

"We think it will be an exciting growth opportunity," said Don Clement, program administrator and co-founder. "It's a way for employees to enhance their professional capabilities and develop their interpersonal skills."

A pilot mentoring program will match up about 100 district employees. More experienced people (mentors) will work one-on-one with less-experienced proteges (mentees) to help them define and develop career goals and personal initiatives. All participation is strictly voluntary.

Clement said the idea for mentoring came from a meeting with Joyce Williams in the Equal Opportunity Office. "I was looking for a way to get involved and make a contribution, and she suggested mentoring," he said. "It was exactly the kind of program I was looking for, one that would prevent milk from getting spilled, rather than trying to take care of things afterwards."

"We wanted to offer people a chance to better themselves," said Williams, an equal employment opportunity spe-

cialist and manager of the Federal Woman's Program. "It's a way of advising others on career education, the culture of the district, and how to interact with others. We hope as many people as possible will participate in this program and benefit from it."

Jeffrey Alvarez also helped initiate the district's pilot program. He worked closely with Clement on a draft of the program and served as a liaison to committee members.

"A lot of people will benefit from this program because a lot of employees here don't know the ins and outs and interworkings of the district," Alvarez said. "I experienced this first-hand when I wanted to transition from co-op to full-time. Because I didn't have inside knowledge and experience, it almost cost me my job."

To prepare for the program, mentors will participate in formal training and orientation sessions. Proteges will receive counseling to identify their professional objectives and needs. Then participants will be granted about two hours per month during duty time (about 30 minutes per week) to spend on mentoring.

The program will also offer training tapes, developmental classes, and encourage extracurricular activities so that mentors and proteges can get to know each other socially.

According to Clement, response to the mentoring program has been immediate since it was introduced at the town hall meeting in early September. Some employees have signed up to be both mentors and proteges. For ex-

ample, Sarbit Achreja, a civil engineer in Dredging Operations, filled out applications to play both roles. "I need someone to help bring me up to my total potential," he said. "My education is far greater than what I'm doing in my work. Hopefully, the program will help enhance my potential. I also want to become a mentor so others can take advantage of my education and abilities."

Jerry Coletti is another mentor applicant. "I credit much of my success at the Corps to the mentors I've had since joining as a GS-2 co-op student in 1977," he said. "And I think I've been informally mentoring a few people during the past 10 years. Willing mentees with a good attitude can certainly benefit personally and professionally from a good mentor. I've seen it first-hand."

Eugene Tickner, who also signed up as a mentor, said he believes in the benefits of such a program. "Who do you talk with about your career? You may find talking with either family or friends difficult since they probably don't have the feel for our Corps' culture. Talking to a mentor allows you to go right to the 'bottom line' without filling in the background. A mentor doesn't have to be at the top of the organization or even wrinkled and wise -- just willing to listen and look and talk things through with you...another pair of ears, another pair of eyes. Sounds like a no-cost good deal to me!"

"As the Corps moves into the 21st century, mentoring is one of our primary objectives," said Williams. "I see the Corps being around a long time and I think there are a lot of successful role models in the district. I think we should capitalize on their knowledge."

## Emerging leaders clarify staff role

By Becki Dobyns  
Photo by Marti Hendrix  
HQUSACE

Support people seldom get the recognition and glory that the big guys do. Yet their work is also vital to success, and can be every bit as interesting.

The new Board of Directors (BOD), which met for its first working meeting on Oct. 28, ponders some of the biggest issues currently facing the U.S. Army Corps of Engineers. And a select group of the Corps' emerging leaders supported the board's efforts with their time and talents.

The BOD, chaired by the Chief of Engineers and administered by the Deputy Chief, consists of the eight division commanders plus three members of the Senior Executive Service. The support staff is drawn from previous attendees of the Emerging Leaders Conference (ELC), a week-long developmental workshop held annually with the Senior Leaders Conference. To attend the ELC, candidates must show strong leadership potential and be nominated by their commanders.

"I want to use this Board of Directors as a way to involve emerging leaders beyond their conference experience," said Chief of Engineers Lt. Gen. Joe N. Ballard as he kicked off the board's first meeting.

"Hopefully, this is a great learning experience for you," said Col. Otis Williams, headquarters Chief of Staff, in a support team meeting the following day. "You get to be a fly on the wall and see how the sausage is made. But I must tell you, it's never pretty."

The emerging leaders, 10 professionals from throughout the Corps, will serve as BOD staff members for a two-year term.

Each of the emerging leaders was selected by a board member in his or her geographic division. There was also a laboratory representative. They

attended the first BOD on Oct. 28 with their sponsoring board member. The meeting gave them a better understanding of top-level decision making, plus a tasking to brief at the next BOD meeting scheduled for Jan. 30. Their topic -- team awards and how they should be used in the Corps.

Beyond that, there was no strict framework for their roles and responsibilities. So the support people met the following day, Oct. 29, to establish ground-rules for their future contributions.

### Seeking clarity

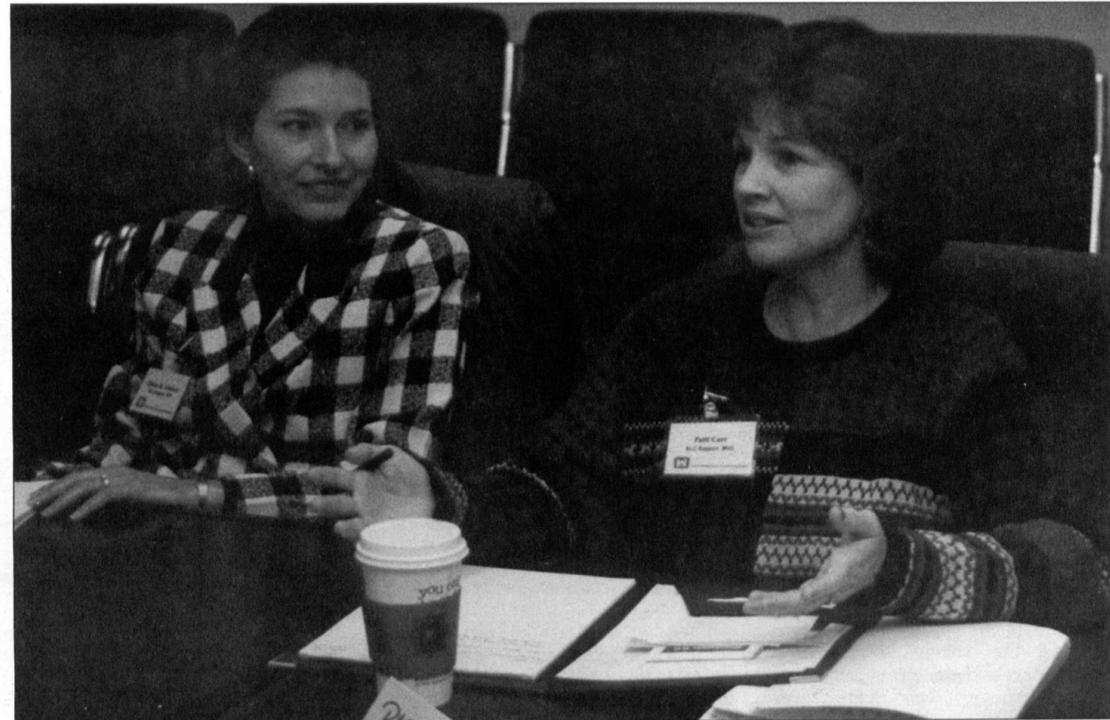
They began the facilitated session by discussing expectations and concerns. While excited about the opportunity to observe first-hand how senior leadership makes decisions, many were concerned about the funding required to send them, and the value added for their district or lab commanders. They were also unsure about their involvement during the meeting and how seriously their work would be taken.

"Are we just observers, or are we more than that?" asked Ryo Nakamoto, a mechanical engineer from Pacific Ocean Division. The group pondered basic issues like whether they should sit next to their assigned board member, and whether they should be allowed to speak during board meetings. "I think the Board of Directors is just as unsure of our role as we are," said Denny Lundberg, a civil engineer from Rock Island District. Most had not met with their assigned board member before the meeting, but had made brief e-mail contact.

Some expressed the director's expectation that they be a conduit of information to their peers. Others furnished discussion papers in addition to the read-aheads before the meeting. Several had plans to meet with their assigned board member after the meeting to clarify their future roles.

### Guidelines

After a discussion, the emerging leaders group formed some initial guidelines (which they dubbed their "strawbaby") for how they would like to support their directors. Ideally, they would each like



Elaine Johnson (left) and Patti Carr, who both attended a prior Emerging Leaders Conference and have been selected to serve on the Board of Directors staff, discuss their future support role.

to meet briefly with the BOD member they serve both before and after the quarterly meeting and furnish a written after-action report. They think it would be helpful to prepare an information book containing topic read-aheads from briefers and discussion papers with perspectives from their divisions.

They also feel an obligation to provide close-out information to their own commanders and hopefully to others in the division.

Their suggestions went to Deputy Chief of Engineers Maj. Gen. Al Genetti for guidance.

### Tasking

Sharon Borland, a civil engineer from the Cold Regions Research and Engineering Laboratory, agreed to chair the group. Next, they set out to tackle their tasking -- preparing a recommendation on team awards for the Feb. 5 meeting.

Their initial effort is developing a survey for prior attendees of the Emerging Leaders Conferences to determine if they think team awards are a good idea, if team awards motivate people to work in teams, and how such awards should be designed and presented. Using background research from the headquarters Reshape Culture team, they plan to form recommendations for the BOD based on survey results and their own research.

While some of the emerging leaders had to depart for afternoon flights on Oct. 29, those with later flights remained well past business hours to work on survey questions and discuss some of the larger issues regarding team awards. They coordinated with the Reshape Culture Team, which had already collected research materials on the topic.

Their primary concern is continuing to work as a team despite geographical and functional obstacles. They plan to have

at least one teleconference, develop contacts with other former Emerging Leaders Conference attendees, and maintain contact via e-mail. They are also using a note-based web site designed to facilitate both BOD and ELC collaborative work.

### The Board of Directors and their Emerging Leaders Staff

Board	Staff
Lt. Gen. Joe N. Ballard	
Maj. Gen. Al Genetti	
Brig. Gen. Hank Miller*	Shirley Bruce
Dr. Ed Link	Sharon Borland
Col. Michael Meuleners**	
Don Herndon	Patti Carr
Kristine Allaman	Todd Lindquist
Maj. Gen. Phil Anderson	Denny Lundberg
Maj. Gen. Jerry Sinn	
Brig. Gen. Robert VanAntwerp	Veronica Hiriams
Brig. Gen. Rick Capka	Elaine Johnson
Brig. Gen. Hans Van Winkle	Lisa Metheney
Maj. Gen. Milton Hunter	Todd Omura
Maj. Gen. Russell Fuhrman	
Tom Ushijima***	Ryo Nakamoto

\*Brig. Gen. Hank Miller retired Nov. 6. His replacement is Col. Donald Holzwarth.

\*\*Col. Michael Meuleners represented Brig. Gen. Robert Griffin.

\*\*\*Tom Ushijima represented Col.(P) Carl Strook.

The list above is the board and staff from the first Board of Directors meeting. Additional staff members will attend the next meeting.

The board, established in August, is comprised of commanders of the eight major subordinate commands, the directors of Civil Works and Military Programs, the deputy commander, and three members of the Senior Executive Service appointed by the Chief of Engineers, who himself chairs the board. He is considering adding representatives from the Corps' centers of expertise.

# Project manager experiences Russian life

By John Linderman  
Transatlantic Programs Center

*(Editor's note: John Linderman spent two months in Russia working in Transatlantic Program Center's Oziorsk office. He compiled this article from excerpts of letters written to family and friends during his stay.)*

I lived in a resort called Dalnyaa Dacha. It's a complex of block and brick buildings near a large lake and the town of Kyshtym. The complex was built to support the nuclear industry in a nearby closed city named Oziorsk. (A closed city is one which, other than its occupants, no one can enter without permission.) The landscape reminds me of northern Minnesota, with birch and evergreen trees and lots of lakes.

Both the Corps and our contractor, Bechtel, have renovated the top (fourth) floor of the long, rectangular concrete building where we have our offices and living spaces. In the seven weeks I was there, the elevator worked on three occasions.

Both my office and my recently renovated two-room apartment faced a stand of birch and evergreen trees, with the large pike-filled lake beyond. I didn't go fishing, but a friend went spear-fishing wearing scuba gear and an insulated suit. He brought back about five, ranging from 10 to 13 inches. They say the lakes are fished out since the Russians fish a lot during the winter.

The closed city of Oziorsk lies 20 minutes away directly between where we lived and the fissile (radioactive fission) material storage facility site. So to get to our construction site we had to go around Oziorsk. We traveled an hour by way of a city called Kasli, which isn't closed. I was able to visit

the site about once or twice a week; on one occasion, we had permission to travel through Oziorsk to the site.

The nearby town of Kyshtym (45 minute walk or 10 minute drive) reminded me of what it must have been like in America during the 1800s. The small houses all seemed to be made of birch logs with two or three windows facing the street and a seven-or-eight-foot fence connecting it with the adjacent house. The crowning glory of these houses are their wonderfully carved window frames and shutters. Each house's windows has a unique design.

As there is no indoor plumbing, the people get water from nearby wells, and all have outhouses. The town's roads are reminiscent of our country roads after the winter thaw with potholes, bumps, and sections at different levels.

The town's sidewalks were pretty rundown and you had to watch your step. I twisted one ankle slightly. The more recent buildings are very communist in design -- plain concrete.

The market is right in the midst of town near the town square. Along three sides are places where people catch the bus. Near it is the open-air market, and then the old-style communist stores. The vegetables are fairly old by the time they get there. The only local foods are cabbage, potatoes, onions, cherries, blueberries, apples, wild mushrooms, and berries.

A super Russian family made my stay quite a bit better. On many weekends they took me and one of the Bechtel boys out for a day of wandering around the nearby lakes and woods, then we would end the day with a picnic. Sergy, Vallah, and their 13-year-old daughter Soosha showed me a bit about wild mushroom hunting and



John Linderman, second from right, relaxes with Russian friends (left-right) Soosha, Vallah, and Sergy. (Photo courtesy of Transatlantic Programs Center)

finding edible berries. I learned to recognize four varieties of edible mushrooms and I picked about 30 pounds of them. We had them for supper on a few occasions and they were delicious.

Walking in the woods was enjoyable for mushroom hunting and seeing the views, but you had to wear long sleeves and long pants and use insect repellent due to tick-borne encephalitis in the area. There were also some nasty flies and mosquitoes.

You need to understand the Russian way of life to appreciate how generous the family was. Our garden at home is a hobby, while their gardens are important to their survival. So we were honored that on a few outings the Russian family brought tomatoes, apples, cucumbers, and lettuce from their dacha (garden plot) which is next to a

small shack five kilometers (3.1 miles) from their home in Oziorsk.

Russia is in a pretty bad way in terms of steady income. South Urals Construction Company, which is building the nuclear storage facility for us, often does not pay their employees for long stretches. The families are provided homes, but they get by on the food they grow in their gardens and what they can find in the forests.

As you can tell, the site is very remote. Once you've gone to the small town two or three times, you've pretty much seen all the Russians allow you to see since, like Oziorsk, parts of Kyshtym are also off-limits. Since it's winter there now, and I'm not a great skiing enthusiast in below-zero weather without any lifts, I'm glad to be back in the USA with my family.

## Work proceeds on Russian storage facility

By Denise Tatu  
Transatlantic Programs Center

Construction of a facility to store fissile (radioactive fission) materials from dismantled nuclear weapons is continuing near the Russian city of Oziorsk. "We've made good progress in the last year," said Bob Schaible, chief of Transatlantic Program Center's Project Management Division D.

The storage facility is a joint effort led by the Defense Department and Russia's Ministry of Atomic Energy (MINATOM). The Russian Federation is ultimately responsible for both design and construction. The U.S. Army Corps of Engineers, through its integrating contractor Bechtel Inc., is providing vital assistance in both areas to the Matak Production Association, the facility owner. Oziorsk is 1,500 miles southeast of Moscow.

Transatlantic Programs Center has the lead for U.S. assistance on the facility on behalf of the Cooperative Threat Reduction (CTR) Program Office of the Assistant to the Secretary of Defense for Nuclear, Chemical and Biological Defense Programs.

The facility, which will be built in two phases, will store some 50,000 containers of material recovered from nuclear weapons. According to Schaible, the Russians are designing concurrently with the con-

struction, which is being done by the South Urals Construction Company.

Construction activity initially focused on the foundation, walls, and roof of the main unloading, processing, and storage building. "The current focus is shifting to include support facilities that are critical to operating the main storage building, such as ventilation centers and tunnels, substation, administration building emergency power, and security buildings," said Schaible. "This will shortly be expanded to include the Phase II storage building. From what we've seen, the quality of construction has been good."

Jack Ham, chief, Quality Assurance Branch, and Bruce Garwood, chief of Safety and Occupational Health, went to the site in November for the first time to perform quality and safety inspections.

There is no equipment on site yet, but several special doors have been ordered and will be shipped from the U.S. this fall.

"The doors will be the first facility equipment to arrive at the site," said George Stein, also a project manager for the facility. "We have also asked Bechtel National Inc. to obtain some specialized ventilation and material handling equipment, which we hope will start arriving in the spring."

A primary means of helping the Russians complete the project is through a cost-plus contract that Trans-

atlantic Programs Center awarded to Bechtel National for engineering and construction support services. Under the contract, Bechtel provides engineering support in design, equipment, materials, construction, and construction management.

Stein said the Russians have also asked the U.S. to assist in obtaining some specialty equipment such as filters, radiation detection equipment, special conveyors, container x-ray equipment, a transloader (a type of crane to place the containers into their storage locations), and other specialty cranes. All this equipment will have to be designed before it can be manufactured.

Building the storage facility project depends on Congressional funding. To date, the U.S. has provided \$150 million toward the estimated total cost of about \$500 million. U.S. assistance is funded under the Nunn-Lugar CTR Program. In 1991, Congress directed the Department of Defense to help secure former Soviet weapons of mass destruction. Based on this Congressional direction, CTR's mission is to provide assistance to eligible states of the former Soviet Union to dismantle weapons of mass destruction and to reduce the threat of nuclear proliferation.

Since 1991, Congress has provided \$1.8 billion to support CTR efforts.

# Heroes: Secretary of the Army recognizes two Corps members for life-saving actions

Two lockworkers in Pittsburgh District are heroes.

Terrence O'Tell and Donald Fortney Jr. received the Decoration for Exceptional Civilian Service (for Bravery) on Nov. 6 from Secretary of the Army Togo West. Bill Celli, a 40-year Corps veteran, is alive today because of O'Tell's and Fortney's quick action on March 15 during an accident at Dashields Lock and Dam.

The district's Field Maintenance Section was working at Dashields on the Ohio River near Pittsburgh. The lock had to be dewatered, which requires building temporary closure bulkheads at each end of the lock chamber and placing large submersible pumps inside the chamber on the river bottom. Water is pumped from the sealed chamber into the river.

A floating crane was placing a pump weighing 11,000 lbs. in the lock chamber when the accident occurred at about 11 p.m. Celli, the maintenance mechanic supervisor, was standing on the temporary bulkhead about eight feet above the water, signaling the crane operator and guiding the pump into place. The pump began to tip on the river bottom and the 20-inch discharge pipe pinned Celli against the wall and knocked him unconscious.

As his coworkers tried to extricate Celli, the pump rolled, dragging him into the river and ripping his life-jacket partly off. O'Tell, a maintenance worker, immediately jumped into the 38-degree water and pulled Celli back to the surface.

"We thought he had been killed," said O'Tell, a former Marine who earned four Purple Hearts in Vietnam. "I was able to get to him and get his head propped up out of the water. He pushed some water out of his mouth and we knew he was still alive. I knew he was in trouble, so you do whatever you can do. It was up to the guys up above to coordinate the rescue."

O'Tell held Celli's head above water for 15-20 minutes while Fortney, a welder on the crew, found a Stokes rescue litter and threw it into the water while others called for an ambulance, found a Stokes rescue litter, and threw it into the water.

"The Stokes litter began floating way because there wasn't a tag-line on it,"

said Fortney. "There were six or seven other people standing around, but they didn't know what to do. So I said 'Well, here I go. Help us all, Lord.'"

Fortney is a scuba enthusiast and the Corps has sent him to school for certification in rescue diving. "When I hit the water Terry told me, 'Don, you look like an angel jumping in here,'" Fortney said.

He and O'Tell worked together to secure Celli on the Stokes litter. "Terry worked with his body and I worked with the board," said Fortney. "I couldn't have done it without him, and he couldn't have done it without me."

When they got Celli secured to the Stokes litter, the crane lifted him out of the lock chamber. Celli was in the

water for about 25 minutes. A medevac helicopter flew him to Mercy Hospital in Pittsburgh. O'Tell and Fortney were taken by ambulance to Sewickley Valley Hospital in Sewickley, Penn., where they were treated and released.

"In our opinion, the two guys who jumped in after him are heroes," said Don Neely of the Allegheny Valley Ambulance crew which responded to the scene. "There's no doubt in my mind somebody had to go in the water after him, or that would have been the end of him."

Neeley is not the only one with that opinion. O'Tell and Fortney received a standing ovation after West read the account of their actions during the Secretary of the Army's Annual Awards Ceremony at the Pentagon on Nov. 6.

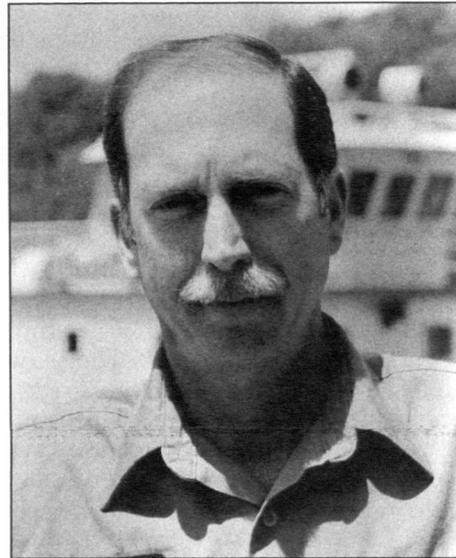
"I'm very pleased that they were recognized for what they did," said Celli. "They really deserved the award, and I'm thankful they jumped into the water to help me."

Celli was listed in serious condition with hypothermia and severe internal injuries. He was in the hospital for seven months and has had three operations, with a fourth scheduled in about six months. He continues to recuperate at home.

(This article was compiled from articles written by John Reed in Pittsburgh District's "Headwaters Highlights," and from the award nomination package. Bernard Tate, editor of the "Engineer Update," and Gerry Gilmore of the Army News Service also contributed to this article.)



Donald Fortney



Terrence O'Tell

## Corps people earn Army EEO awards

On Nov. 6, Secretary of the Army Togo West presented two EEO awards to employees of the U.S. Army Corps of Engineers. Sharon K. Brown, the former EEO Manager of Fort Worth District, received the Award for Outstanding Achievement in Equal Employment Opportunity (Professional); and Dr. Robert W. Whalin, Director of the Waterways Experiment Station, received the Award for Outstanding Achievement in Equal Employment Opportunity (Manager). Both were given during the annual Secretary of the Army Awards Ceremony in the Pentagon.

### Dr. Robert Whalin

Whalin, who earned the distinction for the second time, feels it recognizes more than him. "It is a great honor, and a great tribute to the accomplishments of the Waterways Experiment Station," he said.

"Outreach activities attained under Dr. Whalin's leadership are the most diverse in the Corps of Engineers and touch the lives of over 1,000 (mostly minority) elementary and secondary school students to promote minority/female interest in science and engineer-

ing careers," wrote Lt. Gen. Joe Ballard, Chief of Engineers, in a letter of endorsement.

The benefits of a multi-cultural workforce are easily defined, according to Whalin. "The world is a much smaller place," he said. "Corps activities throughout the world are greatly facilitated by a multi-cultural

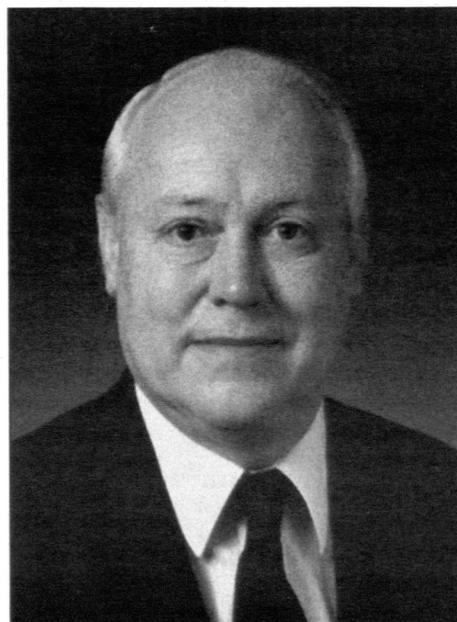
workforce. For example, our Hispanic engineers greatly help our work in Central and South America."

Whalin leads by example. Besides exceeding many affirmative action goals within WES, he personally recruited several minority hires and supported use of alternate dispute resolution for EEO complaints. He also en-

tered into Education Partnership Agreements with two local Historically Black Colleges and Universities (HBCUs) and the minority Vicksburg-Warren County School District. Twelve percent of university contracts in fiscal year 1996 were awarded to HBCUs and minority institutions, which exceeds the 5.5 percent Department of Defense goal.

Whalin feels personal leadership is important in reaching EEO goals. "If the top leadership of an organization isn't serious about EEO, then the organization is not going to be serious about EEO. You must have a personal, proactive involvement," he said. "Actions taken by the leadership speak more than words." Whalin also believes proactive leadership should trickle down through the ranks. "Middle managers can do the same thing on a smaller scale."

That happens at WES. All supervisors and managers receive EEO training, and the performance standards of the five laboratory directors were modified to include implementing an EEO plan. Laboratory directors were also charged with demonstrating EEO leadership by personally promoting and



Dr. Robert W. Whalin



Sharon K. Brown

Continued on page 11

# Powerplant reduces hazardous wastes

Article by Verdelle Lambert  
Photo by Jonas Jordan  
Savannah District

In 1992 an environmental compliance assessment of Savannah District's J. Strom Thurmond Powerplant revealed numerous environmental compliance deficiencies, including hazardous waste problems that could have resulted in fines by state and federal regulators. However, implementation of new practices by the powerplant's staff has made the facility a model of environmental compliance.

Staff members estimate they reduced hazardous waste by 75 percent and the risk of a spill by at least 50 percent. What they did to correct deficiencies and the new procedures they developed have broad application to other U.S. Army Corps of Engineers powerplants.

Keith Lightfoot, powerplant mechanic, is responsible for the nuts-and-bolts of this success. He first became interested in environmental compliance when Power Project Manager (Operations) Phinazy Davis sought a powerplant employee to take on collateral duty as an environmental compliance coordinator (ECC). Lightfoot volunteered and began learning about the environmental laws and regulations that apply to powerplants.

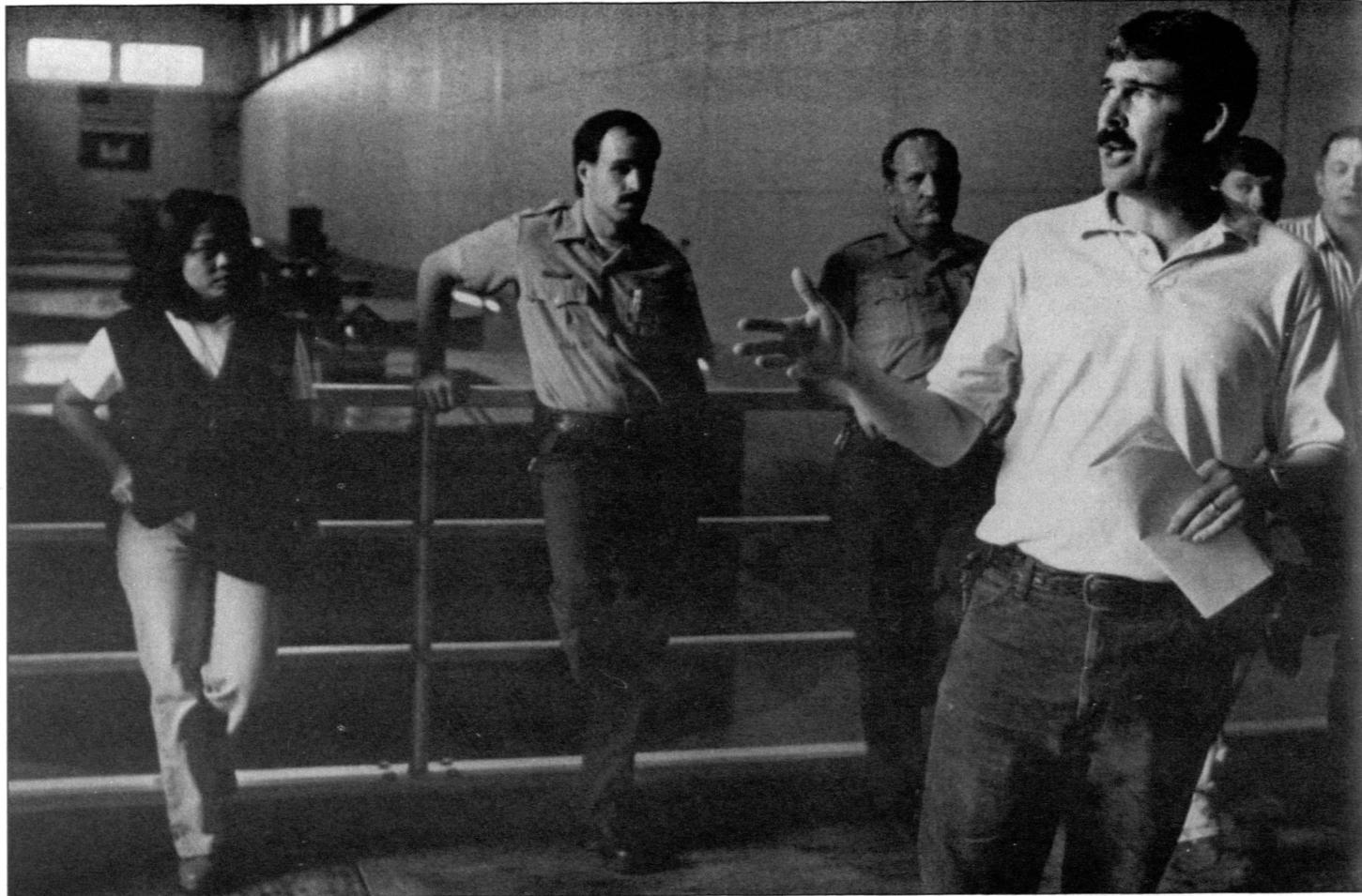
This pursuit of environmental knowledge led Lightfoot, Davis and Power Project Manager (Maintenance) Steve Wynn to review how they perform powerplant tasks and redesign some tasks to better address environmental management.

Wynn collected information and ideas from other powerplants and compared Thurmond's operations to theirs.

Savannah District implemented environmental compliance training at the plant. Various team members first studied a portion of the requirements, then taught those requirements to the rest. They used chapters of the Environmental Review Guide for Operations (ERGO) as an initial basis for their studies, then expanded to include state regulations. These workshops gave the staff a foundation on environmental requirements. From there, various field offices set about correcting environmental deficiencies and improving environmental management.

## Putting knowledge to work

"The classroom work helped, but practical experience got everybody involved," said Wynn. "There were a couple of small spills that were contained, but individuals who weren't in



Scott Strotman, Thurmond's environmental compliance coordinator, introduces an annual spill response exercise.

the mainstream of the environmental push were the ones out there asking themselves, 'What do I do?' They saw that they needed to learn more, so they started asking Keith questions, and that's really where it started, from the workers realizing they had to know more about what was going on."

At first, powerplant workers checked with Lightfoot every time a question on wastes came up, but they soon developed confidence in their knowledge of how to handle wastes they dealt with day-to-day. "I spent a lot of time explaining and cajoling," said Lightfoot. "Some people went right along with the program. Others you had to convince."

"We turned the corner when we could go to a waste drum and find that everyone had not dumped everything they could think of in it," said Wynn. "They were putting insulating oil in one drum and waste solvents in another. That's when we realized we could start tracking our wastes. We had a better handle on where waste was coming from, so we could modify our operations. That was a big turning point."

Kathie Morgan, district ECC, credits Lightfoot and Wynn with finding better, cheaper ways to comply with environmental laws and regulations. "They demonstrated a genuine interest in improving the operation of the powerplant and their innovations in some cases exceed compliance by a substantial margin. They are particularly talented at looking at how to do something a new way."

"I was fortunate," said Lightfoot. "Mr. Davis let me have time to get the job done. If a shop foreman had been tapped, he would have had to divide his time. I didn't have as many distractions."

Initially, the plant was interested in preventing potential violations and fines. But after acquiring basic environmental knowledge, managers and

workers began seeing opportunities to improve overall operations, save money, and reduce effort.

## Innovations

Initially, Thurmond focused on waste management, spill prevention, and obtaining a discharge permit, the three deficiencies most likely to result in a problem or violation. They reduced wastes by:

- Keeping on hand only supplies they are using. No stored products not in use.
- Using up surplus material or giving it to facilities that could use it.
- Disposing of non-usable, non-recyclable wastes in an environmentally-conscious method, usually by blending combustible wastes into kiln fuel.
- Disposing of hazardous aerosol paint after locating a tool to puncture and drain cans safely.
- Filling transformers with non-PCB oils.
- Replacing PCB-contaminated oil circuit breakers with gas circuit breakers.
- Disposing of PCB-contaminated wastes in viscosine oil-based ventilation units.

The staff reduced generation of new wastes by:

- Finding non-hazardous products that would do the same job.
  - Instituting a purchase approval process that prevents buying hazardous products when non-hazardous products will do.
  - Labeling drums ahead of time and logging in certain kinds of waste generation.
  - Setting up a five-minute-a-month system to track hazardous substances.
- The staff prevents spills with a comprehensive Spill Prevention, Control and Countermeasure Plan they developed,

an effort lead by park ranger Jay Weidman who worked closely with Wynn, Lightfoot, and Morgan. According to 1996 EPA review, their plan was "comprehensive and well-developed. It illustrates a unique and easy-to-follow method for addressing numerous storage areas."

Thurmond's staff also added spill response services to their Operations & Maintenance service contract. In the event of a spill, they will have access to a spill response service provider who knows their facility.

The powerplant acquired a South Carolina discharge permit with the help of experts from the Tennessee Valley Authority (TVA). During the process, South Carolina proposed burdensome monitoring requirements. Working together, Morgan, Wynn, Davis, Lightfoot, and TVA experts convinced South Carolina that most of them were unnecessary. The resulting permit requirements proved acceptable to both the plant and the state.

After figuring out the nuances of good environmental management at a Corps powerplant, Morgan, Wynn and Lightfoot wanted to share their knowledge. They wrote a paper for the "Annual Proceedings of the National Association of Environmental Professionals." Morgan and Wynn developed a presentation with specific information on their methods and have given it twice, once at a hydropower conference and once at an environmental conference.

Wynn said, "We wanted to make sure everyone knew about the good ways to do powerplant work. But in order to have successes, we had failures. We tried to build on what worked and gain knowledge from what didn't work."

Last year Thurmond hired full-time ECC Scott Strotman to manage the powerplant and lake's environmental compliance program.

# Around the Corps

## Italians visit

New York District hosted members of the Italian environmental protection delegation on Oct. 24. The visitors were Venice Metropolitan City Commission President Stefano Baoto, environmental research director Edoardo Croci of Bocconi University, and Savona Province President Alessandro Garassini.

They said the day with the Corps of Engineers was the highlight of their tour, which was sponsored by the State Department. They were invited to the U.S. under the auspices of the U.S. Information Agency International Visitors Program. Exchanging environmental information was the focus of this inter-governmental cooperation meeting.

The group received comprehensive environmental briefings that focused on the waterfront, wetlands conservation and revitalization, coastal ports, erosion, water pollution, and water management. Then they took an inspection tour of New York Harbor on the Corps vessel *Hocking*.

## Graves' memoirs

The memoirs of Lt. Gen. Ernest Graves have been published and are available, free, from the Corps' Publication Depot.

Graves' career spanned from World War II through Korea, where he commanded the 44th Engineer Battalion, to Vietnam, where he commanded the 34th Engineer Group. Throughout his career Graves was involved in the Army's nuclear power program, from the Manhattan Project to the Atomic Energy Commission. His work ranged from developing nuclear weapons to exploring the peaceful use of nuclear explosives to build a sea-level canal in Central America.

Graves was the North Central Division Engineer, Deputy Director of Military Construction, Director of Civil Works, and Deputy Chief of Engineers. He retired after serving as the Director of the Defense Security Assistance Agency where he managed security assistance and arms sales programs.

This publication, 10th in a series of engineer memoirs published by the Office of History, is available free to all Corps employees. Ask for EP 870-1-52. Write:

U.S. Army Corps of Engineers  
Publications Depot  
2803 52nd Avenue  
Hyattsville, MD 20781-1102  
Or FAX (301) 394-0084

For a list of other publications offered by the Corps Office of History, visit their website at <http://www.hq.usace.army.mil/ceho/pubslst.htm>. You can

request a free copy of any of these books from the Publications Depot.

## Lab consolidation

The Corps has changed the name of the Missouri River Laboratory in Omaha, Neb., to the Chemistry and Materials Quality Assurance Laboratories and has transferred its management oversight from Omaha District to the Directorate of Research and Development at headquarters.

Six other division laboratories around the nation will be closed by the end of fiscal year 1998 as part of restructuring and consolidation efforts being implemented throughout the Corps.

"I don't expect many personnel impacts here," said Doug Taggart, Laboratory Director. "There will be a gradual increase in workload as the other labs close and the chemistry testing is consolidated here, especially in the number of hazardous and toxic waste samples. But there will be a decrease in the soils and materials testing work as it is transferred to the Waterways Experiment Station. I think our workforce will remain pretty much the same, at least for the next year."

The lab currently has 45 full-time employees and 15 students from the Creighton University and the University of Nebraska at Omaha.

The Chemistry and Materials Quality Assurance Laboratory performs analytical chemistry quality assurance testing on hazardous and toxic waste samples from contaminated sites across the country.

## Corrections

The names of Eugene Tickner, Bill Caver, and Fred Schilling were misspelled in the October *Engineer Update*.

## Coastal America awards

Two Corps employees have received Coastal America awards. Scott Miner, an ecologist with San Francisco District, was one of nine people who received a Coastal America Partnership Award. Seattle District's Pat Cagney also received a Partnership Award.

Coastal America is a multi-governmental agency partnership that was formed in 1991 to protect, preserve and restore coastal ecosystems. Coastal America programs are coordinated by the President's Council on Environmental Quality.

Miner and his group were honored for their work with the Sonoma Baylands Wetlands Restoration

Team. They restored 348 acres of tidal wetlands on the Petaluma River. The marsh had been turned into a hayfield years ago. It was returned to its natural state by rebuilding the land with dredged material from the Petaluma River and Oakland Harbor. Miner was team leader.

Cagney was part of the Duwamish Estuary Habitat Restoration Team. During the project, the team restored five acres of intertidal habitat in a heavily urbanized estuary where 99 percent of the habitat has been lost.

## Information technology awards

Dr. N. Radhakrishnan, Director of the Information Technology Laboratory at the Waterways Experiment Station, recently received two national awards for his leadership in engineering information technology.

Radhakrishnan received the 1997 Computing in Civil Engineering Award from the American Society of Civil Engineers. He was cited for his contributions as an engineer and applied researcher. The award also noted his role as an automation leader in the Corps and his efforts in creating the Information Technology Laboratory at WES.

Radhakrishnan also received the 1997 John J. Franke Professional Service Award from the Federation of Government Information Processing Councils. This is the second time he has received this award. It recognized his "leadership in consistently delivering quality information technology products and services..."

## Scholarships available

The Army Engineer Officers Wives' Club announces that the 1998 Army Engineer Memorial Awards are available to qualifying high school seniors.

The award is a scholarship based on academic and extracurricular achievement in high school, and must be applied toward tuition or scholastic expenses at a college, university, technical or vocational school.

To qualify for an award, an applicant's parent must be a U.S. Army Corps of Engineer Officer presently on active duty, is or was a retired Corps officer, or was a Corps officer who died on active duty. These awards were established in 1973 as a memorial to Engineer Officers who died in the line of duty.

Completed applications must be submitted by March 1. For further information, contact the AEMA Co-Treasurer of the Army Engineer Officers Wives' Club, Yvonne C. Boruch, at 9282 Bailey Lane, Fairfax, VA, 22031, or call (703) 691-0383.

## EEO Awards

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supporting outreach efforts.

Whalin works especially hard in recruitment, affirmative action, and eliminating barriers to hiring minorities and women. He personally nurtured relations with the University of Puerto Rico, Mayaguez, to form a partnership where students are recruited, faculty exchanged, and research contracts executed.

Whalin believes there is still more to accomplish in EEO. "We have to keep our efforts focused on diversity both in education and recruitment and in the advancement of women and minorities to high grade positions."

## Sharon Brown

"I never dreamed when I retired that I would receive this award," said Brown, who retired from Fort Worth District in March. "It was sort of a climax to

a wonderful career."

As the district's EEO chief, Brown supported more than 1,000 employees, including 50 Corps field sites, and local units of the Military Entrance Processing Command, the U.S. Health Professional Support Agency, and the U.S. Army Recruiting Command.

Under her leadership, the district EEO program received many accolades. The Engineer Inspector General said "Fort Worth District administers an exceptional EEO program...(that) focuses on providing quality, responsive services to team members and resolving any problems as early as possible."

Since 1994, the district has met or exceeded the Corps' goal rate for EEO case resolution. According to the award nomination letter, Brown increased career development and promotion opportunities for women and minorities. Although the district lost 12 positions in fiscal year 1996, 10 women were still placed in professional positions.

Brown was also one of 11 members on the Corps' EEO Alternative Dispute Resolution Task Force, which developed the command's Early Resolution Program. The program, which uses mediation to resolve conflict at the pre-complaint stage, has resulted in increased resolution rates. The program has been approved for use throughout the Departments of the Army and Defense.

Brown said she is proud of enhancing career promotion and opening up good communication between supervisors and employees, but "what I value more is the respect our program has among the managers and employees. I think a trust factor grew while I was there. It's been a wonderful career. It's nice to look back at some of the gains you've made and feel proud."

(Jennifer King at WES and Anita Horkey at Fort Worth District contributed to this article.)

# New erosion control placed in Jersey

**Article and Photos  
By Edward Voight  
Philadelphia District**

At the same spot where it introduced a new type of erosion control structure to the East Coast more than 15 years ago, Philadelphia District has followed with another first.

Shore protection is an important mission for the U.S. Army Corps of Engineers, involving a variety of structures. One device is a "dolosse," which resembles a layer of gigantic concrete jacks nestled together to protect shore structures from waves. Between 1980 and 1982, 1,343 11-foot, 16-ton dolosse were installed around Manasquan Inlet's north and south jetties about 10 miles south of Asbury Park, N.J. Wave action has moved some dolosse away from their intended location and damaged others, reducing their interlocking protection. They have now been supplemented by 45 similar but improved devices called corelocs never before used in the U.S.

Corelocs were designed by George Turk and Jeff Melby, research hydraulic engineers at the Waterways Experiment Station. The devices have the same dimensions as dolosse (11 feet wide, long, and deep), but have three "flukes" (opposing sets of legs) instead of two, adding about three tons to their weight. The extra fluke strengthens the coreloc against breakage in the shank region, and the extra weight makes it less susceptible to movement due to wave action.

According to Project Manager Jerry Jones of the Operations Division, "The corelocs are designed to interlock with the dolosse so that the armor structure acts as a whole to protect the jetty, in much the same way that chain-mail armor protected a medieval knight."

The contractor, Robert Charles Enterprises of Secaucus, N.J., built two steel forms in Canada and transported them to Vineland, N.J., to cast the steel-reinforced concrete corelocs. The completed corelocs were then moved by flatbed truck and barge to Manasquan Inlet.

Work at Manasquan began Oct. 3 with removing damaged dolosse, debris, and repositioning other dolosse. The corelocs were placed (29 on the north jetty, 18 on the south), interlocking with the existing dolosse. The job was completed Oct. 7, considerably ahead of schedule.



Above, students and faculty from Philadelphia's Dobbins-Randolph Area Vocational/Technical School learn about corelocs from construction inspector Jim Rogy during a field trip. Left, the casting operation in Vineland, N.J., which built the steel-reinforced corelocs. Below, the corelocs are ready for transport by barge to Manasquan Inlet and, bottom, a pleasure boat motors past the completed coreloc installation.

