



# The Newscastle



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## Inside This Issue

**Thank you from New York** . . . . . Pg 2

### Halo Effect

*Angels heat up Hansen Dam* . . . Pg 4

### Corps involved in wetland

**recovery** . . . . . Pg 6

### Build it and they will come

*Fullerton Sports Complex* . . . . . Pg 8

### Project Management

*Leading by doing* . . . . . Pg 12

**A rolling Moss gathers no home** Pg 14

**Is there a Doctor in the house? .** Pg 16

### Corps looks into Big Bear Lake

*Fixing a weedy problem* . . . . . Pg 18

### Leadership Development Program

*Promoting new growth* . . . . . Pg 20

### Corps involved in multi-agency effort

*Navajo Nation water clean up* . Pg 22

### Kelli Johnson

*Shaking things up* . . . . . Pg 24

### Dina Aman

*Running on everything* . . . . . Pg 28

### Hansen Dam: Project GRAD

*Bringing students, community and Corps together.* . . . . . Pg 30

**Engineer Day 2002** . . . . . Pgs 36—41

### Corps history preserved

*Seven Oaks museum display* . . Pg 44



By Fred-Otto Egeler

*Los Angeles District's Chief of Emergency Management Branch, Ed Andrews, finds a place for his Humanitarian Service Medal that he received for his 9-11 recovery efforts.*

## For Ed Andrews, 9-11 was personal

By Mike Tharp

When he was still in college in the early 1970s, he worked for a day with his father helping to build the World Trade Center Twin Towers. Both he and his father were surveyors in New York local 15-D of the Operating Engineers union. "My dad had worked on the Trade Center job for a couple of years, and one Saturday he couldn't get his usual instrument man, so I came in for him," recalls Andrews, now chief of the District's emergency operations. We were in the basement area, putting in the elevations for the escalators that come up from the subway trains. I looked down at all that steel—it was like an iron forest."

That day's memories came flooding back for the 26-year Corps vet-

See page 3



US Army Corps  
of Engineers  
New York District



*From the District Commander*

COL Richard G. Thompson, District Engineer  
Los Angeles District  
U. S. Army Corps of Engineers  
P.C. Box 532711  
Los Angeles, California 90053-2352

Dear Dick,

Please pass along my thanks to your employees who so generously contributed to the FDNY Fire-fighter Michael Kiefer Fund. We gave the check to his father, Bud, who forwarded it to the Fund. To date contributions made have exceeded \$10,000.

To show our gratitude to your employees for their wonderful gesture of fraternal caring, we had this photograph made for the Los Angeles District. It shows our workboat, the Gelberman, in front of the World Trade Center. We at the New York District a very grateful to Los Angeles District employees for your caring and generosity.

On behalf of Michael's family and New York District employees, I would again like to extend my personal thank you to all who contributed.

Essays!

Sincerely,

John B. O'Dowd  
Colonel, U.S. Army  
District Engineer



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eran when he was dispatched to both Federal Emergency Management Agency and Corps headquarters in Washington, D.C., after the terrorist attacks. In 2000 Andrews had volunteered to serve as an assistant team leader on a specially formed cadre to help FEMA during presidentially declared disasters.

A few days after the planes crashed into the towers and the Pentagon, Andrews got paged. “Headquarters wanted to know if I could help out,” he says. “I said, ‘Yeah, that’s what I signed up to do.’” He spent the next month shuttling between FEMA and USACE headquarters, a nuts-and-bolts mission that included several 7 a.m. briefings for LTG Bob Flowers.

His service to the Corps, New York City, DoD and others were recognized on Engineers Day June 28 when COL Richard G. Thompson presented Andrews with the Civilian Award for Humanitarian Service signed by Gen. Flowers. The award citation reads in part: “Your contribution to the U.S. Army Corps of Engineers, support of Federal Emergency Management Agency emergency relief operations in New York City and Arlington, Virginia bring great credit to you, the U.S. Army Corps of Engineers, the Department of the Army, the Department of Defense, and the Nation.”

In the sometimes chaotic and often confusing aftermath of the attacks, reliable information was crucial. The Corps was brought into the mix by FEMA to provide oversight, technical assistance, management overview and to give guidance to New York City. (DoD itself quickly assumed the response to the Pentagon attack.) Four contractors, for instance, were involved in cleanup and rehab, each with a \$250 million contract, and Corps team members oversaw them.

Andrews recites one specific example of how the Corps’ expertise smoothed the Ground Zero cleanup. In the first few days after the attacks, all debris—except for steel—was being hauled by barges and trucks to Staten Island. There, New York sanitation workers, police and fire personnel and the FBI were literally spreading out the material, sorting it, looking for evidence, personal effects, human remains.

“It was obvious to our folks that there was no way they could keep this up with just human manpower,” Andrews explains. “It wasn’t going to work.” So Corps debris experts—honed from handling such natural emergencies as floods, hurricanes and earthquakes—suggested conveyor belts to speed the process. Debris could be piled on one end, and human inspectors could stand on either side and examine the material as it slowly passed by. “They were excited,” Andrews says of New York City officials. “They asked for as many as we could get. Productivity went up 1,000 percent and New York City was absolutely thrilled with what we did out there.”

Although he was ensconced mostly in the D.C. headquarters nerve center, Andrews’s varied experience in the field helped him understand the situation of those in outlying areas. One of his assignments earlier in his career, in fact, was across the street from the World Trade Center when the North Atlantic Division headquarters was located at 90 Church St. “For two years I came up through the Trade Center, walked across the street and went to work,” he recalls. (The Division had long since moved to Brooklyn before last year.) He also worked in Norfolk, Va., Seattle, Phoenix and for 10 years in the Project Management Division in L.A. before assuming his duties as chief of the District’s Emergency Management Branch two years ago.

Andrews says that two of the Corps’ most critical functions during the first month after Sept. 11 were to anticipate problems and manage expectations. “We had to try to keep the surprises down and let people know what was going to happen,” he adds. “I think we did a good job of doing that.”

His toughest adjustment back there? “Dealing with the body counts—how many victims, how many did they find? It just dragged on me to be exposed to that. I just pushed it back till I got home.”

Andrews had married his wife Sylvia only the year before and suddenly he shipped out for a month. “Before we got married, I had a long conversation with her about what I do and how I wanted to keep doing it,” he says. “She was very understanding.” Besides the terrorist attacks, Andrews, a Newark College of Engineering graduate, had also dealt with the ’94 Northridge earthquake and several floods in District territory.

The SWAT-like emergency cadre he joined—ESF-3 (Emergency Support Function/Infrastructure and Engineering)—was formed before Sept. 11. Andrews submitted his name himself, but selection came only by his peers who review all applicants’ qualifications.

Back home, Andrews believes last year’s wrenching assignment has helped him in his missions here. “It has given me a bigger picture, seeing how well things are organized at headquarters,” he says. “The dedication and focus of the people there, the command structure, are impressive.”

Clearly, it was a two-way street. Andrews insists that “I was just doing my job.” The Humanitarian Award shows that he was doing a damned good job.



By Fred Otto Egeler

# Halo Effect: District Dam Bedevils Angels in Hot Movie Sequel

By Greg Fuderer and Mike Tharp

It's a tough job, but somebody's gotta do it.

Several Los Angeles District team members this summer found themselves pressed into service at venerable Hansen Dam. It wasn't flood control or channel inspection or other duties usually associated with the 62-year-old structure. It was liaising with Hollywood—specifically, “Charlie’s Angels 2”—that brought Corps folks into the starry orbits of Cameron Diaz, Lucy Liu and Drew Barrymore.

Like the uniformed services, the Corps is regularly asked by film studios for cooperation or participation in making movies. In return, studios pay the government (the Treasury Dept.) for use of Corps assets and property. The Corps demands safeguards for its public lands, and producers understand they must comply if they ever want to be invited back. The reel deal is usually a win-win proposition. “Charlie’s Angels 2” is no exception.

Columbia Pictures, which made the original “Charlie’s Angels” movie in 2000, grossing \$125 million, was understandably reluctant to reveal many details about its sequel. When District team members were at the shooting site, a dozen security guards with cell phones patrolled both ends of the dam, an access road and neighboring property. But the Corps visitors couldn't help but see some hints of what will likely be one of next summer's hot-test films.

On the set, Cameron, Drew, Lucy and Robert Patrick (“Terminator 2,” “X-Files”) were put through their paces. Patrick strolled the set looking bloodied, battered and bruised—thanks to the miracles of makeup. The dam itself

underwent a makeover, and few of the area's regular joggers, hikers, cyclists, birders and equestrians would have recognized their beloved recreational site. Through the digital magic of computer simulation—and the sawdusty hammer-and-nails work of scores of prop makers—the 10,475-foot-long dam was transformed into an eerie embankment at a Mongolian border crossing.

One part of the dam, for example, morphed into a mountainous man-made backdrop, complete with sandy spillway. The Angels, clad in cold-weather parkas despite the shimmering San Fernando Valley heat, tumbled



*Cameron Diaz*



*Richard Jung of the Public Affairs Office checks a video technician's work.*

down that hill as a military truck “exploded” in the background. Fortified but faux lookout towers and a dispensable plaster-and-wood wall with a Shaq-sized door added to the Genghis Khan aura behind the women.

From their perches under umbrellas and awnings, director McG, who helmed the original angelic pic, and technicians watched the action on digital gear recording the actresses' moves. For a few frames, Richard Jung, a District contract technical whiz, got to peer over a video technician's shoulder as the cameras were “rolling,” or whatever tape does these days. He was able to see, up close and personal, action taking place 75 feet away.

Caleb Duffy, an assistant location manager who's three years out of film school, researched several other Corps locales—Santa Fe, Sepulveda, Hoover, Irwindale, Whittier Narrows, Big Tujunga—before settling on Hansen. “The width of the road (on top of the dam) was the key element, along with a dam crossing,” he explained. Duffy also worked with the Corps at Hoover Dam on footage for the remake of “Ocean's 11.”



*Lucy Liu*

Cost and proximity were two other important parts in picking Hansen, Duffy said. “The actual cost to shoot (a film) doesn't vary much,” he added. “The travel expenses are what we have to consider. Shooting locally—helping keep the industry in L.A.—is also a huge consideration. We want to keep the jobs here.”

A week before the actors arrived on-scene and actual filming began, one of the critical parts of the million-piece puzzle that comprises filmmaking was also positioned. A 49-ton M60 A-1 (Patton) tank had been rented to the studio by the American Society of Military History and Museums. Society officers trucked the desert-camo-colored machine from near Whittier Narrows to an access road near the dam.

Like a circus ringmaster, L.A. District Superintendent of Dams Ed Kohnman surveyed the surroundings. He didn't want the behemoth to damage the road's relatively new surface, so he insisted that the film crew lay down huge tractor tires to buffer the tank's tracks from the asphalt. As the crew unloaded the tires, the 35-year Corps veteran pitched in, guiding the tires beneath the tracks. "I can't damage anything," Kohnman explained. "The environment is all under control here. Everything is watered down [he had the crew dispatch a water truck four times early in the morning along the shoulder and a dirt road leading to Hansen] so there won't be any airborne particulates."

George McLeary and Jerry Hernandez of the military history society co-piloted the tank over the tires to the dirt shoulder. With Kohnman leading the way in his white four-wheel-drive Corps rig, the tank meandered a quarter-mile to the base of the dam.

There, poised like a giant beetle, it idled its 750-horsepower engine. High up the 30-degree slope, crewmembers watched under the noonday sun. Duffy aimed his small camera down at the Patton. "This should be cool," he said.

Near the tank, Kohnman nodded and raised his arms. "Let's do it!" he shouted to Hernandez, the driver. Belching black smoke, turret facing downhill, the tank began crawling up the 1,087-foot concrete incline. Treaded tracks groaning and churning, it climbed easily about five miles an hour until it reached the top, almost 100 feet



***Tractor tires are placed on the roadway to prevent damage from the tank's tracks.***

people are a class act—they mean what they say and do what they say."

Echoed Duffy: "It's all good. We've been told to play by the rules, so we play by the rules." The filmmakers even strung new barbed wire along portions of the dam's crest and painted over graffiti on walls below.

On the early August morning before the tank arrived on the set, workers beavered away on several projects atop the dam. At the western end, Bret Brand and other prop makers hammered 2x4s into 40-foot-square frames that a week later became walls farther down the dam. "When you gonna turn on the air conditioning?" he asked Juan Urena, a Cal State Northridge civil engineering student interning at the District. "If you guys can build this dam, you can build anything!"

Inside a trailer at the other end, Barbra West was ready with first aid, sunscreen, water and other safety measures for workers. The former math teacher was working on her 24<sup>th</sup> film as an emergency medical technician. With her was Greg Dultz, a 30-year driver at movie sets, who has chauffeured the likes of Stephen Spielberg, Marlon Brando, Orson Welles and Francis Ford Coppola. "The Corps has been fabulous," he said. "Nothing but cooperative and helpful. They've just really bent over backwards to accommodate us."

And so by noon Hansen Dam had added yet another crenellated profile to its once-stodgy silhouette. Now-- along with a fake mountainside, two towers and a giant door—there was a real Vietnam-era tank outlined against the blue sky.

Referring to the post-Sept. 11 security condition in effect at all Corps dams—Hansen is at level Bravo—Duffy grinned and pointed at the tank. "If we go to 'Charlie,' now we got protection," he said.

That's a wrap.



***Temporary gun towers protect the dam.***

high. There, on 20 individual ¾-inch steel plates, laid to protect the surface, the tank rolled to a stop. It was ready to attack—or defend—Charlie's Angels. "They leave everything immaculate when they leave," Kohnman said of the Columbia crew. "They've built us fences for free, painted things out here for free. These

# WETLANDS RECOVERY PROJECT

By Mike Tharp



District file photos

## *Carpinteria Salt Marsh in Santa Barbara County*

WHITTIER, Calif.—The Corps' emerging role as a force for environmental restoration can best be seen in the most important group you've never heard about—the Southern California Wetlands Recovery Project.

A few folks in the corridors of state political power know about the project, because they've either funded it or fought for it the past several years in Sacramento. Top officials of federal, state and local bureaucracies also recognize the project as a rare example of successful collaboration among government agencies more used to squabbling than cooperating. Finally, environmental activists and corporate captains alike have come to view the project as a forum where they can contribute to at least partial restoration of California wetlands.

Why wetlands? If you define them to include lagoons, marshes, coastal estuaries and other riparian resources, it's clear that wetlands compose a critical part of the Endless Summer mystique that has lured humans here for thousands of years.

With humans has come progress and, of course, the degradation of natural resources. Over the past 200 years, for example, 53 percent of the original 221 million acres of wetlands in the U.S. have been lost in the lower 48 states. In California, however, that ratio skyrockets to 91 percent. According to a Spring 2000 article in the Golden Gate University Law Review by Joan Hartmann, California has lost about 80 percent of its coastal salt marshes, 95 percent of its riparian wetlands, 90 percent of its freshwater marshes and 90 percent of its vernal pools.

Hartmann also cites some other stunning research: According to a National Research Council report, Califor-

nia has lost more wetlands than any other state. As part of the price of development, the hardening of the Southern California landscape destroys wetlands directly and indirectly by changing hydrology and by draining pollutants straight to bodies of water, Hartmann says.

What's left of the wetlands obviously is precious. California has more endangered species than any other state, and most of them—at some stage of their lifecycle—depend on wetlands for survival and growth.

And wetlands, of course, are where the Corps and District come in. The Corps is one of 17 states, federal and local agencies in the Recovery Project. In an inspired official choreography, the governmental entities work hand-in-hand with private corporations and nonprofit organizations. Using a non-regulatory approach, they seek to acquire and restore wetlands with a coherent and visionary strategy.

John Gill, a biologist and environmental manager in the District's Planning Division, was a charter member when participants first started meeting in late 1994. "We wanted to do something all our agencies could participate in," he recalls. At the time, mitigation of wetlands in Southern California wasn't very effective. (Mitigation can offset adverse impacts by preservation, restoration, and enhancement or the creation of new wetlands where none existed before.) It wasn't until four years later that a working agreement was signed and the Wetlands Recovery Project was formally recognized.

The Project is an active buyer of land on which wetlands are located, as long as there is a willing seller of the property.

More recently, the Project has evolved into a grant-providing body. "People can apply to us if they have good projects they want to do for wetlands," Gill explains. "We fund many of the larger projects on a cost-sharing basis." So far, some 15-to-20 projects have been funded by the Project. For the fiscal year 2002-03, a whopping 69 projects have been proposed for funding and some portion of them eventually will be funded.

Projects already underway have led to the acquisition of almost 5,000 acres and the restoration or enhancement of more than 500 acres. They have established habitats for migratory birds, threatened and endangered species and fish and provided ecological services throughout the region. From the Carpinteria Salt Marsh in Santa Barbara County to the Tijuana Estuary in southern San Diego County, the Restoration Project's guiding hand has helped improve the quality of life for people in Southern California.



*Tijuana estuary before the Corps' wetlands restoration.*

Besides the obvious environmental benefits, the region's wetlands provide gargantuan economic payoffs. Tourism is a \$55.2 billion annual enterprise in California, including \$10 billion for coastal tourism and \$3.6 billion for wildlife viewing. In L.A. County alone, more than 270,000 jobs are supported by natural resources assets. Sport-fishing along the southern two-thirds of the country's left coast totals \$536 million annually.

It's no wonder wetlands have attracted such heavy-weight attention.

One special, and possibly unique, feature of the Project is that if anybody opposes a plan—even a single member—it doesn't get done. Projects have to be approved unanimously. "One might think this veto power would make us weak," says Gill, "but, no, in good teamwork style, we make sure everybody's onboard."

It hasn't all been hats and horns. Disputes, lawsuits, cloakroom deals and other necessary evils of a democratic political system have sometimes slowed the Recovery Project's momentum. "Wetlands law is not for people

with an aversion to ambiguity," writes Hartmann, outreach director of the Recovery Project who holds both a Ph.D. and a law degree and has been active in environmental issues in California for decades. "It is a litigator's delight and an abject frustration to those who seek certainty." Hartmann also was a wetlands enforcement attorney at the EPA's Region 3.

There are both altruistic and pragmatic reasons for the District's involvement:

- The Corps should help when there's an initiative like the Wetlands Recovery Project out of a spirit of cooperation;

- Some of the wetlands projects could affect Corps projects and vice versa;

- The Corps regularly issues permits for wetlands, and most of the projects funded by the Wetlands Recovery Project will eventually need permitting; if because of its involvement in the Recovery Project the Corps already knows something about the applicant, it makes the permitting process faster and easier.

There are similar groups in the Bay Area and Central Valley, but the Southern California organization increasingly is being touted as a model. One reason is that the Project boasts five county task forces—chaired by a leading nongovernmental organization and a county supervisor. Local government thereby becomes an active participant in planning and project development in protecting regional waters.

Hartmann emphasizes the crucial role of the Corps in the Recovery Project. "The Corps is the agency Congress likes most to fund and to channel money through," she says. "We've made a lot of progress since 1998 and had our first funding. We have a long way to go, and the Corps will be key to how it unfolds.

"Ultimately, we hope that we might build on these efforts with the Corps to obtain a continuing authority from Congress—modeled on the Everglades restoration program—that would bring federal money into the effort."



*The same estuary after restoration.*

# “Build it, and they will come...” *Fields of Dreams*

FULLERTON, Calif.—Flash forward to the fall of 2003. A sunny Saturday afternoon. The city of Fullerton. Hundreds of kids and dozens of parents dot 23 acres of landscaped fields. The kids kick soccer balls, hit baseballs, throw softballs and catch footballs. The grownups cheer wildly on nearly every play. At half-times, lines jam concession stands and restrooms. As dusk approaches, battalions of state-of-the-art tower lights wink on, and the games proceed well into the night.

Now rewind four years. The manicured infields and sculpted sidewalks of the Fullerton Sports Complex are still only lines etched on architects’ blueprints. The acreage is a brush-filled flood control basin behind the Brea Dam. Girls and boys on sports teams must wait hours for the few “recreation amenities” in the city to open up for their games. The fields of dreams for Fullerton city planners are just that—dreams.

Enter the Corps. And Unocal, the onetime energy resources giant that has successfully diversified into property development and real estate. Thanks to a complex land swap between the Corps and the company—a deal which involved scores of District team members and months of work—the Fullerton Sports Complex moved off the drawing board and into reality. “The city required Unocal to build a sports complex, a community park, as a result of Unocal’s hous-



District file photos

## *Building it.*

ing,” says Phil Serpa, an outdoor recreation planner in the Operations Branch. “There was a land exchange between the Corps of Engineers and Unocal that provided for this footprint.”

For years, Unocal and its Standard Pacific joint venture partner had been busy developing plans for the East Coyote Hills residential housing project. Before they could get final approval, however, the joint venture partners needed to come up with a plan to meet the legal requirements to furnish “recreational amenities” when creating a housing development.

The entire area encompassing the proposed recreation project is contained in the Brea Dam Basin, which means it is subject to periodic floods. The Corps owned the land. Unocal needed some of it to satisfy the law. “They had some very steep land,” recalls Carvel Bass, an ecologist in the District’s Operations Branch. “We had some that was flatter. So we traded.”

Sounds simple enough, but the fine print required thousands of team-member hours to iron out the

details. “Once the plans came to us in Operations,” Serpa explains, “we submitted them to our Engineering Division to make sure they didn’t have any problem with their structures and ball fields, which they didn’t. There was no expense to the government, it didn’t interfere with operations of the dam itself and it provided the community with a local place to go—it’s a great thing.”

Jim Martinez, Unocal’s project manager for the East Coyote Hills development, agrees. “The Corps is to be commended and complimented on its efforts, from Los Angeles to Washington, D.C., because it was an extremely complex transaction,” he says. “A lot of people in the Corps spent an awful lot of time on this. We think it is a premier park with all the bells and whistles.”

During the complicated discussions, the actual acreage envisioned for the sports park grew to 23 acres from an original estimate of 17 acres. Moreover, as all the dirt was being moved for the housing development, the capacity of Brea Dam was also increased. By the time the sports complex is finished, the total cost will be \$5.5 million. Masquerad-



***They will be coming soon.***

ing—moving the dirt—was the biggest ticket item in construction, followed by the high-tech Musco lighting structures, which cost \$600,000. Among other features, the lights can be turned on and off and dimmed telephonically.

For Fullerton’s 56,000 residents, the sports complex has been a decade-long goal. When finished, there will be two softball/baseball fields, one soccer/football field and one combination field. The complex will also host a series of summer concerts, which are now held at the base of the dam. Concession stands, restrooms and a large parking lot make up the infrastructure of the complex, and walkers, joggers and bicyclists can use a latticework of trails.

“There’s been a need for a long time,” says Alice Loya, a senior administrative analyst in the city’s Community Services Dept. “We didn’t have enough room to rent out or issue permits (to teams). Now we’re figuring out the schedule for the various leagues.”

Bordered on the west by Harbor Blvd. and on the north by Bastanchury Road, the sports complex is expected to be fully open by October or November. “Now we’re at the stage of meeting with residents and are trying to implement a ‘Good Neighbor Policy’ with them and the leagues,” Loya adds.

The residential development features two distinct zones: “Aspen,” with houses 2,500 square feet to 3,000 square feet and “Cedars,” whose houses’ square

footage ranges 2,000-2,200 square feet. “We’re going to have people moving in the late third quarter of this year,” Martinez says, “and most of the units will be sold, though not necessarily built, by the first quarter of next year. It should be completely built and closed by next year’s third quarter.”

As it turns out, synergy may be playing a role here. Unocal and Pacific Standard are discovering that the sports complex, which they were required by law to build, has become a magnet for families with young children or those expecting to raise families there. “We sold out 75 percent of the first part of the housing, and we’re sure the rest will go very quickly,” says Martinez. “It has a lot to do with the park. You don’t have to drive anywhere—that’s a big plus.”

Serpa, a father of one daughter and two sons who play baseball, and a man who himself plays softball on weekends in Whittier, can personally understand the park’s appeal to athletes and fans. He also sees the importance of the complex in promoting the Corps’ values. “We’re going to have Unocal put up a monument (in the park) indicating that you’re within the Brea Dam Basin with a description and purpose of the dam as flood protection for the whole community,” he says. “This whole project tells people that the Corps is providing the open-space land to show that we’re interested in the community and their recreational opportunities.”

***Play ball!***



# Dam the floods, water treatment ahead

By Mike Tharp

**WHITTIER, CALIF.**— Imagine life without the Whittier Narrows Dam. Actually, you don't have to imagine. Some history, from a 1957 Corps report: For five days in 1938, more than 17 inches of rain spawned floods that flowed like lava beyond the junction of the Rio Hondo and San Gabriel Rivers only 12 miles east of downtown Los Angeles. Five years later, it was even scarier, as rainfall in nearby mountains exceeded "all previous recorded intensities" for a 12-hour period.

Vulnerable as an open wound, south of the rivers' confluence lay at least 16 municipalities. From Montebello and Whittier to Carson and Long Beach, citizens in those communities had just endured the Great Depression and were in the middle of fighting World War II. They didn't need a flood of Biblical proportions to plague and distract them.

But because there was no Whittier Narrows Dam, that's what they got, with the contemporary equivalent of hundreds of millions of dollars of damage and destruction. In fact, between 1884 and 1943, medium to large floods ravaged the countryside on average every three and a half years—17 altogether.

Then the Corps built the dam, finishing it in 1957. Almost 50 years later, the architecture, design and dimensions of the dam remain impressive. The spillway consists of nine 50-by-29-foot radial gates, separated by six 8-foot-wide and two 16-foot-wide radial piers. When closed, four radial gates, 30 feet wide by 20 feet high, seal openings 30 feet wide by 19 feet high.

One reason for the dam's success is the terrain where it was built. The two rivers merge serendipitously at a gap between mountain ranges, "a broad alluvial cone," in the words of the 1957 report. The dam is sited at what amounts to be a topographical chokepoint where maximum pres-

**Phyllis Träbold, district ecologist**



*Aerial view of the Whittier Narrows Dam area.*

sure can be applied to riverine forces at their narrowest point of contact.

Stopping floods is only the most notable accomplishment of the Whittier Narrows Dam. In recent years, the Corps Operations Branch has been supporting the U.S. EPA's groundwater contamination remediation operations. In June, a dedication ceremony was held for a new water treatment facility on Corps land east of the dam. The facility's charcoal tanks and pumps bring up underground contaminated water and scrub and filter it for uses that meet tertiary water standards. (Contamination is believed to have occurred in upstream aquifers from oil wells, paint factories and other possible pollution sources.) Los Angeles County has sued several energy companies for the alleged contamination of the flood control basin, according to the Whittier Daily News.

"We didn't contribute to the contamination, but we're trying to clean it up," says Phyllis Träbold, a district ecologist and the closest counterpart to a park ranger in L. A. "We're always trying to minimize the effects of what we do—to design with nature, if you will."

As a result of persistent suggestions by Träbold and a few other District experts, the new treatment plant was built only after the Corps persuaded EPA to write an Environmental Assessment and provide mitigation for the Corps' major lessee, Los Angeles County Parks.

To minimize any adverse visual impact, the plant was built next to a Texaco coal research facility, and so no



By Kim Matthews

District file photos

recreation-leased land was lost for the treatment plant. EPA mitigation measures included planting more native shade trees, especially sycamores, installing a mile of forest-green fencing and the construction of a new solid waste collection facility. The project sits near the junction of the 605 and 60 Freeways.

Träbold represents the new breed of Corps team member. A federal employee for 20 years, she worked as a National Park Service technician in Texas and as a Bureau of Land Management park ranger in Arcata, Calif., before joining the Corps in 1994. She holds a master's degree in environmental studies from Cal State Fullerton University and for her, "an ecologist in the Army Corps of Engineers isn't an oxymoron."

Träbold firmly believes that to manage her ecological mission across 25,000 acres of Corps property in three states, she has to be out in the field. That's why you'll find her bumping a white government-issue Jeep over bumpy one-lane paths at Whittier Narrows. She stops to photograph "Zone 1 Ditch," a surging torrent of water that is conveyed from the San Gabriel River to the L.A. River by the ditch. Then she flips open her global positioning system device and records the coordinates of the ditch and its four culverts.



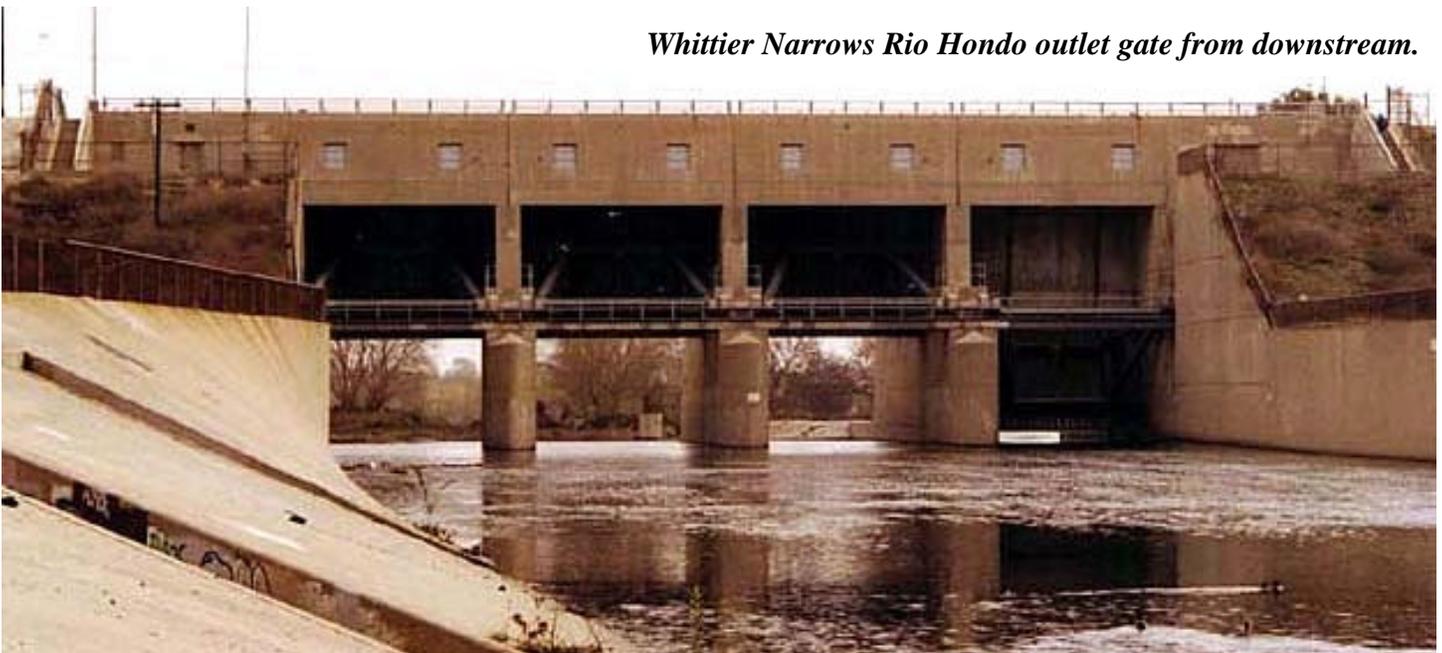
*Rio Hondo River spreading ground intake gates.*

"What would you do if you found an endangered species of bird?" she asks rhetorically. "How do you tell where you are, except with latitude and longitude?"

Träbold says her mission is "to try to improve the impact of anything affecting the environment." She and her ecological colleagues "tend to look more at the community level than one deer, one tree, one fish—we try to accommodate natural and cultural resources. A lot of times we can just tweak things to make them go better."

Phyllis Träbold at Whittier Narrows Dam. A Corps ecologist. Not an oxymoron.

*Whittier Narrows Rio Hondo outlet gate from downstream.*



# Project Management Business Process: leading by doing

By Mike Tharp

When the green-suited Chief Engineer drops and gives you 10, you know you're at an important meeting. That's just what LTG Bob Flowers did recently in a headquarters conference room to show how much the Corps' newest cultural reformation effort means to the organization's future.

"Use the 'Just Do-It Card,'" Flowers intoned just before he slammed to the floor and pounded out the push-ups. He then ordered participants who hadn't done their homework to exit their comfy places at the conference table and give him 10. "The lesson is we're demonstrating that this is effective management," Flowers said.

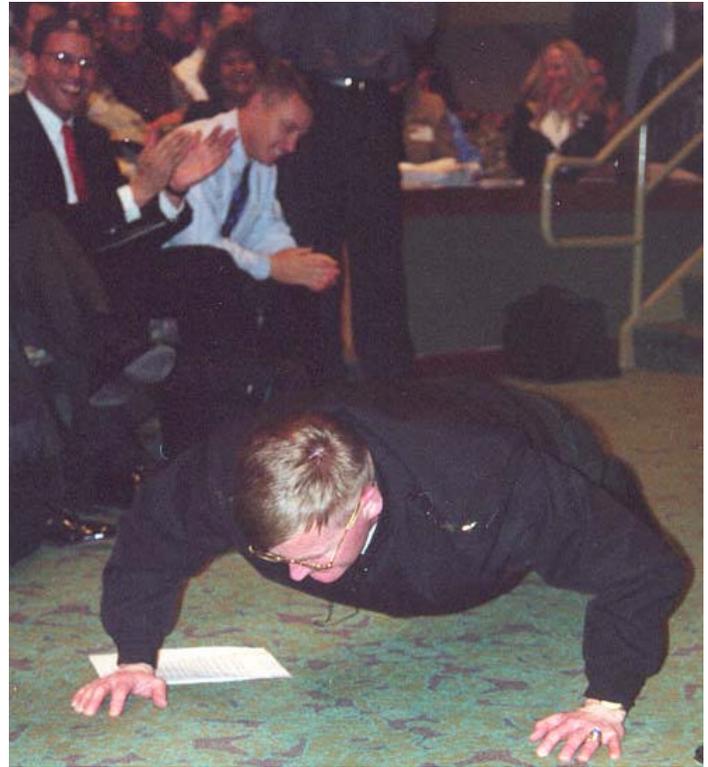
Specifically, the latest synergistic strategy is called Project Management Business Process (PMBP). The venerable Corps is now being transformed, via some fairly revolutionary techniques, into "a learning organization focused on serving the Army and the nation," BG Robert L. Davis, South Pacific Division commander wrote in May.

Just as IBM under CEO Louis Gerstner survived the 1980s PC shakeout and sailed into the '90s and beyond as a still hugely formidable enterprise, so too the Corps hopes to apply lessons ranging from Sun Tzu, the 4<sup>th</sup> century B.C. Chinese philosopher who wrote "The Art of War," to those of Japanese corporate managers who form and find consensus by working from the grassroots level upward.

At the heart of these efforts is a profound recognition of the role of information-sharing—a role that has become even more important post-Sept. 11. Like nearly every other government agency, and many private-sector outfits, the Corps sometimes has been locked into the "stovepipe syndrome," a colorful phrase to describe poor information flow. In a recent *USA Today* article, author and consultant Larry Downes described the syndrome as "the difficulty large, geographically dispersed companies have sharing important data from one part of the company with other parts. (Imagine a series of homes with vertical stovepipes that carry heat away from their ovens and into the ether, but have nothing joining them together.)"

To connect its own stovepipes, the Corps "will work in teams, share what we know, listen and learn from each other, welcome feedback and apply our experience and good judgment to making sound decisions," Flowers wrote in a March memo to all Corps employees.

In the District, the effort began in late May when 16



District file photos

***LTG Bob Flowers drops for 10 during a town hall meeting earlier this year.***

team members gathered at downtown HQ for briefings and training: Jim Adams, Tina Chavez, Phoebe Chen, Ed Demesa, John Drake, Jay Edwards, Ruth Fowler, Joyce Fredholm, Nick Golshani, Deane Kennedy, Chis Kronick, Robert Colangelo, Joe Mano, Maj. Douglas Schuetz, Brian Tracy and Tawny Tran became the first "facilitators" prepped to spread the PMBP gospel. Shawn Basu, the District POC and Curriculum, and John Drake, P2/Implementation, were designated "champions" by Davis to lead the effort of training, deploying and implementing PMBP. "Training for the Trainers," in other words.

"This is not just a onetime thing," Basu said. "We are just at the starting point. It is for 100 percent of the employees—a real cultural evolution."

In itself, the eight-course, eight-CD-ROM curriculum marks a quantum leap from the ordinary lectern-in-front-of-classroom approach. Everyone in the District will be given copies of the CDs for self-learning and Internet connections to prepare for small-group discussions. Generally, five hours have been allotted for each disc during this crucial self-learning component of PMBP. There will be hyperlinks to the Corps web site, and team members will respond to questions on an electronic note pad. Afterwards, they will meet with their facilitators and talk about

their answers.

In a word, PMBP is interactive.

The philosophy behind the PMBP is that everyone is a team member and that's the way to do business as a service-oriented organization. "It's a major cultural change," says Tawny Tran, one of the newly minted facilitators and a project manager in the District's environmental restoration program.

In that sense, the strategy mirrors the philosophy of a handful of turn-of-the-Millennium management books. One, for example, *The Irrelevant Corporation*, by Charles H. Green, posits the following outlook: "The molecular unit of business is coming to be, not the corporation, or even the business—it is the individual. The dominant fact in employees' lives is now not their corporate employers, but the networks of other people in business."

Obviously, a one-to-one congruency cannot be drawn between a private, for-profit corporation and the government agency that is the Corps. But the attitude toward customers, a/k/a stakeholders by the Corps, is remarkably similar: In what Flowers calls "a paradigm shift," customers no longer will be mere end-users of a Corps product or service. "Our customers will be part of our product delivery teams," Flowers explained. "We have an opportunity not just to satisfy the customers but to *delight* them."

On the ground, the philosophy will work like this, as spelled out by Facilitators Karen Northrup as headquarters rep and Caroline Buckles, SPD: Groups of six to eight people will meet after their self-learning sessions. This will be a forum at which they can share their feelings,

hear each other's conflicts and problems, collect these experiences as lessons learned and establish some sort of consensus during the process. "We'll hear a lot of griping, but this is the first step of recognizing the problem," says Tran. Members should expect a several-months-long deployment before PMBP percolates through all the District ranks.

In its essence, PMBP intends to promote communication through cross-pollination. The theory is that, the more information people have, the better, and the more this information is shared, the better. The self-learning tools and the role of the facilitators are simply instruments with which to promote the communication and cross-pollination. One of the management philosophy's corollaries is that as many team members as possible should be at the data table from the outset of a project. That way, everyone who will be affected by the project and its results will have a say in how it unfolds.

The facilitators are the catalysts to make that happen, or, as Flowers says: "They are what this learning organization is all about."

The Corps Leadership Development Program defines a learning organization as "one whose culture and processes support an open atmosphere of change, empowering individuals by giving them authority and responsibility to acquire, utilize and share knowledge with others."

Tran, with a decade so far in the Corps, is a true believer about PMBP: "It's all about teamwork. We have to do it as a matter of survival. Flowers realizes that, for the Corps' future, it's the people."

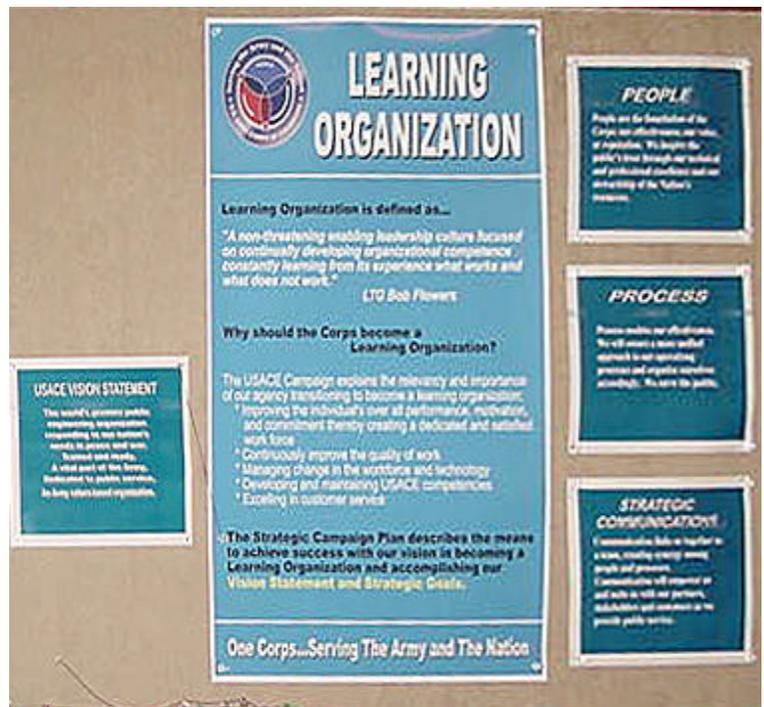
So get down and give us 10—not pushups—but your best ideas!

## It's on the Board

LTG Bob Flowers presents the Corps's purpose, mission and goals and his philosophy in his Strategic Vision. To support the general's vision, COL Richard G. Thompson has placed bulletin boards by the elevators on each of the District's floors in the headquarters building.

The boards provide information about the people, process and communication the general has identified as strategic goals necessary to fulfill the vision. Messages to date have addressed Individual Development Plans (IDP), the Mission Essential Task List (METL), the Leadership Development Program (LDP), Environmental Operating Principles and South Pacific Division Commander BG Larry Davis's "Four BEs." Take a look at the Corps's strategic vision (<http://www.hq.usace.army.mil/cepa/vision/vision.htm>).

If you or have suggestions or examples that demonstrate a successful approach to accomplishment of the vision's strategic goals, contact the District's Public Affairs Office. We look forward to hearing from you.



# A rolling Moss gathers no home— but she does grab a lot of adventures

By Mike Tharp

England, Cyprus, Poland, Northern Ireland, Australia. The sun seldom sets on the duty stations of Capt. Liz Moss, Royal Engineer.

In her earliest military assignment, Moss walked among oak-shaded red brick-and-limestone buildings from two centuries ago. She visited such venerable landmarks as Iron Age Hill Fort, Caesar's Camp and Roman Road. A bellicose statue of a robed Queen Victoria (1819-1901) guarded one entrance to the academy. Moss spent a year there, at the Wishstream river junction of Surrey, Hampshire and Berkshire Counties west of London.

In 1994, Moss earned her second lieutenant's (she pronounces it *leftenant*) commission with the Corps of Royal Engineers at the Royal Military Academy, Sandhurst. As West Point is to Americans, Sandhurst is to the British.

Eight years later, she's in the District, working as a structural engineer in the Engineering Division. Moss specializes in design work for Las Vegas-area storm channels, part of the Flamingo Wash flood protection project. The 30-year-old native of Crewe in northern England came to the Corps and the District in May as part of her master's degree in engineering. After six months of academic study in England, those who qualify are seconded to brother and sister units abroad. Other British officers are serving with Corps districts in Sacramento, Florida and elsewhere on the east Coast.

"I like to get to travel so much with work," she says. "You're only on one job for 18 months or two years and then you move on to something new. There are opportunities to do so much—sailing, parachuting, hiking. The opportunities are much greater in the Army than outside. After all, there aren't many jobs where you actually get paid to keep

yourself fit."

If there is a downside, she says, it's not being able to put down roots, such as owning property. But she quickly corrects herself and smiles: "How can I say there's any downside when they just sent me to Los Angeles for 18 months?"

One of her biggest transatlantic adjustments has been life without Jack, her faithful canine companion. Jack was able to accompany her on some previous assignments, but a move to the U.S., including a quarantine period, would have been too much for both captain and border collie. Jack is staying with her parents in northern England during her U.S. duty time.



*Moss and her border collie, Jack, in the snow at Peak District National Park in the United Kingdom.*

Moss gravitated toward engineering and the Army from a young age. She did well in math and physics at school and learned about government service from her father, who worked for British Rail, and her mother, who still works for Britain's Ministry of Agriculture, Fisheries and Forestry. (Her younger sister is now a physician.) She was also an outstanding badminton player, starring for Birmingham University, where she was graduated with a civil engineering degree in 1993.

"I joined the Army because I was fairly active," she explains. "I'd joined the reserves at university and really liked it, so I decided to stay with it."

After she was commissioned out of Sandhurst, her missions included traditional construction of fortifications, command of a mechanized troop, second in command of a mechanized squadron (which is the size of a U.S. company) and an operations officer. One of her proudest assignments was training combat engineers at the Royal School of Military Engineers in Surrey, England.

In Northern Ireland, she patrolled with riot troops wearing full riot gear, including "a fairly heavy flak jacket. We spent two weeks being spat at and petrol-



*Left: Captain Moss on exercise in Australia.*

*Below: Captain Moss and a fellow cadet at the Royal Military Academy Sandhurst in 1994.*

bombed,” she remembers. “It was fairly intense.” On the island of Cyprus, she trained at infantry ops “in which we’d be inserted by water, storm a beach and assault a position, like the Marines.” Moss commanded a platoon-sized troop there. Down under, she lived in the Australian bush for two months while training with her Aussie counterparts. To call it interesting would be typical British understatement: “It was the spiders and snakes and the 10-foot python that happened to be in a tree where I was hoisting a radio mast, it was throwing tins of processed cheese at possums so they wouldn’t go after our rations, it was koalas and emus and kangaroos and spiders the size of your hand.”

In L.A. District, she hasn’t worked directly with any U.S. military counterparts, so she can’t compare or contrast how the two Army engineering establishments operate. She notes that Britain, like most of the rest of the world, uses the metric system (since 1971) while Americans continue to measure away in feet and inches. “I wouldn’t expect U.S. civil engineering firms to be much different to Britain’s engineering industry,” she says. Professionals on both sides of the Atlantic readily adopt a “cross-multiplicity of ideas,” she says, such as value-added engineering and quality control concepts.

Moss lives in Manhattan Beach, a block from the strand and ocean, which gives her plenty of opportunities to maintain her fitness. She did three triathlons in England, is a certified scuba diver and has now taken up roller-blading through the beach cities. She’s also trying to learn to surf and plans to climb Mt. Whitney at the end of August and the Half-Dome at Yosemite before that. “I’ll try anything once,” she ventures, “except bungee jumping.”

Maybe that’s for her next duty station.



Photos Courtesy Kate Moss

# The Doctor Factory

By Mark D. Cohen

According to Dr. Mark Sudol, chief of LAD's Regulatory Branch, the district regulatory program's high level of performance and outstanding professionalism are a direct result of the branch's past and present dedication to hiring and retaining people with post-baccalaureate degrees. Currently, a majority of regulators have a master's degree or higher.

According to Sudol, the Regulatory program supports higher education as "a means of improving retention and professionalism." The result is a highly specialized and motivated staff with advanced degrees in biology, environmental science and engineering, health science, geology, geography, engineering, law, and more.

Regulatory draws current students and alumni from a variety of universities, including California State University Long Beach, Arizona State University, the University of California Santa Barbara (UCSB), the University of Washington, and Tulane. Most recruits, however, come from the University of California Los Angeles' (UCLA) Environmental Science and Engineering (ESE) program and from UCLA's Geography Department. ESE is a multidisciplinary program that emphasizes applied science with respect to a variety of environmental issues from air and water quality to ecology, environment law, environmental management, and environmental engineering. The doctoral program consists of two years of full-time studies followed by a residency at a local, state, or Federal agency, or a non-governmental organization. Students come to the Corps to fulfill the residency part of their program.

Students can become Corps employees by applying for work under the Student Career Experience Program (SCEP), which is part of the Student Educational Employment Program. The SCEP has helped staff the Regulatory Branch with highly educated people capable of handling complex environmental issues. According to SCEP participant Corice Farrar, "The wide variety of courses we take in the ESE program parallels the issues we work with on a daily basis at the Corps."

The SCEP benefits the Corps and student recruits alike. When Regulatory Branch has vacancies, they recruit potential regulators through a university's environmental program. Sudol requests resumes and then interviews qualified students. According to Regulatory's



By Fred-Otto Egeler

***Left to right: Dr. Eric Stein, Dr. Fari Tabatabai and Dr. Mark Sudol are all graduates of the Doctor Factory.***

North Coast Section Chief, David Castanon, "It's the closest thing the Corps has to a direct hire authority. SCEP enables us to post a brief announcement locally, and the processing of applications is handled expeditiously." Within the past year alone, four doctoral candidates have been hired through UCLA's ESE program. Two more were hired through UCSB's Bren School of Environmental Management.

Sudol knows about ESE and the Regulatory program firsthand. He was hired along with three others through SCEP's predecessor program in 1991. That was the first year Regulatory utilized student hires. The other students hired that year include Mike Jewel, Tiffany Welch, and Antal Szijj. All three still work for the Corps. Jewel is currently a Section Chief for the Sacramento District. After several years as a senior project manager, Welch completed a law degree, passed the state bar exam and now works for LAD's Office of Counsel managing the District's environmental law matters. Szijj manages Regulatory's Seven Oaks Field Office.

Castanon pushed for Regulatory's implementation of the student hire program in 1991. He said the program was conceived for a variety of purposes, including staff morale. "In the early 1990's, we had a very high turnover of personnel. We didn't have enough computers to go around. Everyone was overworked. Bringing in students

solved many of our problems. It was a low cost, effective way to hire good people,” Castanon said.

Since 1991, retention within the Regulatory program has improved. Currently, over 90 percent of SCEP participants are hired on as permanent staff after graduation.

Former SCEP participant and ESE student Dr. Eric Stein agrees conducting research at the Corps was worthwhile for him: “The focus of the ESE Program is for students to conduct rigorous scientific analysis of an issue that has direct application to environmental decision making. The Regulatory Program at the Corps provides a natural bridge to this objective. The Corps provided me with the opportunity to develop a project analyzing the cumulative impacts of multiple wetland fill permits on the overall ecology of the riparian resources in the Santa Margarita Watershed...The scope and nature of my project would not have been possible without the insight and support provided by Corps staff.”

The SCEP benefits student hires in many other ways. While earning their degree, they receive job experience and a paycheck. The SCEP program also allows hiring of undergraduate students at the GS-4 level. Students with at least one year already done towards a master’s degree are usually hired at GS-7 level. Students enrolled in a PhD or D.Env. program are usually hired at the GS-9 level. SCEP hires work a minimum of 16 hours per week



***Regulatory SCEP participant Corice Farrar at work.***

up to full time.

Besides the SCEP program, Sudol also emphasizes how Regulatory encourages current staff returning for advanced degrees. “The Corps, the Army, and the government, in general, believe in the importance of continued education to meet the changing needs of Federal Service.” Flexible schedules and reduced hour work weeks are just a few ways Regulatory helps its returning students.



***From left to right: Dr. Mark Sudol, former SCEP participant and current Regulatory Branch Chief; Dr. Fari Tabatabai, former SCEP participant and current senior Special Area Management Plan Project Manager; Corice Farrar, current SCEP participant; Matthew Vandersande, current SCEP participant; Erik Larsen, former SCEP participant and current SAMP Project Manager; Josh Burnam, current SCEP participant; Jae Chung, former SCEP participant and current SAMP Project Manager.***

# Big Bear Lake: dredging up new problems

By Mike Tharp

**BIG BEAR, Calif.**—In the 1980 horror movie “Alligator,” a boy, fresh from a Florida trip, accidentally flushes a baby gator down the toilet. Years later, a giant reptile, mutated in the sewers of New York, attacks the city.

In 2002, at Big Bear Lake east of Los Angeles, a similar scenario has unfolded. This time, the culprit is Eurasian water milfoil, an aquatic plant not native to the lake which has become a dangerous pest. Milfoil most likely was introduced into Big Bear from local fish tanks, after people flushed the exotic species down the toilet or sink. Like the kudzu weed in the south or *arundo donax* in southern California river basins, milfoil soon overran native plants and began choking the lake’s shoreline and harbors.

“We’ve always had a problem with that weed,” says Gene Martin, lake manager for the Big Bear Municipal Water District. “It’s a safety issue for folks who use the lake and it affects irrigation.”

Luckily for the 15,000 year-round residents of the area—and for the 6.5 million winter and summer visitors who throng the lake and the ski slopes—the L.A. District was casting about for a pilot project to demonstrate the Corps’ newfound commitment to environmental restoration. Big Bear Lake seemed an ideal candidate. “There aren’t many bodies of fresh water in southern California with public access,” explains Debbie Lamb, a senior water resource planner in the Planning Division. “Something needs to be done now before it gets worse—while there’s still time.”

The first phase, as usual, is a study with the local sponsor, the Big Bear Municipal Water District, to examine issues in which the Corps has an interest—environmental restoration, flood control, recreation. In April, a District team spent several days at the lake and is now compiling an “expedited reconnaissance study” outlining the problems, local concerns and federal opportunities to respond to those problems.

Predictably, several factors—some man-made, some natural—complicate any solutions. Sediment and runoff from local creeks flow into the lake, gradually adding layers to the bottom and making it shallower. Those pesky aquatic weeds crowd out preferable fish habitat and can



District file photos

*Above, top right, show how far the lake level has dropped in the long-lasting drought.*

clog motors on some of the 1,000 or so boats that ply the lake on a peak summer day. Shore erosion contributes to a loss of private property—and with folks like Kevin Costner, Aaron Spelling, boxers Oscar de la Hoya and Fernando Vargas living in multimillion-dollar homes around the lake, private property owners don’t like to see their land eroded.

Perhaps most troubling has been a decade-long drought. Ordinarily, average annual rainfall is 35 inches at the west end of the lake, 25 inches at Big Bear City in the middle and 15 inches in the east-end area of Baldwin Lake. Snowfall ranges from a few feet to more than eight feet a year.

In recent years, however, precipitation has been far from ordinary. Lack of rain has caused the lake to recede more than 11 feet, and another four-foot drop is expected for the rest of this year. One result has been shoreline property owners constantly extending their docks to reach the water. Another has been less lake surface for boaters, swimmers and fishers.

The stakes couldn’t be higher for Big Bear residents. “The whole economy of the valley depends on the lake,” says Martin, a 20-year-veteran in the battle to save the



lake. “We’ve got an aging lake here. It’s getting older, starting to get gray hair. My goal is some sort of restoration program.”

Martin says that “by chance” he heard about the Corps recent emphasis on environmental restoration. He invited the District team to Big Bear to show them the problems and “to let them know we’ve got some motivated folks up here.”

Lamb, whose mother was snowed in at a Big Bear cabin when she was a girl in the 1930s, is enthusiastic about the Corps involvement. “Concrete is out, environmental restoration is in,” she told the *San Bernadino Sun* in a front-page story. She points out the presence of several endangered species—bald eagle, American peregrine falcon, several plants—whose protection must be part of any restoration strategy. Other issues: water quality, water sources, flood control, flood damage. “We’re talking with people around the country who have handled lake management problems,” she says. “We’re trying to fast-track as much as we can.”

Recent cleanup efforts have included harvesting the milfoil weed and killing it with a safe herbicide. The constant sediment inflow has also been attacked by dredging, but nearby dumps and landfills are now saturated with tons of lake sludge and 6 million pounds a year of milfoil slashed from the lake. Lamb, Martin and other planners are considering several options to handle the sediment, including construction of a new small island in the middle of the lake. “Four million cubic yards have to come out of this lake,” says Martin. “The biggest issue is, where’s it going to go? The biggest hurdle is a dollar-sign hurdle.”

It seems fitting that manmade solutions are being applied at Big Bear, since the lake itself was formed behind a manmade dam in 1884. The dam was built to irrigate farmland and ranches in the Redlands area and was replaced in 1912 by a multiple arch dam confining the headwaters of

the Santa Ana River. Big Bear remained a sleepy resort area until the 1920s and ’30s when skiers began schussing down its many slopes. Ever since, it has been a favorite weekend and summertime getaway for hundreds of thousands of flatland Californians. The lake itself, when full, covers 3,000 surface acres nestled at more than 6,700 feet altitude. At its deepest, it’s 70 feet, though most is less than 30 and a lot is less than 10 feet deep.

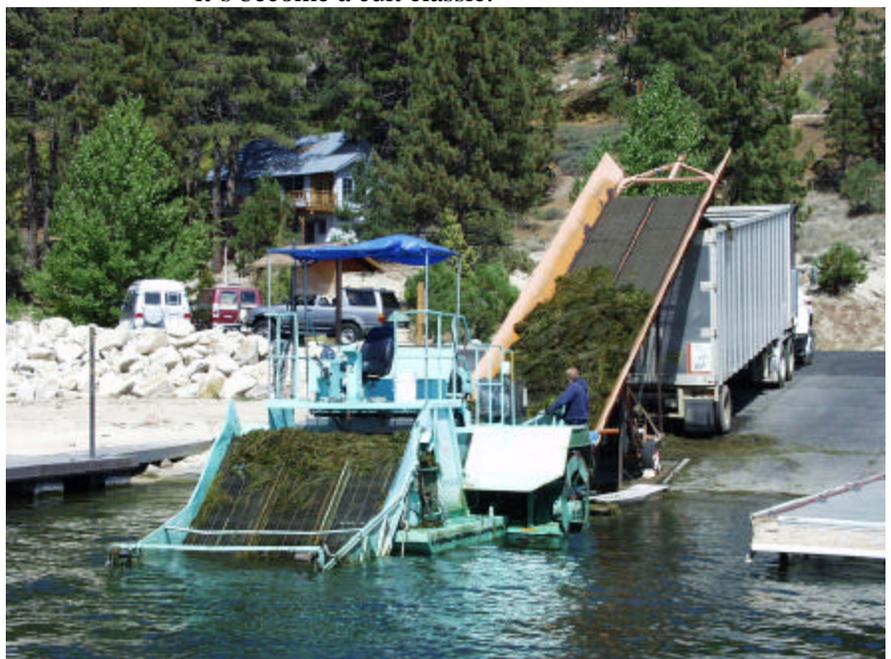
Lamb, a UCLA grad in landscape architecture, clearly has found a simpatico spirit in Martin. “He’s ready to jump in and solve the problems, to take care of things before they get to the point where it’s irreversible,” she says. Adds Martin: “I saw the same spark in her that I have.”

The District study will intensify next year, and the timeline for specific solutions ranges from five-to-10 years after that.

Meanwhile, the breadth and depth of challenges already have led to some creative proposals. Among a dozen options for disposing of the mountains of sediment is this one:

“The Big Bear Gift Package—Available at gift and fine retail stores, the perfect souvenir to remember your vacation in the Big Bear area, a surprise gift of a cubic foot of Big Bear Lake Sediment. Surprise your friends with a little something extra....” The problem with this solution? “Cost of packaging, weight and class action suit for stupidity and messing up people’s suitcases and cars. This would take a long time to get the sediment out of the valley without intense marketing.”

Of course, that’s what they said about “Alligator,” and it’s become a cult classic.



*Unloading some of the weeds dredged from Big Bear Lake.*

# Leadership Development Program promotes new growth through old wisdom

By Mike Tharp

Call them “evolutionaries.”  
Or maybe “missionaries.”

Whatever they’re called, the seven District team members spearheading the South Pacific Division’s Leadership Development Program (LDP) intend to create change and make converts. In the abstract jargon of programmatic explanation, the LDP effort “fills the gap to provide the essential leadership development training that is regionally oriented and necessary for the accomplishment of our future missions.”

In plain English, Lynnette Coachman of the Santa Ana Branch puts it this way: “The workforce is changing. If we’re not cultivating emerging leaders, we lose out as an organization. LDP is a valuable tool to help implement a learning organization.” Adds Lisa Lugar of the Office of Counsel: “If we don’t change, organizationally we’re stuck with becoming dinosaurs.”

Off and on all this year, the 22 team members have quietly begun to spread the LDP gospel throughout the Division. They’ve formed four main teams to deliver the message—Interaction, PM & Creative, Formulation and

Research and Learning Doctrine teams, with six-to-eight people on each.

The LDP is aimed at “high potential” GS/WG-09s through 13s and is open to all those with career status in all functional areas and career programs. A supervisor’s statement is required, and graduates must successfully complete all the mandatory program elements within one year.

There’s no question that LDP has become a priority for the Corps. LTG Bob Flowers, known as a hard-charging, kick-ass leader when he was a colonel overseeing several combat engineering battalions in the Gulf War, stressed that the Corps is “a learning organization” during Senate testimony in early June. Citing Flowers’s unmitigated support for the idea and the program, Tawny Tran, a project manager in the District’s environmental restoration program, says it shows “how strongly he feels about this concept and making it a reality.”

Maybe you’ve already been approached by the missionaries. One example is a Learning Organization questionnaire handed out to get a more-accurate picture of

how LDP can benefit you and

***L.A. Participants***

***Left to right: Dan Hanas, Lisa Lugar (LDP Steering Committee member), Kelli Johnson, Tawny Tran, Susan Desaddi, Joy Jaiswan and Lynnette Coachman. Jim Hutchison was not present for the photo.***



By Kim Matthews

your workplace colleagues.

The questions: What is a significant problem in your workplace? What is the root cause of this problem? What examples have worked or what do you feel should be done? Can this solution be applied to other areas? How would you go about sharing this information with other teams, districts, divisions? “We’re identifying what a learning organization looks like,” explains Kelli Johnson from the Budget Office. “In order for people to change, we have to let them see why it’s important to change.”

Another strategy is a series of brown bag lunches to disseminate information to interested applicants. Held in an informal atmosphere, the meetings feature a presentation from current and former participants, followed by a Q&A. The Regulatory Branch’s Susan Desaddi, one of the LDP’s local organizers, thinks that the lunches were effective last year when they began. “They were informative, inviting and casual,” she says, suggesting that LDP members take a day or two to visit field offices “to encourage more applications and participation” from them.

LDP goals are simple but ambitious:

- develop leadership skills;
- build teamwork;
- build and develop relationships;
- understand the environment in which the Corps operates;
- understand the value of diversity;
- develop a corporate perspective.

Other ways of getting the word out include a newsletter, use of the Intranet web page, bulletin board announcements and e-mails to District recipients. “Face-to-face is best,” says Johnson, “but if you can’t do face-to-face, technology is better than no meeting at all.”

Once someone signs up, he or she embarks on a demanding but rewarding regimen. One module, for example, requires participants to attend a week-long leadership course led by Ken Burns of the Center for Army Leadership; read an extensive list of books and articles on leadership; attend meetings with various Corps leaders, military and civilian customers and private-sector managers; pick a mentor to meet with regularly; and take training in various personal development courses. Three other modules offer similar but more advanced curriculums.

After finishing, each team member will receive a certificate, evaluate the program and plan outreach efforts for next year’s push.

As in any organization, resistance to change is part of the culture. Add the diverse backgrounds and varying goals of District team members, widely differing perspectives and a growing “separation of knowledge,” and the task confronting the evolutionaries becomes formidably clear.

But the LDP-ers remain undaunted by the challenge. “Our task is not to let an ‘Us vs. Them’ mentality prevail,” says Johnson. “We have to spread and share this knowledge with them.” Adds Coachman, who once

helped supply Marines operating in Somalia: “As each new group comes up, we are accountable to implement this new knowledge—to pass it on, to empower people.”

In many ways, the LDP system closely resembles the classic Japanese man-

agement consensus formation called *nemawashi*. Literally, it means “root-binding” and refers to the bottom-up consultation, collaboration and execution of nearly all major decisions done within Japanese organizations. (There’s even an LDP in Japan, but it refers to the Liberal Democratic Party, a political faction.)

But the American-style LDP has its main roots in the learning organization vision of Peter Senge, an MIT management guru who wrote a seminal book, *The Fifth Discipline*, on the subject in 1990. Other influences on the movement range from Edward Deming, the godfather of quality control, to Thich Nhat Hanh, a Vietnamese Buddhist monk and author of dozens of books on the theme of how to live and thrive in the moment. “Contemplate to see that awakened people, while now being enslaved by the work of serving living beings, never abandon their work of serving living beings,” he wrote in *The Miracle of Mindfulness*.

Tran, herself of Vietnamese origin, recognizes the ethereal quality of LDP and Learning Organization on paper. But in practice, she says, applying the ideas and values of the systems to the daily work of the Corps is not only valuable but vital. “When we first started, we had no clue what a Learning Organization was,” she says. “Now it’s embedded in our daily professional lives. If we don’t adapt organizationally, customers will start to go elsewhere.”

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*“Our task is not to let an ‘Us vs. Them’ mentality prevail”*  
— Kelli Johnson

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# Cleaning up dirty water supplies on the Navajo Nation Reservation

By Mike Tharp

**SHIPROCK, Arizona**—When he was a 10th grader at Rock Point School on the Navajo Nation Reservation in Arizona, Thomas Littleben wrote a poem he called “My Land”: “I look at my parents...weak and limping. There aren't any of my sisters and brothers around. I am thinking what it will be like here in the future.”

Thanks to some crucial scientific field work done by several District experts, Thomas's land and future are now in better shape. Glynn Alsup, project manager, and others spent parts of two years trudging through and flying over Navajo territory. From 1998-2000, the Corps participated in a multidistrict, multiagency study sponsored by the U.S. Environmental Protection Agency Region 9 to determine any health risk to Navajo residents from abandoned uranium mines. This year, District representatives are continuing their work across part of the 25,000-square-mile reservation in Arizona. After laying a scientific and cultural foundation, Corps people are now helping Navajo households—40 percent of which don't have potable water in their homes—find ways to purify water to drink.

The District's involvement began four years after the initial study was underway. In 1994 the U.S. and Navajo EPAs and private firms began testing soil, water and materials used to build homes by reservation residents. The tests were performed to see whether abandoned uranium and vanadium mines posed a significant risk to human health. The studies were also meant to identify areas or features that would require action to reduce any exposure.

To find the answers, Department of Energy investigators first manned helicopters to locate the sites with the greatest potential exposure. Federal and local officials



conducted aerial radiological surveys of 41 mining areas encompassing nearly 1,200 square miles. Later, after these findings were mapped and measured, work began on the ground. The Corps' main mission was to test water used for human consumption and waste rock used in home construction at settlements near old uranium mines. The investigation covered six mining districts—Four Corners, Monument Valley, Cameron-Tuba City, Bidahochi, Central and Chinle—and affected a total Navajo population of some 170,000.

The Corps field operations included water sampling and surveys of home construction, radiation and mines. The purpose of sampling the water was to collect data that would allow evaluation of risks to human health if someone drank radioactive and stable metals in water. Alsup, Brian Jordan, Arthur Moncayo, Ray Salas and others all trekked across some of the most spectacular—and forbidding—land in America to conduct their research. “You drive as far as you can drive and then walk as far as you can walk,” recalls Alsup. Against some of the same landscape used in John Ford movies and other westerns, the District scientists worked in all weathers and at all hours. Temperatures ranged from 10 to 105 degrees, and they once endured a storm whose 104 mile-an-hour winds closed I-40 for hours. Their 35-pound backpacks got even heavier when they'd tote a dozen or more liter bottles of water back to their four-wheel-drive. Despite the tough conditions, including exposure to radiation, over thousands of man-hours the team posted a clean safety and injury record.

Their regimen consisted of collecting one water sample at each well, tap, spring or tank identified as a source for consumption. At each site, they monitored and recorded radiation levels at the standard height of one meter from the ground, testing for 11 radioactive and 23 stable metals.

Because many of the Navajo themselves worked in the mines from the 1940s through the 1960s, they often built their homes nearby, sometimes using materials dredged out of the mines. And so, a generation or more after the mines were played out, late 20th century District personnel found themselves literally knocking on the doors of Navajo homes to measure if any of the construction materials were radioactive. Because of cultural sensitivity, language barriers and other reasons, the Corps

*Remote GPS site at the top of a mesa in the Coalmine Chapter.*



***Collecting Cliff Springs water samples.***

and other federal government representatives worked closely with officials from the Navajo Nation EPA and 30 Navajo chapters—local governing units on the sprawling reservation. The results of the District scientists' probes of the Indian homes was made known to the residents and chapter officials, but weren't released publicly.

One result was that some residents moved from homes with high levels of radiation. Another was the closure of some wells and swimming holes. Most importantly, Navajo Nation leaders conveyed their concerns to their chapter members so they were aware of possible problems.

Between June 1998 and January 2000, the Corps field investigations included 227 water samples, 27 quality control samples, 28 home surveys and 34 radiation surveys. For much of last year, Alsup and his counterparts from other agencies and the private sector compiled the data into a loose-leaf coffee-table atlas and a CD. The District's findings alone filled 21 four-inch-thick volumes and an 8x10-foot trailer.

Clearly, the project addresses some important and sometimes controversial issues for the Navajo. The book, *Metal of Dishonor*, by Manuel Pino, notes that "uranium development on Indian land parallels the history of the nuclear industry in the United States." He believes that because the government was the sole buyer of uranium mined in the early years and because some government officials invoked "national security" as a way to get Indians to work in the mines, the government is now responsible for any health problems Indians may have suffered from radiation exposure and other uranium-related causes.

Milton Bluehouse, a columnist for the Navajo Times, quotes a half-dozen reservation residents who blame uranium mining for a gruesome litany of health problems and congenital conditions affecting their offspring.

Because the issues are so emotional and long-lasting, whatever scientific information

that can shed more light than heat on the subject is welcome. That's exactly what the meticulous work by District experts did. For two years, they braved the elements, rattlesnakes and yellow-jacket wasps, and overcame language barriers to do the job right. They employed a wide range of skills—from high-tech global positioning systems which plotted coordinates at all sites to old-fashioned boot leather to walk there and back—in their quest to supply reliable data for scientific evaluation. Today, those findings are on file at USEPA's record center, Stanford, Cal-Berkeley, the University of New Mexico, Northern Arizona University and at every Navajo chapter house that has been sampled.

These same research techniques are being reapplied this year as the District's emissaries venture once again onto Navajo land. One of the Corps' missions will be to help communicate results of the studies to various Indian communities, and one of the ways planned to do that is with "water fairs." Outreach teams, including District representatives, will visit chapter meetings and deliver key messages to residents with common-sense recommendations on how to avoid uranium-related health hazards. Alsup has already visited reservation schools, showing and telling Navajo children how to avoid radiation risk and stay healthy. Overall, the project is expected to last several more years.

Alsup, a modest, soft-spoken Tennessean who now admits a fondness for fry bread and mutton stew—Navajo specialties—sums up his and the District's participation in the project: "We have to worry about budgets, allocations, programs. But it still comes down to real people with real questions." Thanks to him and the multiagency effort, a lot of those questions are being answered.



***Testing contamination in a sample from the large Cameron pit.***

# Kelli Johnson: shaking things up coast-to-coast

By Mike Tharp

When Kelli Johnson decided to move from Virginia to southern California in 1980, her mother was amazed. Not because her daughter would be living among millions of people and dozens of cultures after growing up in smallish Anchorage, Alaska. No, it was because, as a small child, Kelli endured one of the 20<sup>th</sup> century's biggest earthquakes, and lived to tell about it.

Now, here was her pride and joy, pursuing a career that placed her smack-dab on another edge of the Pacific's Rim of Fire earthquake zone, nestled precariously along the San Andreas Fault. "The first earthquake I felt here, it freaked me out," recalls Kelli, now the Lead Budget Analyst in the District Budget Office. "I'm getting quite adjusted to it now."

Maybe it's genetic. After all, her father Herb Lathrop had helped his wife Joanne, Kelli and her siblings Laura and Bob survive the March 1964 Good Friday earthquake which registered 8.4 to 8.6 on the Richter scale, killed 114 people and destroyed half-a-billion dollars worth of property in the 49<sup>th</sup> state.

Reacting within minutes after the temblors ceased, Corps personnel raced to ensure that highways were re-opened and safe water supplies provided. Reconstruction spending averaged \$1 million a month for the first year



*The formerly six-story Four Seasons apartment building*

after the quake, as the Corps finished the most important repairs before the onslaught of winter. Altogether, more than \$110 million was spent on salvage, rescue and rehab operations in Alaska.

When Corps headquarters recently distributed an historical vignette about the quake, and the Corps' huge role in rescue, salvage and rehab operations in Alaska, it awakened some long-ago memories for Kelli: "I was three years old and living with my family in Anchorage at the time. My father was working as the Finance and Accounting Officer in the Resource Management office for the Alaska District. (He eventually went on to work as the Chief, Cost Accounting for HQUSACE, retired in 1983 and has since passed away.)

"We lived on Government Hill and our home was one of those mentioned in the vignette sliding into Ship Creek Valley, with us in it. Just one hour prior to the earthquake, the neighborhood kids and I were ice skating on a natural-made rink."

Then came the killer quake which disrupted so many lives but also led to notable acts of bravery, perseverance and grit. Kelli continues: "My dad was one of the Alaska District employees who reported for duty immediately. He helped set up the funding to support the FEMA assistance and other projects. In his memoirs he mentioned that assistance in this relief effort was one of the most important contributions an employee can give to the public."

The family synchronicity doesn't end with father and



*Above: Kelli's father, Herbert G. Lathrop.*

*Right: Kelli Johnson at 4 years old.*

Courtesy of Kelli Johnson

daughter in the Corps. After more than 20 years in southern California, Kelli is getting “somewhat accustomed” to ground movements. Undoubtedly, that calmness helped her during the devastating Northridge quake in 1994. She remembers that, during the immediate aftermath, “I did much the same things as my father did—came to work immediately and set up the funding.”

Besides these reminiscences, she dug out some mementos and photos from her childhood, including the following letter from her dad, written to his parents after the quake. The letter is at once an historical document and a testament to the courage and resilience of ordinary people in a time of crisis. As such, it may hold some lessons for us today: “Dear Mom and Pops, Miracles have occurred here. Gas mains were broken as well as water mains and yet there were no fires. The school right in the same block as we were sank forty feet into a crevice. What if that had happened during school hours? Our house went into the same hole as the school. What a thrill! We were right in the living room in the middle of dinner when it started. It felt at first like it was to be a small tremor which is normal for Anchorage. This kept growing in intensity until I knew we were in for trouble.

“I had Kelli in my arms and Joanne had Laura with Bob next to her. We couldn’t keep our feet so we started crawling to the door. Objects were flying about the room and cupboards had opened, disgorging their contents. Just about that time the chimney tore in through the side of the living room. Luckily, it was to the opposite side from us. The house started sliding down. It stopped sliding and we scooted out the door into what looked like a new world. We worked our way past the various crevices for about 500 feet to solid ground. The Dick Buttons helped us up the last slide area and into their house. Power, telephones and water were all out so we got out the blankets to stay warm. Needless to say, we didn’t sleep much that night. Even the kids couldn’t get to sleep.

“We turned on a transistor radio to see if any of the stations were on the air. Two of them were going, using emergency standby power. The various public agencies, including police and fire departments, along with civil defense, were operating within an amazingly short time. The military bases dispatched troops within a very short time for search and rescue and guard duty. It felt very gratifying to hear over the radio how well the city was responding to the emergency. At daylight we went outside to view the damage. It looked tremendous.

“The radio had told the Corps of Engineers employees to report for work at 8 a.m. Saturday, so I went down. After I had established the cost proce-

dures for all of our engineers and construction people who were working like mad, I left to see if I could get some of our food and warmer clothing out of the house. It took a while to get in and when I did get there, it sure looked messy. I managed to get some items we would need. When I got back to the office, our executive assistant handed me the keys to one of the houses on Elmendorf Air Base that the Corps of Engineers owns and said I could move my family there until I could get situated.

“We are sleeping on sleeping bags and air mattresses, but it’s warm and dry. Sunday the guards wouldn’t let me go into the house, but Sunday afternoon big dump trucks started arriving with fill material. Then a bulldozer came and they started building a road down to our duplex and the duplex next door which also went down. They finished the road on Monday morning. A crane was on hand to lift our cars onto the road they had built.

“It sure felt good to have wheels under me again. There wasn’t a scratch on my car. The front wheels had been sitting in a hole but the front bumper was over the hole holding the car up. I went into the house and took out two loads in my station wagon yesterday. Today volunteer teams with donated trucks took out the rest of our stuff.

“We started house-hunting today and I imagine it’s going to be quite a chore. It’s amazing that there has been so little loss of life. You have no doubt seen a lot of pictures of this thing in the papers down there. It’s exactly like they’re showing. Truly a miracle that the death toll is so small. I feel very fortunate myself. There wasn’t a scratch on any of us, and we have recovered our belongings with not too much damage.

“Do not worry about things up here. We are quite comfortable.

“Love from Herb and family.”

Like father...like daughter.



*Government Hill Elementary School*

# In Brief....Around LAD

# Speaker's Bureau



## Letters



**Brian M. Moore**, PM, received a letter of appreciation from Dr. Larry Roesner of Colorado State University for his donation of video tapes of several District projects, including Seven Oaks Dam. The tapes are being used to help freshmen students visualize the use of hydrology and hydraulics, as well as the broad range of civil engineering and the Corps itself.

**Bud Kiefer** of New York sent his thanks for the \$1,500 check donated by the District to a fund in his son Michael's memory. Michael was one of the firefighters who lost his life in the Sept. 11 attack. The money will be used to help purchase equipment for the W.R. Hearst Burn Center in New York.

**Anna Wilson** of Florida writes, "Thanks so much for sending the 'Newcastle.' I enjoy it so much. We have happy memories of working in the Real Estate Division there."



**Priscilla Perry** received a proclamation from **Nate Holden**, Councilmember, Tenth District on April 19 for her work on the city's Brownfields program. Also photographed at Priscilla's left is **David W. Lukesh**, Chief, Geology and Investigations Section.

**Glynn Alsup**, Project Manager, recently gave an overview in New Mexico on abandoned uranium mines on Navajo lands.

**Ronald Lockmann and Geoff Chatfield** spoke at the Boy Scouts of America Western L.A. County Council's roundtable on environmental issues and possible Eagle projects. Three subsequent speaking engagements, to civic groups in the North Hollywood area resulted from their work.

Chief of the Regulatory Branch **Dr. Mark Sudol** will participate in the 2002 Building Industry Legal Defense Foundation Land Use Conference on Sept. 17. The theme of the conference will be *Meeting the Need: Smart Planning, Smart Business, and Smart Environmentalism*.

## In Sympathy

**Patricia A. Grablin**, Omaha, NB, former chief of Programs Management Branch, PPMD, died June 28. Pat began working in Programs in Nov. 1982. Previously she worked as a program analyst in the Operations and Maintenance section at the Missouri River Division. She is survived by two daughters and three sons.

**Clydena Lynne Clinton**, 69, Ventura, died on Feb. 6. She served in the Navy before joining the Corps, first in New York and then the Los Angeles district. She received a Certificate of Appreciation from the Dept. of the Army for outstanding performance of duty in support of staff elements of the 1984 Summer Olympics. Before retiring, Lynne worked in the office of Administrative Services, now known as LMO.

**COL Joseph O. Killian**, 89, died on March 15. He served in the Corps from graduation from college until his retirement in 1964. During that time, he served as Executive Office and Acting District Engineer of the L.A. Engineering District, as well as Executive Officer in the Office of Chief of Engineers in D.C. Among his awards were two Legion of Merit Awards, two Bronze Stars and First and Second Oak Leaf Clusters to the Bronze Star.

**Herman D. Wildermuth** died May 17. He retired from the Hydraulics and Hydrology Dept. after many years of service.

**W. George Harski** died on July 5. He held positions in both Civil and Military Design during his career with the Corps.

## Welcome to New Hires

Stephanie Yuen	Exec	Sheila Taylor	CONOPS	Jeniece Frazier	Planning
Brittany Joe	Security	Shannon Snider	Planning	Benjamin Bray	Engineering
Benjamin Nakayama	Planning	Robert Marquardt	CONOPS	Gonzalo Galvin	Engineering
Shawn Petree	CONOPS	Megan Wong	Planning	Pamela Conrad	Planning
Sharon Garcia	Engineering	Peter Massey	CONOPS	Eduardo Duran	Engineering
John Hetager	CONOPS	Lu Tan	Engineering	Kim Matthews	PAO
Catherine Shuman	Planning	Jay Pak	Engineering	Michael Hrzic	Engineering
Douglas Tillman	PPMD	Bonnie Hulkower	Planning	Gary Adkins	CONOPS
Nemi Panimdim	CONOPS	Evelyn Sandoval	Real Estate	Michael Langley	Planning
Jeremy Jackson	Engineering	Jeanine Divis	CONOPS	Peter Gauer	CONOPS
Claudia Sickler	CONOPS	Audrey McCadney	PPMD	Pennie Panek	CONOPS
Jeraldine Herbert	PPMD	Steven Lothrop	IMO	Steven Cuthbert	IMO
Geraldine McMullen	CONOPS	Steven Brossart	CONOPS	Keith Ayers	CONOPS
Javier Gonzalez	Engineering	Kimberli Gray	Contracting	Larry Flatau	PPMD
Margie Aguilar	PPMD	Sharron Morrow	Contracting		



## The 2002 Combined Federal Campaign (CFC) season begins on October 7th!

Each year, non-profit charities in our communities benefit from generous contributions made by federal employees through the CFC. In these difficult economic times, donations are dwindling, while the services of local charities are in greater demand. This year's District CFC coordinating team, the Regulatory Branch, encourages your support, **NOW MORE THAN EVER!**

**Watch for upcoming details about kick-off events!**

For questions or to participate as a key worker,  
please contact

Corice Farrar at 213-452-

3296.



# Running on everything but empty



By Mike Tharp

Six weeks after she gave birth, via Caesarean section, to her son Yusuf, Dina Aman was off and running again. The civil engineer currently detailed to Coastal Design Branch saw her dedication and discipline rewarded last April when she competed in the mecca of all marathons, Boston. The 30-year-old finished the 26.2 mile race in a time of 3 hours, 44 minutes—good enough for number 8,311 out of some 17,000 runners; Dina also finished 2,082 among women and 1,592 in her age division. For those of you keeping score at home, that works out to one mile every 8 1/2 minutes, over about the same distance as from downtown District headquarters to Ahmanson Ranch in Ventura County.

“Even when I was hobbling around afterwards,” Dina recalls, “I told my husband, ‘I can’t wait to do it again!’”

To qualify in her age group for Boston, Dina had to run a 3:40 marathon. She did last November, clocking a 3:34 at Long Beach. And although Boston was only weeks away, Dina also entered the L.A. Marathon in March and finished in 3:55—“just to put your body to that test.”

Dina has been a serious distance runner since her college days at Cal Poly Pomona. She finished her first marathon, the L.A., in 1997 and two years later reached her personal goal of breaking four hours in the event at Long Beach.

It was after that race that Dina and her husband Sean discovered that she was six weeks pregnant. She continued to train and occasionally compete until five months before giving birth. After Yusuf was born, the willowy young woman resumed her regimen, at first pushing her first-born in a regular old stroller as she dashed through Griffith and Balboa parks on her training runs. “People were probably thinking, ‘She stole the baby!’” Dina laughs. Eventually, Sean got her a jogging stroller. Yusuf may be one of the first babies in history to have learned to run before he could walk.

By Marathonphoto.com

*Dina Aman in the 2002 Boston Marathon.*

Almost two, he has been in three races where Mommy pushed him, including a third-place finish recently in the Philharmonic 10-K, when the mother-son combo ran/rode the 6.2-mile distance in 49 minutes. But Yusuf does more than coast ahead of his Amazonian mother. “I always put him in all the kiddie runs,” says Dina, who recently entered him in the Santa Anita Derby 5-K. “I enjoy watching him run in the outdoors.”

Must be genetic. Dina started running a dozen years ago—“to lose weight, deal with all the stuff going on in school”—and has steadily ratcheted up her conditioning over the years. When she’s training for a specific race, she churns out 45 to 50 miles a week; otherwise, it’s closer to 30. (In other words, even when she’s slacking off, Dina runs more than four miles a day.)

She also lifts weights and employs “spinning,” a grueling hour-long gym session on a stationary bike that promotes leg strength and cardiovascular capacity. Recently, she joined the Second Wind Track Team in the San Fernando Valley to improve on her speed work. She sprints 400-, 800- and 1,600-meter intervals several times around the track.

“It’s become personal for me,” Dina confesses. “Going after my own personal goals and successes. It’s not really work. I get very competitive as a way to improve myself.” During her workouts, which include steep trail runs as well as flat parklands, Dina says she has time to think, “blow off steam, reevaluate my life, whatever situation’s going on. I tell my husband, ‘I need to go out and run.’ He understands I need to go think.” She usually runs evenings after work and mornings on weekends.

Dina firmly believes her running carries over to her work. She just finished five years out in the field on the highly praised LACDA flood-control project and is now working on the Port of Los Angeles channel-deepening project. “When I start something I need to finish it,” Dina explains. “As an engineer, my goal is always to be better. That’s the same mentality I have in my runs.”

Besides a civil engineering degree from Cal Poly Pomona, Dina also holds a Master’s in construction management from Cal State Long Beach.

The District also benefited from Dina’s participation in the last Jimmy Stewart Marathon Relay when the L.A. team, for the first time ever, finished first. Besides Dina, team members included MAJ Charles Klinge, Programs and Project Management, Kathy Anderson of Coastal Studies, Cedric Pelt of Safety and Dina’s running partner, Manuel Garcia. Each runner did 5.1 miles, beating out teams from the National Guard and the U.S. Air Force, among others.

Dina is especially grateful to Garcia, who works for Thomas Landclearing Co., a major Corps contractor. “He has always believed in me and really helped me develop as a runner and a person,” she says. “After his battle with cancer, he came back strong and his desire and love for the sport inspired me. I owe a lot to him.”



*Dina and Yusuf.*

What’s down the road for this driven designer? Simply more of the same—only longer. Dina’s got her eye (and feet) on more races like the 50-kilometer (31-plus miles) trail run she did in January at Mt. Wilson. So far, she’s been able to avoid the temptation of such ultramarathons as 100-mile overnight desert-and-mountain courses. Her reluctance, of course, could change, as the admittedly addictive attraction of testing her limits persists.

Dina’s parents are Egyptian Muslims, and even though they’ve been transplanted in America for decades, still find it hard to decipher their daughter’s desire to run. “They didn’t grow up in the California way,” Dina explains. “They think I’m nuts, just out playing around. They can’t wait for me to grow up. I take them to events with me and they’ve gradually begun to accept it. They just don’t understand running 26 miles.”

She pauses, then her face brightens. “In May there’s a marathon in Egypt!” she says. “I think it’s at Luxor. Maybe I can do that—unless it’s too hot.”

Maybe the Sphinx would understand. All Dina knows is: “I hope I’m still running when I’m 80.”

Odds are Yusuf won’t be pushing her.

# Project GRAD LA brings students, community and Corps together

By Mike Tharp

When LTG Bob Flowers wrote in last year's White Paper, "We will be open and responsive in working with all interested parties...", he was talking about Carvel Bass and Deanie Kennedy, as well as high school students Cindia Perez and Louis Murillo.

When Flowers wrote that the Corps would "reach out to stakeholders early and actively listen to the concerns on all sides of issues...", he was not only referring to Susan Tianen, Katy Parks and Pamela Conrad, but to students Addy Licea and Mario Ruiz as well.

When Flowers declared in a video speech, "It is imperative not to avoid our critics—people should know you by name, as a person...", he was setting the stage for a special District initiative in mid-July. All five of the above District team members played a crucial role in putting the commanding general's words into action, and so did the four aforementioned San Fernando High School students, along with six of their classmates.

An edgy episode that could have degenerated into bitter and nonproductive name-calling and blame-gaming instead became a forum for reasoned analysis. Light, not heat, was shed. Adversaries, while maybe not becoming *amigos*, worked together to forge possible solutions. And at the core of it all was the Corps—team members listening, observing and, when asked, providing the hard data and empirical evidence to help the 30 or so participants make their decisions. Said Patricia Davenport, field deputy for Councilwoman Wendy Gruel: "The Corps is the Corps, the army, engineers. This is 180 degrees from that."

The scene: Hansen Dam.

For decades the dam was a District delight, protecting hundreds of thousands of residents and their desert-like alluvial plain from any recurrence of the disastrous 1938 flood. A 1943 flood, for example, was controlled by the dam and probably, according to Anthony Turhollow's history of the District, "saved many lives and made possible the uninterrupted operation of war plants in the area." By



*Dennis Kroepelin points out features across the lake to students and others as they research various effects on the dam area.*

By Jennie A. Salas

1953, Hansen Dam was one of the 10 most-popular recreation areas in America.

In recent years, however, the dam and its rec facilities have become lightning rods for controversy and criticism. Although the City of Los Angeles Recreation and Parks Dept. leases the land from the Corps and operates the facilities, the public has targeted the Corps. "Every so often community activists are called upon to clarify for otherwise confused bureaucrats the realities of a situation that is causing problems," L.A. Times columnist Al Martinez wrote in July. "The Army Corps of Engineers blundered into a citizens' army fully equipped to take it on."

Back in the day, the Corps might have hunkered down, batted the bureaucratic hatches and waited for the storm of protest to blow itself out. But this isn't your grandfather's Corps. Instead, District team members literally walked into the problem area, carrying trash bags for litter, binoculars for bird-watching and open minds for listening to the folks on the trail—and later, around the tables—with them.

Catalyst for the precedent-shattering, all-day affair was Project GRAD LA (Graduation Really Achieves Dreams), a nonprofit organization which strongly encourages students to go to college and awards merit scholarships to high school graduates. This spring, 10 San Fernando High Project GRAD scholars focused their collective wills and skills on Hansen Dam.

Their research included clambering down the east bank of the artificial lake behind the dam, bottling water samples and testing them for impurities. They examined funding and jurisdiction issues, learned who their elected officials were and inspected the lake, dam and its basin. Their conclusions were presented in a series of 24 specific recom-

mentations aimed at raising public awareness and education, changing the dam's environment and preserving the dam for future generations.

With the students' report as a blueprint, the District's environmental team members went to work. Sponsors from Project GRAD LA, Pacoima Beautiful and the L.A. Unified School District Volunteer Center arranged a birding walk through the dam's lush basin habitat, a tour of the area's current and planned rec activities, lunch and several hours of meetings at Sunland Recreation Center. Besides Corps members and city officials, delegates from a dozen community groups attended. So did some water quality experts and representatives from various elected officials' offices.

And, of course, there were the students—sophomores, juniors and seniors: Freddy Castornea, Alma Gaona, Addy Licea, Louis Murillo, Cindia Perez, Mario Ruiz and Carina Rodrigues. Denise Del Cid, Francisco Garcia and Nancy Larios were unable to attend. Science teacher Lourdes Quevedo and counselor Juan Mendoza accompanied the students.

Scene: the Hansen Dam parking lot.

As the Thursday morning haze thins, the sleepy teenagers stumble off their minibus, joining Audubon Society guides, community activists, residents and District team members. Led by the avian society's Steve Sosensky, the group spends more than two hours walking and watching the wonders of Hansen's natural habitat. In an Eden-like woodland grove, Carvel Bass quietly points out that "all the Corps dams have willow forests, and they'll have rare birds." Indeed, the Bell's Vireo, whose distinctive seven-count call comes from only eight pairs of birds in the dam basin, is on the Endangered Species list.

Referring to a recent rock-throwing incident among horse-riders and picnickers, Councilwoman Gruel's rep, Patricia Montgomery, tells the students: "This kind of confrontation of people who come in and use this dam is becoming a very dangerous situation."

Later, walking along the narrow trail, senior Luis



*Students focus their attention as an Audubon Society guide explains what they see.*

Murillo says the Hansen Dam project is the first one he's been involved with in high school. "We researched the lake in the spring," the 103-pound wrestler explains. "My family has had picnics out here for a long time."

At the now-infamous lake—or as some at the Corps insist on calling it, the "borrow pit"—Dennis Kroeplin of the Foothill Trails District Neighborhood Council debates Bass about Corps-sponsored dumping that residents say defaced the landscape and damaged the habitat. "The good news is that nature will revegetate in a year what you see here," Bass says, loud enough for the students to hear him. More quietly, Kroeplin, a former city wildlife official, replies, "In spite of efforts to destroy this area, Mother Nature has reclaimed it."

The last two hours of the morning session are led by Gary Bond, facilities director at the dam for the Recreation and Parks Dept. He and Bass show the 30-acre site where soccer and softball fields are being built. As the group troops along to the Tujunga Wash creek, which feeds into the lake, a snowy egret silently watches them while resting on one leg. After a quarter-mile hike, the group lines the spring-fed pond where cormorants, ducks and a green heron splash. "This water comes from underground and feeds everything down below," says pith-helmeted Fritz Bonner, of the Equestrian Trails International Corral 10.

Back on the student bus, Bass pinpoints the central issue at Hansen Dam: "The Corps' (dam) basins are basically wide open and they work well—until there are

*Project GRAD—Cont. on page 35*

*Susan Tianen leads the group down a trail.*



# District donations help Navajo Nation

By Mike Tharp

As part of a strategy to interface more with Indian tribes around the District, team members donated used computers to tribal schools and offices in Arizona. Dozens of computers and monitors were distributed last fall to the Navajo Nation's Rough Rock High School in Chinle, Ariz. Nine computers and eight monitors were given to the Tohono O'odham Nation's government center near Gila Bend.



***For three years, Glynn Alsup has made Arizona Indian reservations almost a second home as he has helped the Navajo and Hopi on two important District projects.***

Several adults and children alike are being trained on the machines, she adds, at the facility which hosts a library, community room and recreation area used by tribe members.

The digital divide is deepest on the nation's reservations. According to an article in USA Today, in 2000 only 9 percent of Indian homes had a PC, compared with 47 percent of whites.

After working among the Navajo and Hopi for much of the past three years on a massive abandoned uranium mines project, Glynn Alsup came to know their needs well. He alerted the Logistics Management Office in L. A., which has an inventory of computers available to donate. On the other side of the state, in the Sonoran Desert where they work as dam operators in Gila Bend on the Painted Rock Dam, Don May and Cliff Olson phoned the tribal school. "We just called 'em and they were all for it," May recalls. The first contribution two years ago led to last fall's donation to the admin center. Originally, a 1996 executive order set up the program nationwide.

Preparing for one of his regular inventory monitoring

"They're having a great time with them," says Darlene Lopez, administrative manager of the Tohono O'odham. (The tribe once was called the Pima by conquering Spaniards and later was known as the Papago, or "bean people," until they voted in the '80s to change their name to a phrase in their language which means "desert people." With some 216,000 members, the tribe is second-largest in the state.)



***Dine (pronounced Dinay) College is also receiving donated computers.***

expeditions, Romano Caturegli loaded up one of the District rigs—except the vehicle contained many of the used high-tech prizes soon to be turned over to needy Indians. Because the hard drives had been erased, there wasn't a security issue involved in the gifts, Caturegli explains. "They were elated," he says of the recipients, and he plans to repeat the District's largess again this autumn.

Closer to home, the District also gives away its previously used computers to Los Angeles-area schools. Last year, St. Turibius Elementary School, Vista Heights in Moreno Valley, a special education school in Bellflower, a high school in Lancaster and Valley Christian Academy near Vandenberg AFB all got badly needed computers, monitors and other surplus office equipment from the District.

St. Turibius, a Catholic K-8 school in downtown Los Angeles, had no computers in its classrooms before the District's donation. Now many of the school's 300 mainly Hispanic students are learning Microsoft Word and soon will be logged onto the Internet on the 18 computers given by the District. "We really do appreciate it," says Olga Echiribel, office manager. "And we can always use

***District team members have literally made some hard drives to truck these used computers to needy Indian schools and offices.***



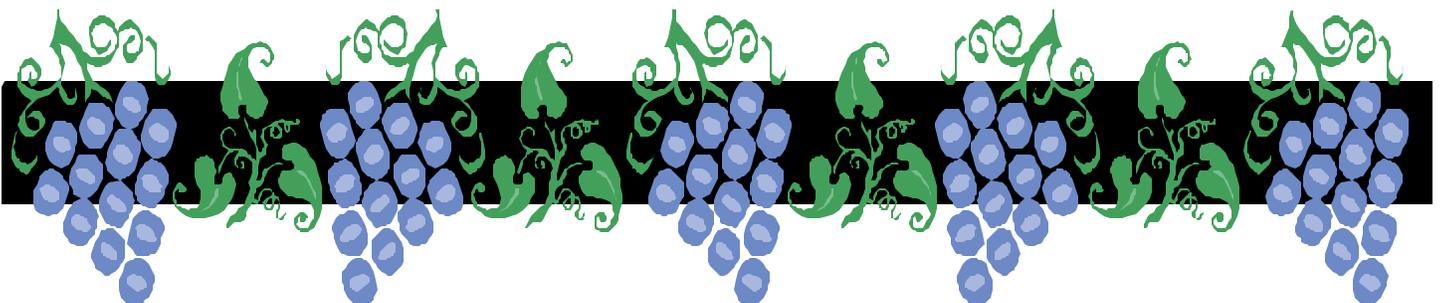


**The Retirees Luncheon  
is scheduled for 10:30 a.m.,  
October 24, 2002.**

**This year's event will be held at the  
San Antonio Winery,  
737 Lamar Street, Los Angeles, CA 90031.**

**For information contact Beverly Patterson in  
the Public Affairs Office at 213-452-3921.**

**More information will be sent to our retirees.**



# Ceremony marks beginning of Point Vicente Restoration

by Greg A. Fuderer

LOS ANGELES, CALIF. – In a ceremony that stressed cooperation and change, Congressional and local representatives and the U.S. Army Corps of Engineers marked the beginning of work to remove contaminated soil and return a valuable educational and recreational asset to residents and visitors who use it year-round.

Under the Formerly Used Defense Sites program, the Corps and its contractor, Innovative Technologies Solutions, Inc. will remove lead-contaminated soil from about two acres at the Point Vicente Interpretive Center in Rancho Palos Verdes, Calif.

U.S. Representative Jane Harman, who represents California's 36<sup>th</sup> District, hosted the June 29<sup>th</sup> ceremony. Harman gave "thanks to all levels, especially to the local involvement. When we had to shut down what we had, it was devastating."

What they "had to shut down" was the Point Vicente Interpretive Center and grounds, located on about 26 acres at the southwest tip of Los Angeles County. The waters between Point Vicente and Santa Catalina Island serve as a migratory path for gray whales. The center hosts individuals and group tours and serves as a scientific research center.

The center has been closed to the public since August 1999, when tests conducted in conjunction with a proposed center expansion showed elevated levels of lead in the soil. The cause of the lead's presence was the



By G.A. Fuderer

***National and local representatives cut the ribbon to start restoration at the Point Vicente Interpretive Center. From left: Former Rep. Steve Kuykendall, Rancho Palos Verdes Mayor John McTaggart, Rep. Jane Harman, Rancho Palos Verdes Councilman Larry Clark and Colonel Richard G. Thompson.***

area's former use as an Army "Known Distance Rifle Range" during the 1950s. The rifle range served as a site for small arms target practice and qualifying of military personnel stationed at nearby Fort MacArthur.

COL Richard G. Thompson, the Corps' Los Angeles District Engineer, said the event marked "the beginning of the construction activities that will enable this important community asset to return to its intended purpose.

"Today, a major part of the Corps of Engineers' efforts are devoted to environmental restoration projects," Thompson said. "They range in size and complexity from the cleanup of small former military sites such as this one, to the largest mission currently assigned to the Corps of Engineers—the multi-billion dollar restoration of the Florida Everglades."

Harman recognized former U.S. Rep. Steve Kuykendall's contribution as essential to getting the project off the ground. "Steve Kuykendall has had a huge impact

on the progress of this effort," she said. "When he handed off the project to me, the ball was already 75 yards down the field. His commitment over the years has been essential."

Kuykendall, who introduced the legislation to gain funding for the cleanup, also spoke at the ceremony. He praised the "bipartisan effort" that enabled the cleanup to gain approval and funding. He said that he and "associates worked closely with a Democrat President and a Republican Congress to determine 'How can we come together to resolve this issue?'" The result is the project about ready to start. "I'm just pleased that I had anything to do with it. It's a wonderful place to enjoy what this area is all about."

Visitors and docents attending the ceremony talked about their excitement to have the center and its grounds returned for their use. One reminisced about a group that met "at that park bench right there every Friday night. We once had a mother and a baby whale come up below us, about 40 feet away, and just rest."

Harman thanked Thompson for

his commitment to expeditiously complete the project and noted the Corps' change in its priorities in response to the nation's interests. "The Army Corps has transformed," she said. "It does a huge amount of restoration work. Every time the Corps has turned up, the area has turned greener."

Thompson echoed that sentiment. "(The Corps') national focus reflects a renewed awareness that we are part of this ecosystem and that we hold it in trust for our children," he said.

The restoration project will remove the upper layer of soil that contains lead and replace it with clean soil. During the removal, the contractor will test the soil to ensure that the lead concentration falls below state approved action level of 250 parts per million (ppm) total lead. That level is most protective of children in a residential backyard or playground.



*"Every time the Corps has turned up, the area has turned greener."  
— U. S. Rep. Jane Harman*

Tawny Tran, the district's manager for this project, expects the removal and replacement of soil to take about 90 days. To fulfill the city's concerns about additional soil contamination in the future expanded areas, a Corps contractor will be on site to sample and analyze the excavated soil for health and safety monitoring. The contractor will properly dispose of any soil that exceeds 250 ppm total lead.

When the area has passed its inspection, the Corps will return the property to Rancho Palos Verdes, which will then begin construction of the interpretive center expansion.

Thompson told those in attendance that the project would remain high on his list of priorities. "I brought my children here with me today. They want to see this facility back in operation so they can visit it," he said. "I assured them that they would get that chance."

### ***Project GRAD—Cont. from page 31***

conflicts." Adds Mary Benson, a lifelong resident now with the Valley View Vaulters, and often an outspoken critic of the Corps: "...and there are a lot of conflicts—and it's not your fault."

Now *that's* progress.

Even more progress was made in the afternoon session at Sunland Rec Center. After a sandwich-and-apple lunch, participants broke into three groups at separate tables, with Corps team members and students filling the metal folding chairs. Group I talked about increasing public awareness and education about the dam. Susan Tianen, safety officer, repeatedly made useful remarks to the students, such as: "The property is federal property leased to the city, and that is a plus-plus situation. You can pretty much use whatever (sign) design the community wants."

At Table II, Katy Parks and University of Missouri intern Pamela Conrad joined 11 others in discussing how to change the dam's environment. Conrad persuaded her colleagues about the priority of safety at the site: "If it's not safe, you're not going to want to go down in the habitat," she said. Safety soon joins four other items on the group's agenda.

Table III profited from Deanie Kennedy's long experience in the Corps, including several years in Honduras. She mentioned the option, for example, of trying to get



***Project GRAD teacher Tina de la Cruz (left of flip chart), Louis Murillo and Mario Ruiz (far right) discuss ways to preserve the dam's area.***

the dam designated on the National Registry of Historic Places, "making possible a certain level of protection."

At the end of the discussions, Laverne Potter, one of the school district's volunteer officials, summed up the day: "This is a pilot program—how students and the community can work together to accomplish something positive, communicating instead of fighting."

Before they headed back to class, the Project GRAD scholars invited everybody in the old gym to the next meeting of their Wildlife Steering Committee.

Flowers would applaud.

# “WORKING TOGETHER WITH AMERICA”

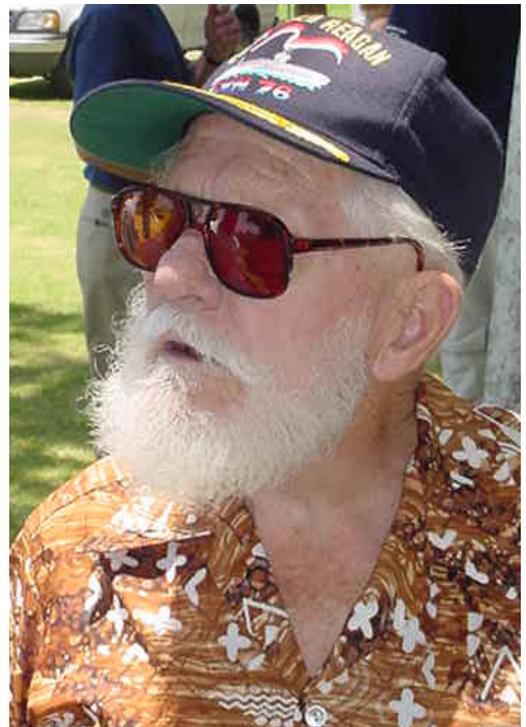
- ENGINEER DAY 2002 -



By Fred-Otto Egeler



## **Fun, food and faces**



# Engineer Day awards ceremony honors employees

*Colonel Thompson recognizes dedicated civilians . . . .*



40 Years

*From left: Don Spencer and Hank Watson.*



## 35 Years

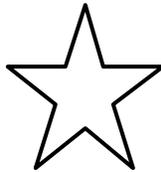
Ramon P. Andujo  
Lester L. Burwell  
Ralph D. Hamrick  
Raymond P. Mellard  
Arthur E. Stoddard



## 30 Years

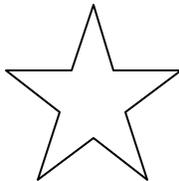
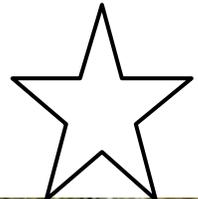
Roberto E. Abubo	Richard W. Nagle
Stephen K. Asato	Linda M. Okimoto
Lester W. Balance	Wing S. Ong
Robert L. Cline	Donald R. Queen
Pedro (Pete) R. Gonzalez	Ralph R. Richards, III
Grigor Grigorian	Ernest P. Saenz
Larry D. Gustafson	Karen Warren
Christopher J. Kronick	David K. Watanabe
Glenn M. Mashburn	Gary L. Wible
Andrew W. Miller	

By Fred Otto Egeler



## 25 Years

Haskell L. Barker	Marilu Montes
John W. Bullington	Ted A. Nakamoto
Monique L. Deziaueto	Sandra F. Oliverhall
Frank L. Disparte	Mary Ann Powers
Reynaud M. Farve	Alfonso J. Quintero
Jesus Adame Gonzalez, Jr.	Charles B. Rathbun
Dolores M. Henderson	Larry R. Romero
Harry E. Hughes	Boyd R. Tyson



*From left: Lester W. Balance, Karen Warren, Pedro (Pete) R. Gonzalez, Roberto Abubo, Gary L. Wible, Front Center: Richard Nagel.*



30 Years



***From left: Robert Pacheco, Jacquelyn Gwen Heard, Margie G. Aguilar, Norma L. Hallisy, Bob Conley, Mohammed N. Chang.***

**20 Years**

- |                     |                        |
|---------------------|------------------------|
| Margie G. Aguilar   | Stephanie J. Hall      |
| Jennifer A. Baker   | Jacquelyn Gwen Heard   |
| Vernone Bernhardt   | Homer H. Hill, Jr.     |
| Sheryl A. Blackburn | Fred A. Ingersoll, Jr. |
| Michael K. Burgess  | Peter G. Kroese        |
| Robert F. Caskie    | Emmanuel J. Molina     |
| Mohammed N. Chang   | Roberta Pacheco        |
| Maria P. Cisneros   | Mitzi L. Romine        |
| Thomas Cisneros     | Joseph A. Ryan         |
| Robert J. Conley    | Claudia T. Sickler     |
| Terrence C. Dean    | Sheila A. Taylor       |
| Fred-Otto Egeler    | Susan C. Tianen        |
| Jody L. Fischer     | Phyllis A. Träbold     |
| Steven R. Gale      | Mildred R. Walden      |
| Norma L. Hallisy    |                        |



**15 Years**

- |                     |                        |
|---------------------|------------------------|
| Sam A. Arrowood     | Harold R. Lesure       |
| Leila C. Bantigue   | George H. Okumura      |
| Yekaterina Birger   | Dawn D. Parker         |
| Katie Bosticparks   | Nina H. Presley        |
| Debra J. Castens    | Robert Ramos           |
| John E. Drake       | Bernard A. Rivera, Jr. |
| Ernest T. Erickson  | Mark F. Sudol          |
| Joseph A. Flynn     | Anthony R. Trujillo    |
| Barbara A. Kellough | Lynette Ulloa          |
| Larry Kelly         | Lisa W. Young          |
| Corazon B. Lalic    |                        |



***Back row: Debbie Castens, front row from left: Lynette Ulloa, Leila Bantigue, Greg Boghossian, Yekaterina Birger, Anthony R. Trujillo, front row: Lynette's daughter, Julia Ulloa.***



***From left: Tawny Tran, Maria E. Garzino, Vangil C. Crisostomo, Phil Serpa.***

**10 Years**

- |                       |                        |
|-----------------------|------------------------|
| Alma D. Anderson      | Juan M. Martinez       |
| Jeannette M. Baker    | Roderic Noel Mclean    |
| Carvel H. Bass        | Michael J. McNally     |
| Geoffrey W. Chatfield | Shelah J. Moore        |
| Vangil C. Crisostomo  | Barbara A. Morrison    |
| Juan A. Dominguez     | George Nahapetian      |
| Larry S. Encoe        | Regina J. Parker       |
| Maria E. Garzino      | Hap V. Pho             |
| Hoang V. Huynh        | Raymond Salas          |
| Joseph A. Johnson     | Phillip J. Serpa       |
| Adriana Kiesling      | John E. States         |
| Brian D. Kirchner     | Antal J. Szijj         |
| Deborah L. Lamb       | James K. Tang          |
| Carmen Lara           | Patricia Brown Trainer |
| Ha T. Le              | Thanh T. Tran          |
| Frank B. Mallette, II |                        |



# 2002 Engineer Day ceremony and picnic are a success

## Retirement



*Isaac Icekson (center, with wife) receives his retirement certificate from COL Thompson.*

## Volleyball Winners



*Left to right: Jeff Armentrout, Hap Pho and Craig Baba.*

## Picnic Committee Members



*Front row, l-r: Gustavo Ruiz, Ricardo. Back row, l-r: Anthony Richardson, Leticia Corral, Maricella Zamora, Margie Tizon, COL Thompson Phil Serpa, Sandy Qquita, Sandra Estrada, Lety Zarate.*

## Most-Improved Golfer



*George Beams shows off his trophy with COL Thompson.*

By Fred-Otto Egeler

## First-place Bowlers



*Pictured with COL Thompson are Sam Campos and Kenneth Larson.*

## Bowlers enjoy the fruits of their efforts

## Second-place Bowlers



*Left to right: Mark Harvey, holding son Chamer, COL Thompson, Phil Serpa with son Aven and wife Stephanie and daughter Vanessa and team cheerleader Maya Sanchez (daughter of Margie Tizon).*

## It's the Spirit that Counts!



*Left to right: Crystal Marquez, Nicole Delgado, COL Thompson and Evelyn Sandoval.*

## Men's High Scratch game & High Handicap Game winner



*Left photo: Mark Harvey; right photo: wife Charvette*

## Women's High Scratch Game winner



# Seven Oaks nominated for Outstanding Civil Engineering Achievement

By Mike Tharp

HIGHLAND, Calif—Hailed as the keystone of the largest flood control project in America, the Army Corps of Engineers' Seven Oaks Dam was nominated for one of the nation's most prestigious engineering awards.

*Civil Engineering*, the magazine of the American Society of Engineers, recently announced that the groundbreaking \$420 million earth and rockfill dam in San Bernardino County, California, was one of six finalists in its 2002 Outstanding Civil Engineering Achievement competition.

In a notification letter, *Civil Engineering* editor-in-chief Anne Elizabeth Powell called the dam "an outstanding effort," adding that "all who worked on this project have every reason to be proud..." The award, which has been handed out since 1960 and "annually recognizes the project that best illustrates superior civil engineering skills and represents a significant contribution to civil engineering progress and society" was presented at a gala dinner April 27 in Los Angeles.

Called an OPAL (Outstanding Projects and Leaders), the award is a bronze plaque ready for permanent display by the project owner.

"Seven Oaks Dam is a critical element for the protection of life and property in Orange County from major floods," said Kenneth R. Smith, deputy director and chief engineer of the Orange County Public Facilities and Resources Dept. "Completion of the dam is the primary reason for the lifting of flood insurance requirements for

many residents."

Other OPAL nominees included Bibliotheca Alexandria, Alexandria, Egypt; JFK Terminal 4, Jamaica, N.Y.; the I-15 Design/Build Reconstruction Project, Salt Lake City, Utah; the Experience Music Project, Seattle, Wash.; and the Everglades Construction Project Storm Water Treatment Areas 1 West and 2, Palm Beach County, Fla.

Past winners include Denver International Airport; the Mount St. Helens Recovery Effort; the Statue of Liberty Restoration Project; the District of Columbia Monorail Transit System; and the Trans-Alaska Pipeline System.

The scalloped contours of the dam comprise the key piece of the \$1.4 billion Santa Ana River Mainstem Flood Control Project, the nation's largest flood control project.

Seven Oaks Dam, built in the San Bernardino National Forest near the headwaters of the Santa Ana River, took thousands of workers seven years to complete. Aesthetically and environmentally designed, the dam provides protection from floods for more than three million people and 255,000 structures in three California counties—San Bernardino, Riverside and Orange—ranging from mountains to desert to ocean. When it was dedicated early in 2000, Terrence King, resident engineer on the project, said that without the dam and other improvements along the Santa Ana River, "we could have a recurrence of the flooding in 1938 and 1962." The Corps of Engineers estimates that, minus the dam, a disastrous flood could cause up to \$15 billion in damage. (The 1938 flood was the region's worst of that century and devastated much of the northern half of Orange County.)

While not as spectacular in appearance as such monuments as Hoover or Boulder Dams, Seven Oaks combines several creative engineering elements which enhance its pragmatic function. Its five main parts are an embankment, intake tower, outlet tunnel, plunge pool and spillway. Millions of man-hours and megawatts of brainpower went into the conception, design and construction of each component.

Seven Oaks Dam is meant to be dry until a flood erupts. Then, here's how it works: The embankment stops the water, which rises to the intake tower. The tower guides



**Left to right: Luiz A. Teive, CEO of Oderbrecht Contractors of California, Inc., Paolo Suffredini, PM, Colonel Richard Thompson and Robert E. Koplín.**

the water into the outlet tunnel, where gates control the flow and discharge it safely downstream. The water's force is then dissipated in a plunge pool before it heads down the river to the sea, through San Bernadino, Riverside and Orange Counties. If the floodwater continued to rise, it would flow out the emergency spillway without damaging the embankment.

Each part depends on the others. Because two branches of the San Andreas Fault flank the best site for the dam, Corps of Engineers experts decided to use more flexible earthen materials rather than a rigid concrete structure. The unique combination of soil, sand, rock, alluvial material and clay should be able to withstand an 8.0 magnitude earthquake and contain a flood volume that would come only every 350 years. The dam is self-healing, meaning the internal material can fill cracks and fissures that could form in the central core zone from earthquake movements, halting internal and external erosion. Moreover, much of the material was native to the surrounding area, cutting transportation and other costs. Divided into eight zones, each with a different composition, the embankment is almost as tall as the Washington Monument.

When all the graders, bulldozers, haulers and workers with shovels, rakes and hoes were finished, the embankment soared 550 feet high and stretched nearly 3,000 feet. To blend in even better with local flora and fauna, the embankment was sprayed with iron manganese oxides to give it a natural brownish hue.

More than 100 feet below the surface of the riverbed,



workers dug a trench—150 feet wide and 1,200

***Intake tower during construction and after completion.***



District file photos

***Looking downstream at the plunge pool.***

feet long—used to distribute core material all the way down to bedrock. This procedure prevents dangerous seepage below the embankment. And instead of scores of air-fouling trucks, a conveyor belt was fashioned to deliver the core material nearly three miles to where it was needed.

Anchored and angled on the left side of the embankment is an intake tower, 200 feet tall and 18 feet across. With its steel grates, the tower screens out sediment and debris to keep them from plugging up the outlet tunnel.

To keep the force of the water manageable, it plunges into a pool, slowing some of its velocity. A spillway excavated from eight million cubic yards of bedrock acts as a safety valve to protect the embankment from overtopping by floodwaters.

Five elegantly engineered working parts. An impressive mix of brute strength and precision. Creative blueprints and abstruse calculations that factored in the worst—floods and earthquakes—that Mother Nature could offer. Budget demands from federal and local authorities. Great care to preserve rare local plants and animals.

In the end, those factors combined to create a monument to the Army Corps of Engineers and their mission to build and protect American society. While it is a singular honor to be nominated for such a prestigious award as the Outstanding Civil Engineering Achievement by *Civil Engineering* magazine, the Corps' main legacy will be Seven Oaks Dam itself—and the benefits it provides to so many Californians.



# Corps history preserved

By Roderic McLean  
Staff Archeologist

The Los Angeles District, in collaboration with San Bernardino County Museum and Southern California Edison, has created an exhibit of artifacts from the historic hydroelectric system in the Upper Santa Ana River. Flooding along the Santa Ana River had been occurring for centuries. In response to the flood of 1938, the Los Angeles District constructed Prado Dam near Corona.

The construction of Seven Oaks Dam, 35 miles upstream of Prado Dam, is also part of the Santa Ana River Mainstem Project. Construction of the dam was completed in 1999. The dam is 550 feet tall and is capable of holding 38 million cubic yards of water.

The Seven Oaks Dam project required compliance with the National Environmental Policy Act and the National Historic Preservation Act. Located in the Upper Santa Ana River is a 100-year-old hydroelectric system involving three power houses and a flume system. Power Houses 1 and 3 were unaffected by the project, however Power House No. 2 is located in the reservoir pool area behind Seven Oaks Dam.

The Los Angeles District documented the historic hydroelectric system in accordance with federal standards generated by the National Park Service. In addition, historic elements of the system were salvaged in cooperation with Southern California Edison and placed on display at the museum. The exhibit displays hydroelectric equipment from the power houses, historic photographs and records, and histories of the early days of electric power and the people and equipment that generated electricity for southern California.

The Los Angeles District is responsible for curating (preserving) selected artifacts in perpetuity as a benefit to the public and science. The museum exhibit enhances the public awareness of cultural resources and the Los Angeles District's efforts to preserve these artifacts. Contact the San Bernardino County Museum for hours open to the public.



**Top:** Visitors examine the turbine.  
**Center:** Close-up of the power turbine.  
**Bottom:** Display area in the museum.

