Corps’ Personnel Stay Prepared to Respond to Disasters

The employees of the U.S. Army Corps of Engineers took action in anticipation of Hurricane Irene’s landfall by monitoring storm activity, taking measures to minimize flood damage and pre-positioning its trained responders. The Corps of Engineers is part of the federal government’s unified national response to disasters and emergencies. The Corps assists the Department of Homeland Security and the Federal Emergency Management Agency (FEMA) by coordinating and organizing public works and engineering-related support. The Corps has more than 40 specially trained response teams ready to perform a wide range of missions, as assigned by FEMA. In any disaster, our three top priorities are to: support immediate emergency response priorities; sustain lives with critical commodities, temporary emergency power and other needs; and, initiate recovery efforts by assessing and restoring critical infrastructure.

The Corps deployed members of its 249th Engineering Battalion (Prime Power) to assess power needs in Puerto Rico, as a result of Hurricane Irene making landfall there. The Corps also prepositioned team leaders up and down the eastern seaboard who would support debris removal, emergency roofing, housing, commodities to include water and ice, infrastructure assessment and emergency power.

When a disaster occurs, it is not just a local Corps district or office responding. Personnel and other resources are mobilized across the Corps’ 45 districts and nine divisions throughout the country to carry out response missions. Thus far in 2011, more than 1,000 Corps employees have responded to one or more major disasters as a result of floods and severe storms. All of the planning, equipment and programs are vital, but it is the competent, disciplined and resilient people who successfully accomplish the Corps’ disaster response missions.
Santa Clara Canyon Debris Removal Turns Perilous

By Kristen Skopeck, Public Affairs

Abiquiu Lake Operations Manager Dave Dutton visited Santa Clara Canyon to see the progress made by Joseph Lopez and Roger Apodaca, District’s Abiquiu Lake equipment operators, and was astounded. He said there was absolutely no way the Santa Clara Pueblo would be as far up their canyon without the Corps’ help.

The men had been operating a backhoe and other equipment practically non-stop for nearly two weeks after receiving a request Aug. 6 from the Pueblo, who experienced 17,000 acres of damaged forest when the Las Conchas fire fanned across their land in late July.

The Pueblo said the Corps’ equipment was vitally needed to help clear road debris and muck around and within four man-made water retention ponds, which were now clogged.

Since the fire, even small amounts of rain dislodge large amounts of mud and partially burned trees, requiring the use of heavy machinery to keep the Santa Clara canyon road open to four-wheel vehicles. In the rainy season conditions change suddenly, and Apodaca and Lopez had a close call Aug. 21.

That Saturday, the men were moving debris when it began to rain about 3:30 p.m. They started to move down the canyon in their equipment to a designated “safe spot,” when the front of Lopez’s backhoe became partially buried by a sudden mudslide. Unable to back out, he abandoned the equipment and tried to head for high ground, but he said it started raining boulders and trees. Apodaca also abandoned his equipment, entering the water.

Knee-deep water began to surround Lopez and Apodaca; they clung to a small tree and prayed the tree would stay rooted. Both men said they were up to their necks in water and rocks were battering their legs. They held on in that precarious situation for more than 20 minutes.

“I thought it was curtains,” Apodaca said.

When the water started to recede, Lopez was able to get to a radio in Apodaca’s backpack and call for help. An Army National Guard helicopter with search and rescue crew was summoned. Lopez and Apodaca made it to a safe spot where the Pueblo’s Dave Ortiz hustled them to a vehicle for warmth, as the helicopter was two hours out and Lopez showed signs of hypothermia.

When the helicopter arrived, the men were transported and checked for injuries. They then contacted Dutton to tell him about the flash flood, the rescue and their escape.
The District had the unique opportunity of collaborating with other federal and state water management agencies to provide a thorough field briefing to New Mexico’s congressional staff members during the week of Aug. 8.

Mr. Estevan Lopez of the Interstate Stream Commission received a letter from Senator Jeff Bingaman June 30 requesting a tour for his staff to better understand New Mexico’s water resources infrastructure, activities and issues within the Middle Rio Grande.

The letter inspired employees of the Corps of Engineers, Interstate Stream Commission, Office of the State Engineer, Bureau of Reclamation, U.S. Fish and Wildlife Service, Middle Rio Grande Conservancy District, Natural Resources Conservation Service, State of New Mexico, City of Albuquerque and Bernalillo County Water Utility Authority to conduct a tour for staff from New Mexico’s federal delegation to demonstrate the effects and the relationship of the drought in New Mexico verses the demand for water throughout the Rio Grande Basin.

Besides allowing participants to meet each other and learn about the issues, the tour enabled employees of the various agencies to compare and discuss individual challenges and issues within their various jurisdictions.

“This [trip] increased interagency communication and will lead to a better leveraging of the minimal federal resources in these lean times,” said Kristopher Schafer, chief of the District’s Planning Section. “Furthermore, these coordinated actions within the Rio Grande corridor will benefit stakeholders, the environment, the endangered species and the citizens of New Mexico.”

Schafer said the trip was action-packed and covered numerous projects on the Rio Grande, from north to south, during a four-day period.

—All tour photos taken by Ronnie Schelby—

After introductions and an explanation of the Middle Rio Grande Collaborative Program and Rio Grande Water Compact, the physical tour began on Day two at the Corps’ Abiquiu Lake Project.

The first stop was Abiquiu’s Diversion Outlook where participants heard a presentation by Mr. Fred Vigil, Director of the Rio Chama Acequia Association. This day also included a visit to the Abiquiu Dam where the visitors heard from the District’s Abiquiu Operations Manager Dave Dutton; Chief of Lake Operations Branch Karl Martin; Supervisory Park Ranger Eric Garner; and Chief of Reservoir Control Dennis Garcia.

The tour concluded that day by affording participants an understanding of the Rio Grande from inside the river, as the entire retinue entered rafts on the Rio Chama.

—Continued on next page
Day three began with a presentation at the District’s Cochiti Lake Project; then, the group went to view environmental restoration work at two project locations near a section of Route 66 in Albuquerque. Presentations there were conducted by District employees and Mr. Rof Schmidt-Peterson of the Interstate Stream Commission. Later, the tour took participants to the San Acacia Dam, where Mr. Chris Sichler, a board member of the Middle Rio Grande Conservancy District, and Corky Herkenhoff, a farmer in the San Acacia area, gave the farmers’ perspective on how they rely on the Rio Grande water system and how they are affected daily by the decisions of water managers.

Day 3

The group heard a number of presentations that were organized during a lunch stopover, including the state’s water plan update and an explanation of flow optimization by Steve Harris of Far Flung Adventures, a professional river guide.

Day 3

The final day focused on Elephant Butte Reservoir and Dam and the effects of the drought on local residents.

“The tour afforded us the opportunity to get to know one another on a more personal level, and I know this led to a better understanding and a deeper appreciation of the challenges we each face,” said Dennis Garcia.
Corps Questions Role in Biological Opinion

By Kristopher Schafer, Chief of Planning

The U.S. Army Corps of Engineers and the U.S. Bureau of Reclamation are preparing to re-consult with the U.S. Fish and Wildlife Service about the effects of reservoir operation, river maintenance and related activities on the endangered Rio Grande silvery minnow and the Southwestern willow flycatcher in the middle Rio Grande.

During the last decade, the Corps and Reclamation have submitted joint Biological Assessments (BAs) to Fish and Wildlife outlining the effects of our routine operations on listed species and their critical habitats. Both agencies are currently operating under the Biological Opinion (BO) issued by Fish and Wildlife in 2003 that outlines the activities that the agencies are required to take to mitigate effects of their operations on listed species and critical habitats. This BO expires in March 2013.

The Corps and Reclamation are in the process of preparing revised BAs for Fish and Wildlife, so new BOs can be issued for future operations.

Several aspects of the current 2003 BO have been problematic for the Corps:

1. The 2003 BO designated Reclamation as the lead agency. This makes it difficult for the Corps to direct or predict the consultation process, schedule and staffing requirements.
2. The 2003 BO lacks agency-specific determination of effects, and some of the mitigative elements in the 2003 BO are a shared responsibility between the Corps and Reclamation. This makes it very difficult to develop and defend precise budgets for carrying out our compliance responsibilities.
3. Because the 2003 BO applies to both the Corps and Reclamation, changes in activities by either agency require both agencies to reinitiate the consultation process with Fish and Wildlife. On occasion, the Corps had to re-consult when Reclamation made operational changes from the BO and the Corps did not. The cost of the re-consultations for the Corps has been significant.

Rethinking Structure

In preparation for upcoming consultation, the Corps has worked with Reclamation and Fish and Wildlife on ways to eliminate these shortfalls under the scenario of a multi-agency BO. However, specific remedies have not been identified. Therefore, the Corps decided to prepare and submit its own BA, and will request a Corps-specific BO from Fish and Wildlife.

The Corps has remained in step with Reclamation in terms of the schedule for preparing the agencies’ respective BAs, and has endeavored to work with Reclamation on a common environmental baseline to support both documents.

The Corps’ BA addresses its operation of four reservoirs (Abiquiu, Cochiti, Galisteo, and Jemez Canyon) and includes the following Proposed Actions:

1. Discretionary flood control operations
2. Delivery of carryover flood water
3. Storage of San Juan-Chama water at Abiquiu Dam
4. Delivery of Cochiti recreation pool replacement water
5. Maintenance actions

The Corps has circulated a preliminary draft of its BA to numerous entities for review, and is currently considering the comments and suggestions generated from that review.

We anticipate submitting the BA to Fish and Wildlife and initiating consultation this fall.

Despite our decision to seek an agency-specific BO, the Corps intends to remain fully engaged with the Middle Rio Grande Endangered Species Collaborative Program and is committed to supporting the goal of long-term recovery of the species. We believe that the issuance of an agency-specific BO, will allow our future funding to be more certain, allowing the Corps to better serve the needs of listed species along the Rio Grande.
Corps projects in the Rio Grande Basin store and release two “types” of water: “native” or naturally occurring in the Rio Grande Basin, and “San Juan-Chama” (a U.S. Bureau of Reclamation project internally called “SJ-C”) imported through a series of tunnels from the San Juan Basin, flowing into lakes Heron, El Vado, Abiquiu and then downstream.

“Native” water comes from rainfall, snowmelt, or groundwater naturally occurring within the Rio Grande watershed, versus the imported or trans-basin water from the SJ-C project.

At Abiquiu and Cochiti, all of the Corps’ normally stored water is accounted for as SJ-C water (non-native water). At Abiquiu, the entire pool is made of this SJ-C water stored for the Albuquerque Bernalillo County Water Utility Authority and other SJ-C contractors, except when the Corps needs to hold back floodwater (which, of course, is native water).

At Cochiti, there is an authorized permanent pool of SJ-C water, with loss amounts replenished annually, for recreation and fishery purposes, and all native water is simply passed through (unless the Corps stores floodwater).

Jemez Canyon has been managed as a dry reservoir for the past 10 years, except when excess floodwater needs to be stored to help downstream conditions. The Corps discontinued storing a sediment-trapping pool of water there when an agreement with the State of New Mexico ran out. The Corps recognized capturing sediment had the negative effect of starving the river channel downstream of this habitat sustaining resource. When the Corps did store water there continually it was accounted for as SJ-C, by swapping an equal amount of SJ-C water released from other reservoirs in exchange for the amount of native water stored there (Jemez Canyon is physically located on the Jemez River, a tributary to the Rio Grande).

The SJ-C project, built by Reclamation in the late 1960s and early 1970s to add to the state’s water supply, has created this distinctive and complicated accounting system, which was also designed to minimize or eliminate effects upon native water movement through the Rio Grande system.

This project was done so the sharing of native water (governed by the Rio Grande Compact among Colorado, New Mexico, and Texas, and on a local level by New Mexico water rights adjudication) is not harmed by introduction of this SJ-C water to the Rio Grande Basin, which if done poorly could result in loss of native water to certain users.

It may seem counter-intuitive that someone could lose water by adding water from another basin, but such a loss occurs if accounting methods give SJ-C an advantage in moving through the Rio Grande system. In other words, the accounting must be done carefully to avoid shorting states or local water users, and the Corps supports Reclamation’s efforts to do the accounting and manage the water.

The U.S. Bureau of Reclamation has extended the review period for its Middle Rio Grande Water Management Biological Assessment (BA) to October 3rd. Reclamation would appreciate comments prior to the 3rd to assist in efforts to review and incorporate comments, as appropriate, prior to finalizing the BA for submittal to the U.S. Fish and Wildlife Service. The draft BA is located at: http://www.middleriogrande.com Comments should be sent electronically to Josh Mann, jmann@usbr.gov.
**Moderate Earthquakes Hit the Trinidad Area**  
*By Elizabeth Lockyear, Public Affairs*

A swarm of earthquakes hit southern Colorado beginning August 22. Most of the quakes were between magnitudes 2.1 and 3.9.

The largest earthquake, however, was magnitude 5.3, located approximately nine miles west-southwest of Trinidad, Colo.

That quake caused minor damage to several structures, many with plaster cracks now in need of cosmetic repair.

A post-earthquake inspection was conducted at Trinidad Dam on August 25. Inspectors included members of the District’s Safety Office, Geotechnical Engineering Section, Structural Engineering Unit, Reservoir Control and the Colorado State Dam Safety Branch.

After the inspection of the embankment, spillways, intake tower, access bridge, conduit and stilling basin, “no signs of distress were observed,” according to Suzi Hess-Brittelle, the District’s Dam Safety Program Manager. She added that the dam will continue to be monitored during the next few months.

Hess-Brittelle commended the Trinidad project staff for their quick and timely response after the 5.3 magnitude earthquake by ensuring public safety and for providing boots on the ground as District staff mobilized.

Shaking was also felt in the area of John Martin Dam. Project staff there also acted proactively, immediately checking for damages.

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**September is National Preparedness Month**

National Preparedness Month is a time to remember the disasters of the past while preparing for the disasters of the future.

“What should I do?” is a question asked by people every time an event reminds them lives can be changed instantly by different emergencies. But, by taking action now, people can help minimize the impact disasters will have.

At the website www.ready.gov, people can find information about emergency preparedness. It is an individual responsibility. By being prepared as individuals, valuable resources are freed up, often allowing our first responders to assist those who are in the greatest need.

**Did you know…another name for earthquake is temblor?**
District Happenings

District’s Project Sites Undergo Audit

By Elizabeth Lockyear, Public Affairs

This summer, an independent audit firm hired by the Corps, KPMG, conducted a site visit at three of the District’s project sites. According to Lisa Marie Lopez, accountant in Resource Management, the purpose was to physically view selected property, plant and equipment assets and construction projects in progress at Abiquiu, Cochiti and Conchas lakes.

Part of the preparation for the audit was getting the Cochiti Campground placed in service in CEFMS. Lopez said getting this done was a “team effort.” Employees from different offices in the District (Operations, Resource Management and Real Estate) worked together to prepare for the audit and to ensure its success.

L-R: Mark Turkovich, Lisa Marie Lopez, Andrea Gonzales, Wanda Curtis and Felton Prosper examine inventory binders created in preparation for the KPMG site visit. Inset photo: Francina Martinez. Not pictured: Master Sgt. Fernando Vasquez. All of these employees played an important role in the audit.

District’s Chief Counsel Participates in Colorado Warrior Dash

The Corps’ Worldwide Counsel Conference, which is held every two years at different locations, took place this year at Colorado’s Copper Mountain Resort Aug. 21.

In the first photo (left to right), District Counsel Shivaun White, Honolulu District; District Counsel Mike Gilbert, Alaska District; and District Counsel LeeAnn Summer, Albuquerque District, dashed through a course with obstacles that required crawling through mud under barbed wire and jumping through fire. The website warriordash.com shows all of the obstacles that were part of the 3.2 mile event.
The World Was Changed that Tragic Day

By Kristen Skopeck, Public Affairs

On Sept. 11, 2001, I woke up in my grandparents’ home in Lisbon, Iowa and started getting ready for a flight to the Azores, Portugal, where I was stationed as the Chief of Public Affairs at Lajes Field. I was an Air Force captain, and I had been stationed in the Azores for about a year. The trip had been a good one, very relaxing, and my 3-year-old (at the time) daughter, Madison, and I enjoyed the time spent visiting family. My mother was also in Iowa, as she had taken vacation from her work in California. That morning, we all had breakfast together before driving to the airport. Mom was flying to Los Angeles, via Denver, and we were headed to Norfolk, Va., en route to Lajes.

My flight left first, so Madison and I boarded our airplane and it took off, like on any normal day. However, about an hour into the flight, the crew started acting strange. They stopped the drink service and told us that we needed to prepare for landing, but they didn’t tell us where or what was happening.

We were ushered off the plane, and I quickly found out we were in St. Louis. Everyone was confused, and no one had any answers.

There were a few televisions in the terminal, and it quickly became apparent something had happened to one of the World Trade Center towers.

Within a few minutes, I watched the second plane crash into the other tower. Madi was standing at my side, her sippy cup in hand, oblivious to all the unnatural energy going on around her.

I looked for a pay phone to call my Dad in Louisville, Ky., since I knew my mom was flying just like me.

As I was looking around, I saw nearly everyone on cell phones, which explained why there seemed to be very few pay phones in the airport, but I finally found one and called Dad to explain our flight was diverted and that I was going to go to the USO to see what was happening. I was worried about our luggage, because no one would tell me what was going to happen to it, or if flying would resume.

I found the USO at the same moment the Pentagon was hit. It caused a lot of concern in the USO, since it was full of traveling service members who all realized our country was probably at war, and we were not in the place where we should be at a time like that.

The USO wasn’t staffed for all the people, but they were calling in “backups” and doing all they could to keep people calm and help them contact supervisors, eat, or whatever.

A nice, older lady offered to watch Madison while I went in search of our luggage and information. It was then that I realized the airport had no plan for the scenario that was happening. Luggage handlers had created a mountain of luggage across the entire baggage claim area. Thousands and thousands of bags were strewn all over, and people were climbing the baggage mountain in search of suitcases. I was stressed about leaving Madison alone, and it looked like trying to find a needle in a haystack.

I returned to the USO and was able to make contact with the command post in the Azores to let them know we were safe.
At the time, I didn’t understand the enormity of what was happening, and I didn’t know all flights would be cancelled for an indefinite time.

After thinking for awhile, I asked the nice lady to help me again with Madison, and I returned to the baggage mountain, which had diminished somewhat, and I got very lucky. That bright red suitcase I bought for Madison in the Base Exchange was poking out of a large pile to the left-hand-side of the mountain. Close by was another suitcase we brought. I thought finding the bags was a small miracle, and I lugged them back to the USO. It was very congested there, and another small luggage mountain was forming outside.

After realizing no airplanes were leaving that day, I went to the car rental counter and was told no more rental cars were available at the airport. We were truly stranded, and my stress was intensifying. I was a military captain in charge of a public affairs shop that was probably extremely busy trying to get information to our customers about what was happening, and I couldn’t get back to help. I had a small child who needed to be carried, for the most part. I had two very heavy pieces of luggage that I could barely handle by myself, as well as carry-on bags and my purse. I didn’t have a lot of money, and I was in St. Louis, which wasn’t really close to anywhere for help. I just kept thinking that I needed to get to Louisville, so I decided we would sleep in the airport that night and wait for a rental car to be returned.

The nice woman from the USO sized up my situation and told me we could come home with her. She had a small condo near the airport, and she kept saying “everything would work out.”

The next morning I learned there was one rental car, so we headed to Louisville. My parents had missed a lot of work helping to take care of my elderly grandma, and they couldn’t take more time off to drive us to Norfolk, so Madi and I took a Greyhound. The trip was long with many stops.

The customers on the bus were not the typical customers. Many riders wore business suits, and there were a lot of nicely dressed ladies with children. It was surreal. Everyone seemed out of their element, worried about the future. The children were the only ones who were oblivious to the fear and anxiety. Madison was a perfect angel, and she hummed and sang to herself the entire trip. I think people around us felt it soothing, like she was a bright light in a dreary day.

We made it to Norfolk the next day after 26 hours, or so, of traveling on two buses. At Norfolk, we checked into a hotel and went to the military airlift terminal to get on the waiting list for a flight back to the Azores. It took about two days, and the experience was so exhausting because of having to repeatedly trek back and forth between billeting and the terminal, with no car.

Madi never complained. She never made it more difficult than it was. She seemed to understand that I was working to capacity and doing my best. During those few nights in the hotel, while waiting for a flight, I’d cuddle her close at night and fall into a deep, dreamless sleep. I was too exhausted to dream. Each day was filled with worry about how the world would be changed and what my role would be.

One of the most noticeable changes when we got back to the base was the heightened state of alert. The mission at Lajes is to provide refueling, lodging and crew rest for airplane crews traveling across the Atlantic on the way to the Middle East.

After Sept. 11, the amount of planes coming through started to ramp up significantly. The planes were a constant, visual reminder for the people on the island that the United States military was actively engaged in the war on terror.
Employees Recall Whereabouts on 9/11

Bill Loveland, Mechanical Engineer: Here in the District! “I went to the breakroom and noticed on the TV the first plane. We were sent home that day. It was very depressing.”

Reva Teamer, Administrative Assistant in Resource Mgmt: “I was on a cruise to the Bahamas. We saw it on the TVs in the boat’s lobby while it was docked in the Bahamas.”

Loveland

John Lawrence, Systems Administrator with ACE-IT: “I worked for AOL at the time and had Tuesdays, Wednesdays and Thursdays off, so I was at home taking care of my boys. My wife told me about the first plane as she was leaving for work.”

Teamer

Richard Banker, Civil Engineering Technician: “I was at work at Bohannon-Huston that morning, and I had the radio on and heard about the first plane to hit. My wife was helping my stepson who had to come up with a news story for a middle school class, so I called to tell her about it.”

Lawrence

Banker

9/11 Memorial photos were taken by Richard Banker on a recent trip to New York City.

Photos by Lisa Lockyear
I was selected for the rank of major in 2006. However, due to a severe injury incurred while training for deployment to Iraq, I was unable to finish the Advanced Officer Course, which is a requirement. I was told I needed to restart my academic training from the beginning, through Distance Learning, when the Army changed the program to the Captain’s Career Course. So, once again, I had to start over.

This past summer, I spent five weeks at Fort Leonard, Mo., completing the Engineer Captain’s Career Course-Engineer Component.

After returning to the District, I submitted my educational documents to Human Resources Command at Fort Knox, Ky., and within days had my promotion order.

Interestingly, the date of rank was Apr. 28, 2010, which was the date I was officially transferred back to the United States Army Reserve from the New Mexico Army National Guard. I think my having been injured during a mobilization and then not being able to attend school while undergoing two knee surgeries, including a partial knee replacement, and the subsequent rehabilitation, played a part in the date of rank being backdated.

I was assigned here on June 1, 2010, after the prior Commander, Lt. Col. Colloton, shared an airport shuttle with my former boss.

My first assignment was to oversee the District’s role in the American Recovery and Reinvestment Act (ARRA). I was in charge of ensuring the District met all obligations regarding contract awards and that projects complied with ARRA regulations. I was also initially assigned as the unofficial liaison between the military personnel and the civilian staff, and I was told to let the command know when communication wasn’t clear.

Later, I was assigned as the District’s Operations Officer in the Strategic Integration Group, or SIG, assisting in the integration of the Operations Plan.

When I’m not at work, I enjoy reading and playing computer games, both alone and with my kids, and watching movies. Lately, I saw the Corps’ Abiquiu Lake featured in “Cowboys & Aliens.”

My future goals include working with the Corps in a civilian capacity when I finish my military career. This month, I will have 21 years in the Army. Also, I am currently working towards a degree in geologic engineering. I’d like to add that Lt. Col. William’s mentoring was instrumental in my finishing the education requirements leading up to my promotion, and I’m very grateful to him for that.
Photo Contest to be Announced Soon

Calling all photo aficionados interested in the District’s annual photo contest. Soon, an announcement will go to all employees explaining the contest’s timeframe and rules for 2011. Like last year, the entries will be posted online for voting. More to come.

National Public Lands Day, Sept. 24

National Public Lands Day (NPLD) recognizes the importance of the lands available for public use and trust. In addition to the time and energy volunteers put into making parks better, NPLD is about introducing young people and adults to the opportunities public lands offer for people to be active and to give back to their communities.

As the nation’s largest one-day volunteer event in support of public lands, NPLD is celebrated at more than 2,000 sites in all 50 states and the District of Columbia with a wide array of activities. Volunteers’ one-day efforts will equal more than $15 million in improvements.

The following projects are being conducted at our District’s projects. Please contact the projects if you’d like to volunteer: Abiquiu—trash collection, trail maintenance, landscaping. Lunch provided. Contact Eric Garner 505-685-4371.

Conchas—trash collection along shoreline and in recreation areas. Light lunch provided. Contact Steve Peterson 575-868-2221. John Martin—two civic clubs from Las Animas High School and Middle School will be doing habitat work for endangered species. Primary school-aged children will be helping plant flower bulbs at the shelter. Light lunch provided. Contact Karen Downey 719-336-3476.

Santa Rosa—4-H and Teen Builders groups are coming to the project to pick up trash on the entry road and around the project. Light lunch provided. Contact Bob Mumford 575-472-3115.

Corps Explains Initial Research on Effects of Woody Vegetation on Levees

The U.S. Army Corps of Engineers released Sept. 8, the results of an advanced, quantitative research effort on the impacts of trees on levees. The research, conducted by the U.S. Army Engineer Research and Development Center, focused primarily on the gathering of root characterization and site conditions through fieldwork, and modeling of single, living trees for both slope stability analyses and seepage analyses.

The Corps will use this new information to inform its decision making for trees on levees in the USACE levee safety program. The research report, *Initial Research into the Effects of Woody Vegetation on Levees,* is available at http://wri.usace.army.mil.

“Life safety is a top priority,” said Steven Stockton, USACE director of Civil Works. “We are always looking for new and better information to improve our levee safety policies and procedures, while helping levee sponsors make better informed decisions about safety and setting priorities.”

The research included an extensive literature search (263 publications from 30 countries) which revealed minimal information on the complex scientific relationship between levees and trees. The Corps started this initial research effort to help determine and quantify the effects of trees on levees. This initial research advanced the agency’s knowledge and understanding of some aspects of this complex issue. The presence of trees on a levee increases the uncertainty associated with levee integrity and performance.

Researchers determined that because of many variables, the full impacts of trees on levees may never be quantifiable.