

Falls City Engineer

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U.S. ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT



US Army Corps
of Engineers
Louisville District

*Districts dig
up success in
soil cleanup*

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*Building Strong:
Corps employee manages
projects in Afghanistan*

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COMMANDER'S COMMENTS

Team,

Before I get started, I have to thank all those who had a hand in the wonderful change of command event. Landing a job in this district has been a lifelong dream of mine and I'm overwhelmed by the welcome I've received, both at the change of command and in my first month here.

I'd like to use my first column to share some initial observations. The last 30 days have been a whirlwind. The serendipity of the Mississippi River Commission's Ohio River Inspection and recent developments at Olmsted Locks and Dam provided me with the opportunity to visit all but two lock projects in the district, plus the Fort Knox, Wright Patterson AFB and Fort Campbell offices, and many of the offices in the Mazzoli Federal Building. The size and extent of our mission can take a newcomer's breath away.

My first impression—everyone I've met so far is professional, courteous and helpful, and my feeling is that this is part of the culture and not just shining up to the new commander. So far, no one has been bashful about telling me their concerns about their projects. In acclimating myself to the district, I've gotten into the habit of asking two questions, "What keeps you up at night?" and "What do you expect from the District Engineer?"—so expect at least those two questions to continue until I get my feet under me. I hope you are willing to give me your candor.

As we enter hurricane season, I'd like to point out that we have five positions available for the Planning and Response Team (PRT) supporting our debris mission. If you are interested in becoming a member of the PRT, simply go to ENG-Link, click on your Personal Data Sheet (PDS) and select the Volunteer section at the top of the page. When completing this form ensure you input PRT in the comments section. Questions pertaining to the Louisville District PRT can be directed to the Emergency Operations Center at (502) 315-6912.

I want to tip my hat to three employees this month. First, to Jane Ruhl and Verle Heindselman who were honored at the Senior Leaders Conference this month, which you will see in this edition of the Falls City Engineer. Second, to Diane Stratton, lake manager at Rough River Lake. This summer marks the 50th Anniversary of the Rough River Project, and Diane showed great initiative in turning that milestone into an opportunity to showcase a tiny part of our district's workload. Diane and her team brought in important stakeholders for the icebreaker last Friday that included Rep. Brett Guthrie, Kentucky Commissioner of Parks Gerry van der Meer and a large contingent of local leaders. The project was praised for its role not only in recreation but for its critical importance in preventing dam-



Col. Luke T. Leonard
Commander and District Engineer
Louisville District
U.S. Army Corps of Engineers

age downstream during the spring floods. Diane's team also organized the first ever Rough River Triathlon, which was great fun for those brave enough to compete (my place in the overall standings will remain classified).

Building Strong!
Luke

Falls City Engineer

Vol. 3, Issue 4

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On the cover: Native grasses are being used to protect soil cover at the former Kentucky Ordnance Works in McCracken County, Ky.

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CONTENTS



The first section of the journal discusses the importance of maintaining accurate records in the field of engineering. It highlights the challenges faced by engineers in ensuring data integrity and the potential consequences of errors. The authors propose several strategies to mitigate these risks, including the use of standardized protocols and regular audits.

The second section explores the latest advancements in materials science, specifically focusing on the development of high-strength, lightweight composites. This research is crucial for the aerospace and automotive industries, where performance and efficiency are paramount. The authors detail the manufacturing processes and the mechanical properties of these new materials.

The third section delves into the application of artificial intelligence in engineering design. It examines how machine learning algorithms can optimize complex systems and predict failure modes. The authors provide a case study of an AI-driven design process, demonstrating its effectiveness in reducing development time and cost.

The fourth section addresses the environmental impact of engineering practices. It discusses the need for sustainable design and the role of engineers in minimizing carbon footprints. The authors explore innovative materials and processes that reduce waste and energy consumption.

The fifth section focuses on the human factors in engineering, particularly in the context of safety-critical systems. It analyzes the cognitive and behavioral aspects of human error and provides guidelines for designing systems that are more resilient to human mistakes.

The sixth section discusses the economic implications of engineering innovations. It evaluates the cost-benefit ratios of various technologies and provides insights into market trends. The authors also discuss the role of government and industry in fostering innovation and supporting research and development.

The seventh section covers the latest developments in the field of robotics and automation. It highlights the progress in humanoid robots and autonomous systems, and discusses their potential applications in manufacturing, healthcare, and service industries.

The eighth section examines the impact of global climate change on engineering. It discusses the need for climate-resilient infrastructure and the role of engineers in addressing the challenges posed by extreme weather events and sea-level rise.

The ninth section focuses on the future of engineering education. It discusses the need for interdisciplinary learning and the integration of practical skills with theoretical knowledge. The authors propose a new model for engineering education that emphasizes innovation and problem-solving.

The tenth and final section provides a comprehensive overview of the current state of the engineering profession. It discusses the challenges and opportunities facing engineers in the 21st century and offers a vision for the future of the field.

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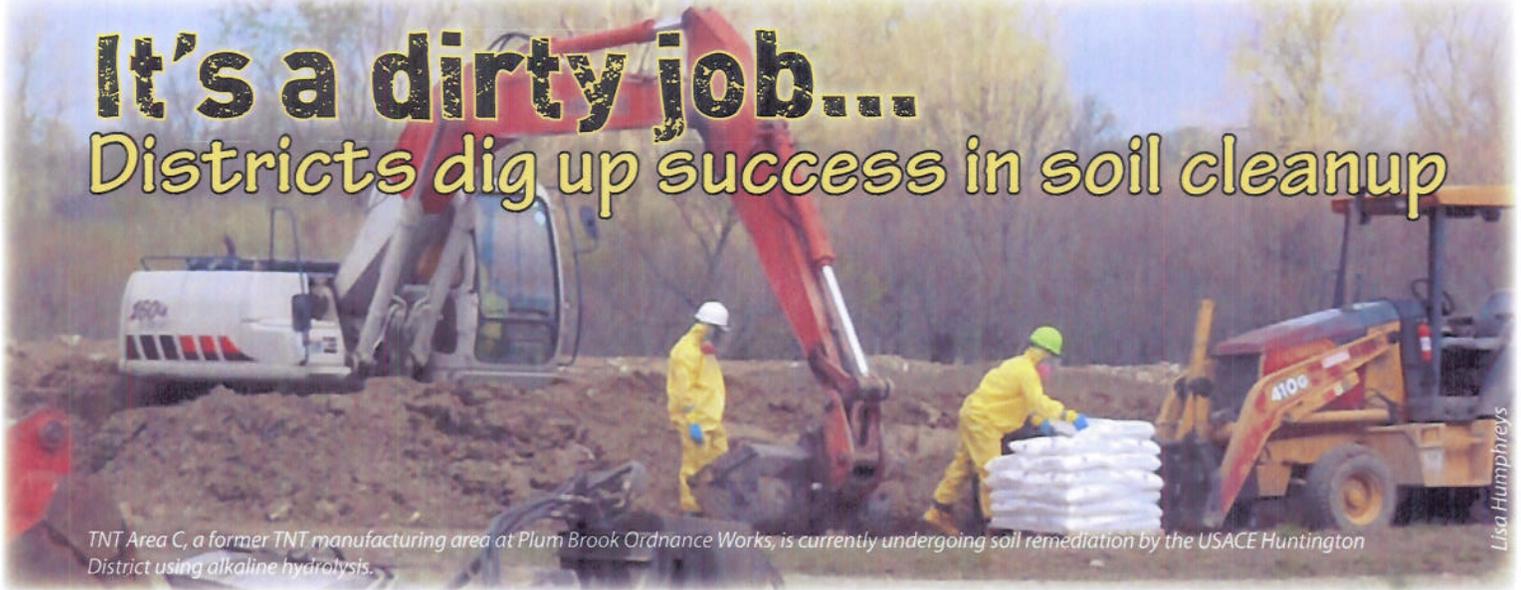
This journal is a leading platform for the dissemination of research and knowledge in the field of engineering. It covers a wide range of topics, from materials science and artificial intelligence to environmental engineering and human factors. The journal is committed to providing high-quality, peer-reviewed content that advances the state of the art in engineering.

We are currently seeking qualified engineers and researchers to submit their work for consideration. The journal is open to submissions from both established and emerging researchers. The review process is rigorous and ensures that only the most significant and innovative work is published.

For more information on the journal's scope and submission guidelines, please visit our website at www.engineeringjournal.com. We look forward to receiving your contributions and fostering a collaborative environment for engineering research.

It's a dirty job...

Districts dig up success in soil cleanup



TNT Area C, a former TNT manufacturing area at Plum Brook Ordnance Works, is currently undergoing soil remediation by the USACE Huntington District using alkaline hydrolysis.

Lisa Humphreys

By Jenn Domashevich, public affairs

From cost-savings to community partnership, the multi-district U.S. Army Corps of Engineers (USACE) remediation project at Plum Brook Ordnance Works (PBO) in Sandusky, Ohio, demonstrates what teamwork is all about.

The formerly used defense site (FUDS) manufactured explosives in support of the war effort during World War II. TNT Area C was one of three TNT manufacturing areas at PBO and is currently undergoing soil remediation by the USACE Huntington District using alkaline hydrolysis.

"The work being executed at Plum Brook Ordnance Works is a great example of how our districts work together to complete FUDS projects," said David Dierken, Louisville District FUDS program manager. "Even though Huntington, Nashville and Louisville districts each play a different role in this project, our collaborative effort has allowed remediation work at Plum Brook to move forward with great results."

The alkaline hydrolysis process uses a caustic material and an iron catalyst. At PBO, the Huntington District used



A windrow turner is used to mix the treatment chemicals and the contaminated soil together during the alkaline hydrolysis process at Plum Brook Ordnance Works.

Lisa Humphreys

liquid ferric sulfate and sodium hydroxide pellets to remove the contaminants of concern in 3,000 tons of excavated soil. Using a windrow turner, the treatment chemicals and the contaminated soil were mixed together. This is a variation on a common practice for soil remediation (known as composting) where chicken manure and other natural products are mixed into contaminated soil using a windrow turner.

"Once the chemicals are mixed into the soil, they start breaking down the nitroaromatics [industrial chemicals such as explosives]," said Lisa Humphreys, USACE Huntington District project technical coordinator. "It even goes so far as to break down the amino levels, which are at the bottom of the nitrochain. That's one thing that the alkaline hydrolysis process does that the composting doesn't do — break down the aminos as quickly."

At different sites in the past, an excavator bucket was used to mix the chemicals into the soil.

"We felt that by using the windrow turner, we'd get a much better mix of the chemicals in the soil," said Humphreys. "And if the process didn't work, we were already set up to do the composting, so we wouldn't have to double-handle material. So far, it's working out great."

By not using the chicken manure for the windrow composting, the soil does not have straw and other materials blended into it, creating more stable soil that could actually be used for structural backfill. Because of this, once remediated, the soil will be placed back in the trenches it was dug out of, instead of having to be replaced with clean fill.

Only the hazardous soil is being

remediated. The additional soil that was determined to be non-hazardous is being used by the local landfill as daily cover. This allows the Corps to dispose of the non-hazardous soil at a reduced rate and helps the landfill.

The alkaline hydrolysis process is fairly simple. The hardest part is actually putting the caustic chemicals on the windrows. Workers have to wear chemical-resistant suits, goggles, respirators, hard hats with face shields, and layers of gloves.

"This is the first time we've done the alkaline hydrolysis," said Humphreys. "The field guys have it down to a science. We haven't had any wind concerns because we're using pellets for the sodium hydroxide and by being so close to Sandusky Bay of Lake Erie, we do get some significant wind at the site. It's been good."

The USACE Nashville District serves as the project design team and developed the remediation alternatives for TNT Area C, one of which was alkaline hydrolysis. The Huntington District performs the actual remediation work, but they also worked with the Nashville District throughout the design process.

"This relationship has been in place since the early 1990s, and the team works very well together," said Huntington District project manager Rick Meadows.

The selected remedy provided the option to use alkaline hydrolysis and/or windrow composting. This remedy was written into the final plan of action, known as the Decision Document.

"We know that windrow composting works well, and we wanted to leave that flexibility in the Decision Document," said Meadows. "In case dealing with the

(Continues on Page 4)

caustic sodium hydroxide came to be too big of a safety concern or problem, we had another option already built in that gave the contractor some flexibility on how he was going to do the remedial work.”

An added advantage to using the windrows for the alkaline hydrolysis process was that they could reuse a previous remediation area.

“We already had this remediation area developed and laid out to do the windrows on, so it was the perfect fit,” said Meadows. “Being able to use the remediation area gave us a cost-savings from not having to develop new remediation areas each time. That’s a big part of the cost.”

In addition to reducing remediation costs, Huntington District has also provided work for local businesses.

“For the actual labor and equipment,

everything is purchased or rented up in the Sandusky, Cleveland area,” said Humphreys. “We’re trying to keep it local and keep the money in the economy.”

The FUDS program for the Great Lakes and Ohio River Division is managed by the USACE Louisville District, which is responsible for all projects within Kentucky, Indiana, Illinois, Ohio, West Virginia and Michigan. Because of the Huntington District’s existing involvement with PBOW, they continue to manage this project and use Nashville as their design district.

“Even though the Louisville District is the program manager, you’re getting the project technical management services from Huntington District and the design services from Nashville District,” said Meadows. “So, we’re all working together

as one team to achieve the FUDS mission.”



Lisa Humphreys

The USACE Huntington District used liquid ferric sulfate and sodium hydroxide pellets to remove the contaminants of concern in 3,000 tons of excavated soil at Plum Brook.

Native grasses help restore former defense site

By Jenn Domashevich, public affairs

Green plants have many purposes in the environment, they serve as a habitat for small animals, provide food for others and for the U.S Army Corps of Engineers (USACE), they serve as a mechanism to protect remediated sites. At the former Kentucky Ordnance Works (KOW) in McCracken County, Ky., vegetation is being used to protect a soil cover, while also providing a habitat for birds and small animals that call the grassland community home.

The former Kentucky Ordnance Works served as an explosives manufacturing facility during World War II, producing approximately 196,490 tons of trinitrotoluene, more commonly known as TNT. The site was decommissioned soon after the end of the war and the buildings were removed. During the operations and demolition of the site, waste material, including coal ash and construction debris, was disposed of in a 2.5-acre area known as the West Gravel Pits.

During the Louisville District’s environmental investigation of KOW, it was determined that most of the waste material in the West Gravel Pits had been covered with native soils, but some of the material was open to the environment.

“Sampling of the West Gravel Pits

showed concentrations of metals in the surface soils that represented a threat to wildlife,” said Louisville District technical manager Doug Meadors.

The selected remedial action was to construct a soil cover over the area and re-route surface drainage. Site work was performed in 2009. A soil cover acts as a barrier between the buried waste and the surface, preventing the public and environment from being exposed to the waste.

“Key to maintaining the soil cover is having plants living on the cover material,” said Meadors. “If the soil cover was not covered in vegetation, water from storms could erode the cover away over time.”

The vegetative cover was established by seeding the area with native warm season grasses, including Indian Grass, Big Bluestem, Little Bluestem and Prairie Switchgrass. Native warm season grasses are tolerant of dry weather and other environmental challenges. Erosion-resistant mats were also placed on various slopes of the site to provide a stable base for the grasses to take root. Vehicle traffic is prohibited from the site to prevent erosion of the installed cover.

The grasses continue to flourish on the

West Gravel Pits, and plant growth will eventually contribute to the creation of soil structure and wildlife habitat.

“Kentucky was once covered by about three million acres of grasslands, and much of the Kentucky grasslands were populated with bison,” said Meadors. “This planting harkens back to how Kentucky looked in those pre-settlement days.”



Douglas Meadors

The selected remedial action at Kentucky Ordnance Works was to construct a soil cover over the West Gravel Pits, which would act as a barrier between buried waste and the surface, preventing the public and environment from being exposed to the waste.



building strong

Corps employee manages projects in Afghanistan

Lynn Jarrett

Project sites that Louisville District employee Lynn Jarrett worked on were located in remote areas of Afghanistan, requiring him to be flown in by Black Hawk helicopter.

By Jenn Domashevich, public affairs

Louisville District employee Lynn Jarrett went from managing environmental cleanup projects at formerly used defense sites to managing approximately \$309 million worth of construction projects in Afghanistan. While stationed at Kandahar Airfield (KAF) during his six-month deployment with the U.S. Army Corps of Engineers (USACE), Jarrett managed construction projects for the Afghan National Police (ANP), a section within the Afghan National Security Force.

"I managed projects, both pre-award and post-award, that built district headquarters for police and border patrol facilities," said Jarrett. "We were building these facilities to house anywhere from 60 to 500 personnel in the ANP program."

The projects were done in two phases. The first phase was the pre-award phase, which involved getting contracts awarded to build these structures. After contracts were awarded and contractors had been hired, the post-award phase would begin.



Lynn Jarrett

Construction projects are being managed by the U.S. Army Corps of Engineers in the provinces of Kandahar, Uruzgan, Daykundi and Zabul.

"What I found the most interesting was putting together all of the pieces that were necessary to get these facilities both contracted and then constructed afterwards," said Jarrett. "I had to work with real estate, office of counsel, contracting, engineering, construction and the contractors. I also addressed the needs of the stakeholders, who, in this case were the Afghan National Police and their mentors."

Jarrett worked on approximately 25 pre-award projects and 20 post-award projects, all of which were in different stages of completion. The projects he managed ranged from \$5 million to \$20 million and had to be completed at an accelerated rate.

"We worked 128 hours a pay period, 64 hours a week, and a lot of times even more than that in order to get things done," said Jarrett. "It was a very expedited process."

Jarrett managed projects in Kandahar, Uruzgan, Daykundi and Zabul provinces. A lot of the areas where projects were being built were extremely remote and required materials to be transported down dirt roads. All of the roads that Jarrett traveled on had to be cleared of Improvised Explosive Devices (IEDs) by a route clearance team, some of them also had to be physically cleared since they were unused.

"We went out a few times with the route clearance team," said Jarrett. "We had to push up some dirt roads to access the facilities with MRAPs (Mine Resistant Ambush Protected vehicle). It was a long and bumpy ride."



Photo courtesy of Lt. Col. Carpenter

Lynn Jarrett went from managing environmental cleanup projects for the Louisville District to managing approximately \$309 million worth of construction projects for the Afghan National Police during his recent deployment with the U.S. Army Corps of Engineers.

In addition to having to clear the roads of IEDs, the property where these facilities were being constructed also had to be cleared of explosive devices.

"There always had to be mine clearance as a component of each of these contracts," said Jarrett. "We had a mine clearance project manager and people oversaw mine clearances to make sure it was done correctly and met USACE criteria."

Prior to his deployment, Jarrett worked as a project manager in the Louisville District's environmental branch, managing all Formerly Used Defense Site (FUDS) projects in the state of Ohio. During his deployment he was promoted and returned back to the district to serve as the program manager for the district's Defense Logistics Agency Strategic Materials Program (Continues on Page 6)

and project manager for the Inventory Project Reports (INPRs) for the FUDS program.

“My experience in Afghanistan was both interesting and challenging,” said Jarrett. “The construction we did is benefiting the Afghanistan National Security Forces (ANSF) and the Afghan people and will for the foreseeable future. It was a privilege to contribute to the rebuilding and fortification of this war-ravaged country. In addition, I personally acquired new skills and knowledge that I can use in my current position. It is gratifying what a dedicated group of competent people can do in a short time when they stay focused.”



Lynn Jarrett

Old border patrol facilities in Afghanistan, like the one pictured above, are being replaced with newly-constructed facilities that will house anywhere from 60 to 500 personnel in the Afghan National Police program. The construction of these facilities is being managed by the U.S. Army Corps of Engineers.



Lynn Jarrett

U.S. Army Corps of Engineers projects are being constructed in remote areas in Afghanistan, requiring materials to be transported down dirt roads that have to be cleared of Improvised Explosive Devices (IEDs).

Wetland restoration creates haven for wildlife

By Jim O'Boyle, William H. Harsha Lake

Restored in 1995, the 15-acre wetland complex in the East Fork Wildlife Area was a joint effort among the Ohio Division of Wildlife, the Clermont County Soil and Water District, USDA - Natural Resources Conservation Service and the U. S. Army Corps of Engineers.

An earthen dam with a control structure was built, and seasonally the area would fill with water to attract a variety of wildlife. The shallow basin covered 9 acres and was full of wetland plants which in turn attracted muskrats, deer, turkey, turtles, frogs and ducks. This was a great success for wildlife with one little problem: a small, water-loving rodent named the muskrat. Muskrats are native, aquatic rodents that feed on wetland plants. The

muskrat has a tendency to construct burrows in earthen dams creating weak spots where water can flow and eventually undermine the entire dam.

This is exactly what happened, and by 2005 the dam was breached and the wetland complex did not function as intended. With shrinking state budgets, Park Manager Jim O'Boyle and Caesar Creek Lake Park Ranger Matthew Palmer knew they would have to think 'outside the box' when it came to forging local partnerships. They found a partner in the Ohio Department of Transportation (ODOT). Between road projects, the ODOT crew does 'volunteer work' to assist state, local and federal agencies. With the Ohio Division of Wildlife stepping in with design plans

and given a little time for the area to dry out after a very wet spring, the project was ready to move forward. The bulldozer and backhoe plus two heavy equipment operators had the old dam torn out at the point of failure, repacked, regraded and completed in less than two days.

The American Heritage Girls helped replant the area with dozens of water loving plants collected from other locations at the project. It was a great win for wildlife and the girls had a muddy good time in the process. With an aggressive muskrat control program in place, the East Fork Wetland Area should be a haven for wildlife for many years to come.



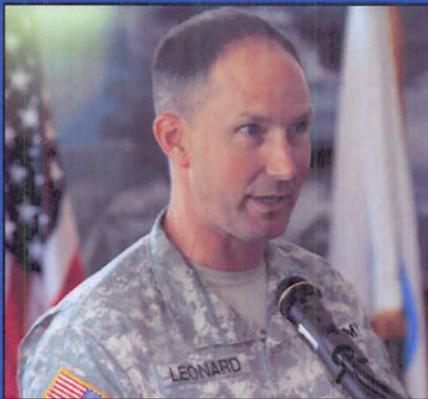
The finished dam and wetland immediately started to attract wildlife including a white-tailed deer.



Carol Labashosky

Summer Rangers Chris Bass and Kaitlin Ruby work to dig up wetland plants from an existing wetland and place them in the newly restored site.

District welcomes new commander



The U.S. Army Corps of Engineers welcomed Col. Luke Leonard to the Louisville District July 14 during a change of command ceremony at the Muhammad Ali Center in Louisville, Ky. Leonard became the 58th commander of the district following Col. Keith Landry who served as district commander from 2008-2011.

By Katie Newton, public affairs

The U.S. Army Corps of Engineers Louisville District hosted a change of command ceremony July 14 at the Muhammad Ali Center in Louisville where the district welcomed their new district commander, Col. Luke Leonard who assumed command from Col. Keith Landry.

Upon accepting command of the Louisville District, Leonard assumed responsibility of the district's workload, which includes civil works, military construction and environmental cleanup programs as well as 20 lakes, eight navigation locks and dams, and regulatory permitting.

"This is my dream job in a city that I now call home," said Leonard, who is a native of Cincinnati, Ohio.

Leonard comes to the Louisville District from the Human Resources Command at Fort Knox, Ky., where he served as chief of operations and plans division.

"The fact that Luke comes from that assignment tells you all you need to know about his capabilities and the confidence the nation has in him," said Maj. Gen. John Peabody, Great Lakes and Ohio River Division Commander.

Leonard has a distinguished 24-year Army career which included overseas operational deployments in Panama, Kosovo and Iraq. He was commissioned as an engineer officer after graduating from The Citadel in 1987.

Some of his awards and decorations include the Bronze Star Medal, Meritori-

ous Service Medal, Army Commendation Medal, Meritorious Unit Commendation, the Combat Action Badge, the Senior Parachutist's Badge, Ranger Tab and the Bronze Order of the de Fleury Medal.

Leonard shared some insight into his earliest interest in the field of engineering and the Army Corps of Engineers. He was only 11 years old when he saw a historical high-water mark from the 1937 flood on one of the churches in his hometown of Cincinnati. He asked his father if the water would ever get that high again and his father replied, "No, we don't have to worry about that anymore because the Corps of Engineers is taking care of it."

He didn't know at the time exactly what that meant, but was intrigued again by the Corps' work later that year when he visited Meldahl Locks and Dam on the Ohio River. "That fixed a fascination in my head," said Leonard. "And honestly I've been fighting to get back here—with you—ever since."

"I will not let you or the members of this Louisville District team down," said Leonard. "I look forward to serving with you and continuing the building strong traditions in this wonderful organization."

During the change of command ceremony former commander Col. Keith Landry officially retired after a 26-year Army career. Landry had served as the Louisville District commander since 2008. He was awarded with the Silver Order of

the de Fleury, a very prestigious award presented to an individual who has provided significant service to the engineer regiment, and was recognized by national, regional and local leaders for his remarkable accomplishments and support to the district during his tenure.

"The district has an impeccable reputation with the citizens within our boundaries and with the commanders we support, and that's a testament to your leadership and energy," said Leonard to Landry. "I can only hope to maintain your high standards."

Peabody, who commended both gentlemen for their extraordinary accomplishments, expressed his confidence in Leonard by saying, "Although you have big boots to fill, we know you will succeed here."



Louisville District Commander Col. Luke Leonard's family attended the change of command ceremony July 14.

New trails provide **ADVENTURE** for bikers



Volunteers and IMBA representatives ready to construct a trail.

By Deryck Rodgers, Nolin River Lake

A long-awaited trail project is finally under construction at Nolin River Lake. In the spring of 2010, the Friends of Nolin Lake (FONL) was approached by the Bowling Green Chapter of the Kentucky Mountain Bike Association (KYMBA) concerning the possibility of constructing a trail in the Brier Creek Area of Nolin River Lake. KYMBA was directed to the Nolin River Lake Project Office where discussions and planning began.

The location of the proposed trail project is on land adjacent to the Nolin Lake State Park, which is operated by the Kentucky Department of Parks. There is an existing hiking trail within the Nolin Lake State Park, which will be utilized as a portion of the new trail system. When completed, 6.7 miles of new trail will be available at Nolin. When hiked or biked it will provide users with an 8.5 mile adventure.

The Bowling Green Chapter of KYMBA was attracted to Nolin River Lake because of its proximity to Bowling Green, the natural beauty of the area, and because there are not enough mountain bike trails to ride in the Bowling Green area. Bowling Green is home to a large population of mountain bike riders. The Bowling Green KYMBA Chapter has 31

members. KYMBA's goal at Nolin River Lake is to build a sustainable trail system within a reasonable drive of Bowling Green. They have contributed significantly to the project already, providing more than 350 volunteer hours clearing downed trees, marking the trail corridor, and coordinating with other organizations. The group will provide maintenance of the trail once it is completed.

Nolin River Lake staff has worked over the past year and a half to help KYMBA reach this goal.

"It has been a great experience working with the Corps of Engineers on the Brier Creek Trail Project," said Bradley Renick, KYMBA President.

Along with providing additional recreational opportunities at Nolin, the trail will also introduce other user groups to Nolin Lake and the Corps of Engineers. Environmental and cultural reviews of a portion of the trail system were completed by environmental resources section in June of this year with help from technical support in operations division.

Friends of Nolin River Lake has also been involved in this project. They have provided volunteers, educated community leaders, and educated the public concerning the trail project. The FONL and KYMBA also sought out individuals and companies to donate mechanized equipment to aid in construction of the trail. As a result of their hard work, TPM Group from Bowling Green will be providing equipment and operators for trail construction at no cost.

In the Fall of 2010, KYMBA President Bradley Renick submitted an application to the International Mountain Bicycling Association's (IMBA) Trail Care Crew



Deryck Rodgers

A section of newly completed trail in the Brier Creek Area at Nolin River Lake. Volunteers have spent more than 350 hours on the project.

program. Through this program, two-person teams travel the country and train organizations to construct trails or assist organizations with building trails. KYMBA was awarded a Trail Care Crew visit July 14 - 17, 2011.

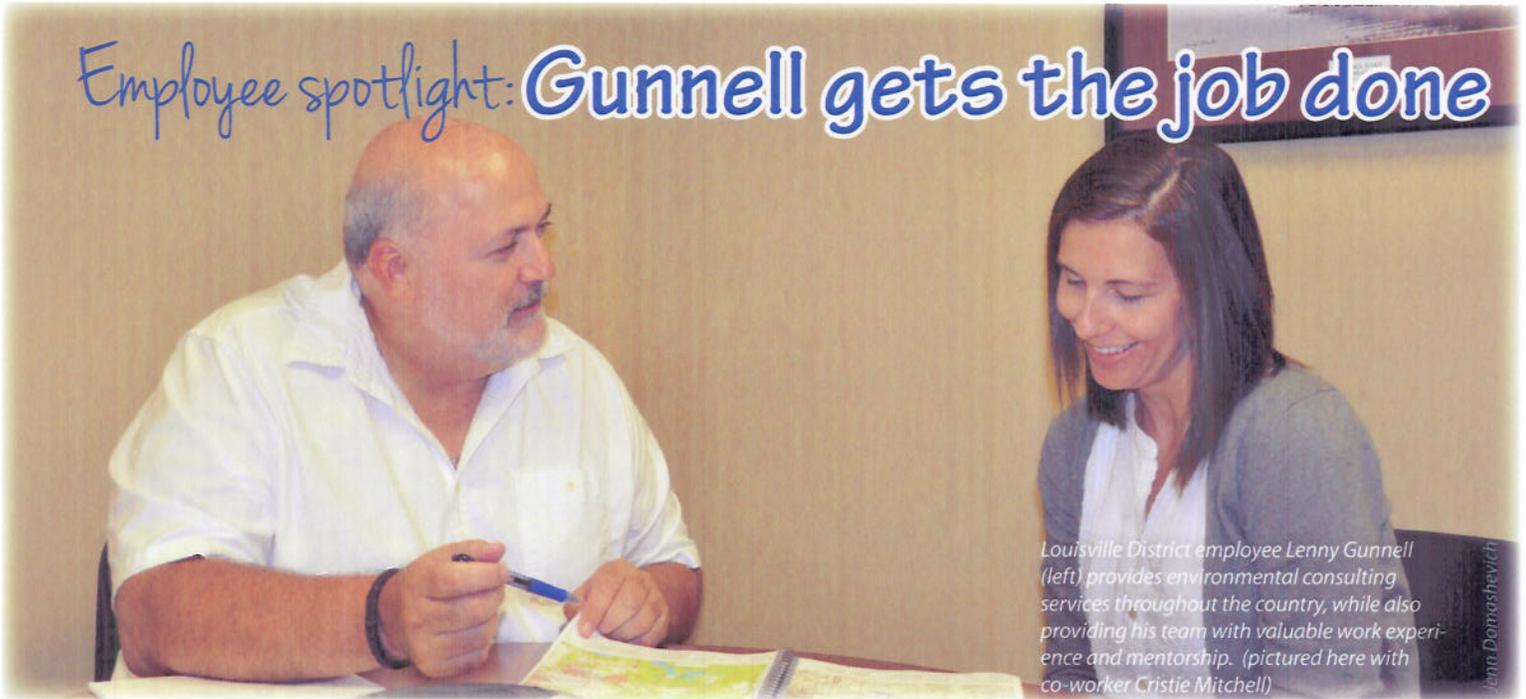
IMBA representatives Steve and Morgan Lommele hosted three sessions while at Nolin Lake. Sessions included land manager training, a club care session, and an all day trail building workshop. About 35 people attended the trail building workshop July 16th which involved a half day of classroom activities, lunch and an afternoon of trail building. Nearly 500 feet of trail was constructed. This 500 feet is the first construction of the 6.7 miles of planned work.

The Nolin River Lake Project is currently working with environmental resources section to complete the reviews on the second portion of the trail system. They are also coordinating with KYMBA, FONL, and TPM Group to continue construction of the first portion of the trail.

For more information or trail work schedules on the Brier Creek Trail at Nolin visit <http://kymba.org/bowlinggreen/>.

8.5
miles of hiking &
biking trails

Employee spotlight: Gunnell gets the job done



Louisville District employee Lenny Gunnell (left) provides environmental consulting services throughout the country, while also providing his team with valuable work experience and mentorship. (pictured here with co-worker Cristie Mitchell)

By Jenn Domashevich, public affairs

U.S. Army Corps of Engineers employee Lenny Gunnell has a reputation for providing great customer service. The Louisville District geologist provides environmental consulting services to customers throughout the country — and they keep coming back for more.

“Lenny’s environmental expertise, along with his creative approach to project execution has earned the environmental branch several new programs,” said Chris Karem, chief of the environmental branch, engineering division. “His ability to regularly exceed customer expectations continues to expand these programs.”

Gunnell began working for the Corps almost 17 years ago, providing environmental services for Base Realignment and Closure (BRAC) and Defense Environmental Restoration Program (DERP) facilities. Approximately six years ago, Lenny was assigned to provide environmental support to the Defense Logistics Agency and the U.S. Army Reserves. He was asked to move into this position to help the program grow.

“We go out and find ways to support our customers’ needs,” said Gunnell. “Our customers give us work because they like us and the services we provide.”

Many of the customers he works for reach out to him because he has developed a reputation for providing quality service. Because of this reputation, he performs work for a lot of returning customers throughout the country. He is currently working on projects in Samoa, Hawaii, Arizona and New Jersey, to name a few.

“My thing is, I don’t stay inside my

five states,” said Gunnell, in reference to the Louisville District’s military boundaries of Kentucky, Ohio, Illinois, Indiana and Michigan. “I’ve got a job in Hawaii I’m getting ready to work on, I’ve got a job in Samoa I’m going to be working on, and when I come back from Samoa I’m going to stop over in Hawaii to discuss more work they’ve got for me in Samoa and Guam.”

Gunnell and his team in the environmental branch of the engineering division perform a full-range of functions. They produce a wide variety of environmental products, both in-house and by contract. Products range from site assessments to remedial action design and implementation. Activities often require complex technical analysis, regulatory approval from multiple agencies, and continual customer support.

“Basically, we’re like a little environmental consulting firm,” said Gunnell. “Here, we do everything.”

Gunnell is very proactive in performing work in-house and getting his team out in the field. Not only is this a good business practice, but it also provides his team with valuable experience.

“It’s hard to put into words what I have learned from Lenny, as most of the things gained from him are intangible,” said co-worker Cristie Mitchell. “I can say with certainty though, that Lenny has helped teach me the importance of customer service. He is willing to go the extra mile to meet or exceed a customer’s expectation.”

Mitchell, who has worked alongside Gunnell for the past seven years, considers

him to be one of her mentors.

“He was one of the first people to trust that I could successfully manage a project. He gave me opportunities that lots of folks don’t get until later in their career,” said Mitchell. “I think that’s shaped who I’ve become and I’m very grateful for that.”

Gunnell and his team work on a variety of different projects, and for various customers. But one thing that remains constant in what they do is that they can visibly see the results from their efforts.

“We can actually see a before and after,” said Gunnell. “We’ll clean up a piece of property, such as a berm [man-made mound of earth] that’s contaminated with lead from being used as a backstop for a firing range, and then go back three years later and there are kids sleigh riding down manicured hills. It’s pretty cool.”

Gunnell and his team help make a difference, they transform used up areas into clean open spaces, find economical solutions for remedial activities and support other federal agencies in doing a job well done. While much credit can be given to the natural talents of these environmental engineers, they also credit their success to their team leader, mentor and friend, Lenny Gunnell.

“His innovative leadership style and focus on mentoring makes customer care and outstanding project execution part of the culture in our branch,” said Karem. “He also makes our office a fun place to work.”

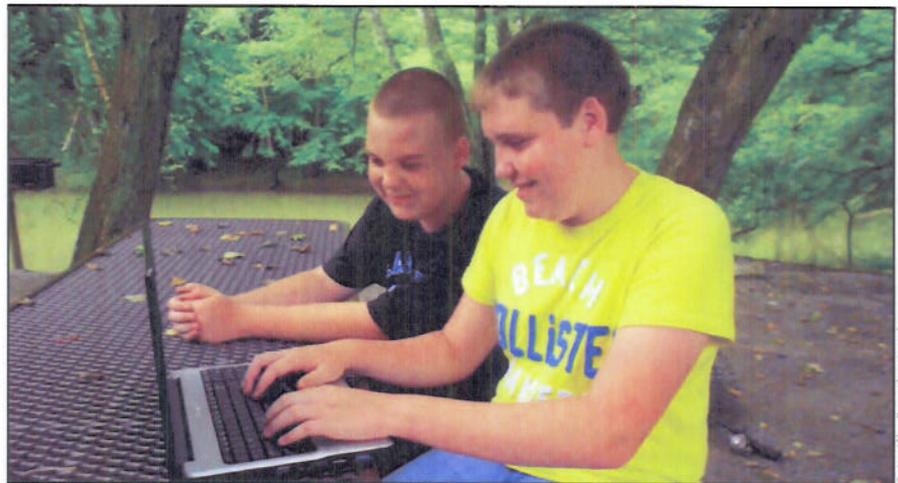
Wireless in the wild outdoors

Buckhorn Lake offers Wi-Fi to campground guests

By Roy Stone, SCA intern at Buckhorn Lake

Buckhorn Lake located in Perry County, Ky., is believed to be the first U.S. Army Corps of Engineers managed project in the nation to provide its park visitors with Wi-Fi connectivity. On the Cumberland Plateau where Buckhorn Campground is located, cell phone service and Internet access are at a premium. With limited communication opportunities resulting from the rugged terrain of the Appalachian mountains of Eastern Kentucky, it was not a surprise that Wi-Fi access in Buckhorn's Tailwater Campground gained immediate popularity. This point of sale item can be purchased for only five dollars per week, a friendly price to customers considering the rural isolation of the region. The Wi-Fi access is secure and is protected by a pass-code that is changed every week. One camping enthusiast explained his take on the advantages of Wi-Fi and why he considers it a must for campers in this day and age:

"Having Wi-Fi access while enjoying the outdoors may seem like an oxymoron but it gives me a peace of mind. I can take care of my business and not have to worry about things at home or at work. In my mind this makes for a more pleasurable camping experience because you're not all the time worrying about something



Priscilla Southwood

Derek Spicer and Nicholas Sampsell now enjoy surfing the Internet in conjunction with the many other outdoor activities available at Buckhorn Campground. Buckhorn Lake in Kentucky is believed to be the first U.S. Army Corps of Engineers project in the nation to provide Wi-Fi connectivity.

that you may or may have not forgotten. Instead you have the ability to focus on your family and really enjoy your time with them."

Wi-Fi enables devices such as smart phones, personal computers, video game consoles and digital audio players to connect to the Internet when in range of the wireless network. Wi-Fi has a greater range outdoors and multiple overlapping access points can cover large areas.

By accessing existing DSL services in the area, the addition of Wi-Fi at Buckhorn Campground was relatively painless and cost-effective. With the total price of hardware being less than \$200, plus minor monthly service fees, Buckhorn Lake provides park patrons and guests with a valuable resource "peace of mind" as one gentleman described it, and an open link to the outside world while simultaneously enjoying the world at hand.

Making Waves

Corps volunteer swims laps to aid multiple sclerosis

Former Caesar Creek Lake park ranger and current Corps volunteer Toni Caldwell is participating in a Swim for MS that benefits everyone affected by multiple sclerosis through the programs provided by the Multiple Sclerosis Association of America.

"As a public servant in outdoor and environmental education, I am always interested in finding new and interesting ways to assist others in any way possible," said Caldwell.

"I also have a passion for swimming, and I try to go to the nearby lakes, C.J. Brown Dam and Reservoir and Caesar Creek Lake in Southwest Ohio, as often as possible."

Caldwell said when she discovered the campaign she could not turn down the opportunity. So, she set out on her journey

July 9 and will continue for the next 50 days.

"It will be an honor to swim a lap a day for the next fifty days to Swim for MS," said Caldwell.

Caldwell will be swimming her laps in C.J. Brown Dam and Reservoir and Caesar Creek Lake. To follow her journey visit: support.msassociation.org/goto/toni-caldwell.



Jim Piszawicz

Current Corps of Engineers volunteer and former Caesar Creek Lake Park Ranger Toni Caldwell (left) and Caesar Creek Lake Park Ranger Kim Baker take a swim in Caesar Creek Lake. Caldwell started swimming one lap a day July 9 and will continue to swim for multiple sclerosis for the next 50 days.



District turns blight into right with Scranton AFRC



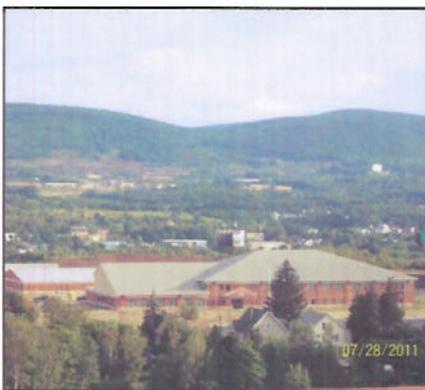
The Louisville District completes another Armed Forces Reserve Center project, though this one, located in Scranton, Pa., is unusual. It was built atop a coal mine that began operating in the 1930s.

By John Neville, public affairs

Thanks to the Louisville District, the Army will be a little stronger and the nation a little safer come September when the new Reserve center opens in Scranton, Pa.

While the Corps has built many Reserve centers across the nation, the one in Scranton is unusual. It sits on an abandoned coal mine, and such sites can pose problems. The redevelopment or reuse of abandoned coal mines can be complicated by the presence, or potential presence, of a hazardous substance, pollutant, or contaminant. The federal government doesn't usually like to build on such sites due to substantial liability down the road. However, when it can, cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off of greenspaces and other untouched land. The practice is referred to as beneficial reuse.

The center is being built on land, known formerly as the Marvin Bank site, that was originally used for coal mining.



The Scranton Armed Forces Reserve Center is nestled in the hills of Pennsylvania. The project is being built on land that was originally used for coal mining.

Coal mining operations have occurred on the property since at least the 1930s. The property is reported to have been used for coal storage and reworking mine tailings. The property was used for a refuse mining operation up until the time the Army acquired it.

This presented the Corps with two problems.

First, mining can leave behind hazardous materials. The Corps set out to figure out if, and how much, of such constituents were left behind. The analysis involved drilling environmental boreholes at 20 locations and the collection of soil samples for analysis of volatile organic compounds, semi-volatile compounds, polychlorinated biphenyls, and hazardous metals, iron, and manganese.

"The contaminants of concern associated with the former mining activities included acid mine drainage which is caused when sulfates and metals from mine tailings and exposed rock are oxidized and mixed with water, forming sulfuric acid," said Louisville District environmental engineer Cristie Mitchell.

The levels of these materials would determine if the project would move forward on this site.

While some compounds were found in the borings, they were not in high enough levels that would prohibit the center from being built for non-residential use. The results also provided a record of what was in the ground prior to the Army taking ownership of the property. This record will shield the Army from liability if someone tries to sue the government for what was in the ground prior to the Army acquiring it.

"We were able to negotiate with the

state and show our results and say, 'Look, this is all from the mining activity. Will you limit our liability if we take this property on,' Mitchell explained, "That way, they won't come back in 20 years and say we (the government) contaminated a well downstream when clearly the contaminants are related to former mining operations."

Building atop mining areas also posed construction challenges. Disturbed or removed dirt, as a result of mining, left the ground less dense, not exactly an ideal foundation for a large building. To offset the risk, the contractor used a process known as dynamic compaction. The process involves dropping a heavy weight repeatedly on the ground at regularly spaced intervals. The impact of the free fall creates stress waves that help in the densification of the soil.

Besides moving past the challenges associated with building on a former mining operation, the district team worked very quickly to support the acquisition schedule. The Army had to acquire the property by a certain date to meet the September Base Realignment and Closure deadline.

"We were developing the design at the same time we were acquiring property and conducting environmental due diligence," said district program manager Hans Probst. "Because of BRAC, we got squeezed into a compressed timeline. We had to make some quick decisions with project design and property acquisition performed simultaneously over a relatively short period of time. The coordination was a challenge that the project delivery team overcame by working closely and communicating openly."

Corps, district have long green history



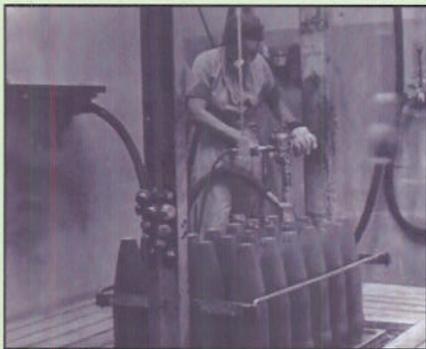
Concrete water storage tanks are constructed at Camp Breckenridge in Morganfield, Ky., in April 1942. The Corps has a long history of cleaning up military installations.

By John Neville, public affairs

It seems everybody is going green today, or at least they want to appear as they are.

But the U.S. Army Corps of Engineers has been darkening its shade of green for more than half a century.

Prior to 1966, the agency was limited in its efforts to protect U.S. rivers and tributaries from pollution. The Rivers and Harbors Act of 1899 gave the Corps the authority to dredge and clear the nation's waterways for navigation. However, two provisions within the law, known together as the Refuse Act, prohibited dumping of refuse into navigable waters. Section 13 of the Rivers and Harbors Act authorized the Corps to stop the dumping of refuse into waterways, but there was little enthusiasm among courts and local interests to follow that section of the law.



The former Ravenna Army Ammunition Plant (RVAAP) in Ravenna, Ohio, produced ammunition for the U.S. military during World War II, the Korean War and the Vietnam conflict. RVAAP is one of the Louisville District's Installation Restoration Program projects. The program is designed to clean up locations in use by federal government agencies.

Then, in 1966, a court issued an opinion defining refuse as all "foreign substances and pollutants," except those emitting from city streets and sewers. Two years later, then Chief of Engineers Lt. Gen. William Cassidy significantly modified the Corps' permit review process. Cassidy directed district engineers to consider not only a permit's effect on navigation, but also its effect on water quality, aesthetics, ecology, fish and wildlife, and the general interest of the public.

But what was the general interest of the public at the time?

Slowly, an understanding of man's impact on the environment was reaching a majority. Deteriorating water quality, air pollution, industrial waste, urban sprawl and other problems were on the minds of many Americans. Society was questioning "the old ways" of doing things.

In 1968, President Richard Nixon signed an executive order directing the Corps to use its original authority granted under the Rivers and Harbors Act to enforce water quality legislation working its way through Congress. The term "navigable waters" within the law soon applied to streams and tributaries of navigable waters. This expansion of Corps jurisdiction over the nation's waters prompted the Louisville District to create a regulatory branch in 1975.

The defining moment for the environmental movement came on April 22, 1970, when the nation celebrated the first Earth Day. That day demonstrated that the emerging environmental movement had significant support throughout the nation,

especially among the younger generation. Politicians took notice, as did the Corps and the Louisville District.

By 1970, the district was committed to full consideration of environmental features, involving representatives of environmentalist groups in project planning. This commitment reflected a similar commitment of the Corps at the national level.

"People seem willing to forego, or to pay more for, their immediate needs so that the quality of their environment may be preserved and enhanced for the future. In that light, environmental values are now being given full consideration along with economic, technical, social and other factors when we study alternate means of meeting human demands," said Lt. Gen. Frederick Clarke, Chief of Engineers in 1970.

That same year, Nixon signed the National Environmental Policy Act into law. The law required all federal agencies to prepare Environmental Impact Statements (EIS) for projects and actions significantly affecting the environment. Much confusion surrounded the statements initially. The courts eventually clarified what should be included in the statement. Each time the courts ruled on a statement, the additional information was added to all open EISs awaiting judicial or congressional review. Many of the first impact statements were only a few pages long. Five years later, statements resembled multi-volume works.

To comply with the statements' requirements, the Corps' staff had to evolve. (Continues on Page 13)

Biology archaeology, forestry, geology and history were among the new academic disciplines found on the district's staff. Most were placed within the planning division that was established in 1970. There, they coordinated studies with state and local governments. Congress eventually reviewed these reports to consider whether projects would be funded. Many that were funded were challenged in court.

The district has been involved in several controversial permitting applications. One involved the construction of a river port near Jeffersonville, Ind. Although the district found the permit and accompanying EIS to be in order, intense community opposition persuaded the district to hold another public hearing. Kentucky and its citizens opposed the river port because they believed the port would negatively affect water quality. A federal appeals court eventually approved the river port's construction. This boundary dispute raised, and eventually led to the resolution of, a historic controversy between the two

states: What was the boundary between the two states along the Ohio River? Kentucky had always claimed jurisdiction of the Ohio River to the low water mark on the Indiana bank. In 1980, the Supreme Court agreed.

Today, the district still finds itself involved in controversial permitting reviews. Mountaintop mining is one of, if not the, most controversial permits the district reviews. The practice involves the removal of mountaintops to expose coal seams and the disposal of the debris associated with the mining in adjacent valleys, or "valley fills." The practice pits environmentalists and some members of the community against the coal industry and other members of the community who depend on mining for jobs.

The Louisville District gained another environmental mission in 1996 when Chief of Engineers Lt. Gen. Joe Ballard decided to consolidate the military's hazardous toxic and radioactive waste removal mission, which was previously

done by Nashville, Buffalo, and Chicago districts, to Louisville. Later that year, the district began its regional environmental restoration mission at active and closing bases in five states—Kentucky, Ohio, Illinois, Indiana and Michigan.

One of the district's focus is managing the cleanup of the Department of Defense's Formerly Used Defense Sites (FUDS). The district partners with environmental regulators to comply with the Comprehensive Environmental Response, Compensation and Liability Act passed in 1980 and the Superfund Amendments and Reauthorization Act of 1986. These laws give the Department of Defense the authority to fund cleanup activities at FUDS throughout the United States and its territories. These responses, from start to finish, can take years to complete, but they ultimately produce a cleaner environment that the public can trust is a safer environment.

Work completed on Lebanon Junction rehab

The Lebanon Junction, Ky., levee repairs were completed in July. The Corps removed a pipe and backfilled the area and also slip-lined two other pipes in the levee. Theresa Beckham, Louisville District planning, project manager, said the project is now operating as designed.

The levee was originally constructed in 1966, and the elevation of the project was raised from 2002-2004 to further reduce risk of flooding. The project team later identified problem areas in the levee and proceeded with a repair plan. The levee is 1.8 miles long.



District accident rates at an all-time low

Thanks to the great efforts from all Louisville District employees, the accident rates for Fiscal Year 2011 are currently the lowest this district has ever seen and also one of the lowest in the Corps.

"The district's continued efforts to ensure we have safe workplaces by noticing and enforcing the Corps' safety requirements has been outstanding," said Vanessa

Cuthbert, chief of the Louisville District safety office.

Not only has this been accomplished at the district headquarters, but in all the district's field offices, locks and dams, regulatory division, and lakes and rivers.

"Everyone has stepped up their support of the safety office and has become a very important part of it," said Cuthbert.

"Through our employees' efforts to disperse and apply the information our office puts out through e-mails, safety meetings, the safety web page and our newest method the *Safety Break*, the word is out that in the Louisville District it's *Safety 1st!*"

START YOUR ENGINES

Water safety messages reach record speeds

By Carol Labashosky, public affairs

The U.S. Army Corps of Engineers Louisville District hosted a water safety booth and promoted a new inflatable life jacket at Kentucky Speedway July 7 as part of the NASCAR Sprint Cup Series. The effort served to promote water safety and share the message, “Just like your favorite race car drivers wear their safety gear, we want you to wear your safety gear—your life jacket—while on the water.”

Just prior to race time, Bobber the Water Safety Dog was escorted onto the track by Park Ranger Diane Stratton and former Commander Col. Keith Landry for driver introductions. Driver Johnny Chapman’s race car sported the Bobber decal during the Thursday night truck race. Chapman said other race car drivers have adopted Bobber and the water safety public service announcement, and they are using Bobber to similarly promote water safety. “It’s a good message,” Chapman said. Chapman added he and his team were honored to help promote the Army Corps of Engineers.

Stratton and her team reached more than 1,500 fans face-to-face in just one day explaining how the new inflatable life vests work, passing out water safety coloring books or stickers and talking about Corps lakes with booth visitors. Stratton said she would like to see the command become nationally involved in the NAS-

CAR market because it is a unique opportunity to directly reach the Corps target market who recreate on lakes.

“Typically, it is young men—in the same age bracket at NASCAR—who are less apt to mind water safety rules,” Stratton said. Landry commented that initiatives like this one that Stratton and her team have embraced are what make the Corps a cutting edge organization. “I fully support what operations division has taken

on here,” he said. “Our rangers are very dedicated to finding new ways to teach water safety.”

Last year, five water-related fatalities were reported at Corps lakes. This year, four have been reported thus far.

Corps lake staff who participated in the event included Deryck Rodgers, Nolin; Alicia Cannon, Barren; Rebecca Elefante, Caesar Creek; Adam Taylor, Rough River and Dan Taylor, Nolin.



Former Louisville District Commander Col. Keith Landry, Bobber the Water Safety Dog, Race Car Driver Johnny Chapman and Rough River Lake Manager Diane Stratton promote water safety in the pit at Kentucky Speedway during the Sprint Cup Series July 7.

Carol Labashosky

The eagle has landed at William H. Harsha Lake

By Linda Romine, William H. Harsha Lake



William H. Harsha Lake

A pair of bald eagles built a successful nest at William H. Harsha Lake in Batavia, Ohio, that hosted a youngster.

Over the last several years, eagles have become a welcome sight at Corps Lakes in the Louisville District, including William H. Harsha Lake. These magnificent birds of prey have been regular migrants in spring and fall, with one or more visiting during the winter months for at least ten years. Because a pair of eagles nested successfully along the nearby Ohio River for the last several years, it was difficult to determine if there was also a nest at the

lake. Last year, the sightings at the lake became more frequent, and a successful nesting was confirmed this year. The exciting news spread quickly among birders and the general public. For those wishing to view bald eagles or any wildlife, please use caution so that your actions do not disturb the wildlife you are watching.

Corps signs agreement with Kentucky Transportation Center

Courtesy of University of Kentucky Public Relations and Marketing

The Kentucky Transportation Center (KTC), based in the University of Kentucky College of Engineering, signed a formal Memorandum of Agreement with the U.S. Army Corps of Engineers (USACE) July 11 to recognize the significant collaboration between the two entities on their shared interests in waterways research.

The KTC, a multi-disciplinary research center looking at all modes and all aspects of transportation, will be partnering specifically with the Louisville, Huntington, Nashville and Memphis districts of the USACE, as well as the Planning Center of Expertise for Inland Navigation located in the Huntington District.

“This agreement represents a major step forward in our efforts to become established as a center of excellence for inland waterways transportation,” said Joe Crabtree, director of the KTC. “Kentucky is ideally positioned to be a national leader in advancing waterways transportation, and we are thrilled to be able to work alongside our partners with the Army Corps of Engineers as we pursue our mutual goals.”

One of the major goals of the agreement is to engage stakeholders, such as the U.S. Maritime Administration, the U.S. Coast Guard, manufacturing industries, barge companies and the economic development departments, to help better identify relevant waterways issues. This



From left: David Dale, deputy district engineer, USACE Louisville District; Col. Keith Landry, former commander, USACE Louisville District; Joe Crabtree, director, KTC; and Chuck Knowles, waterways research coordinator, KTC.

can include issues like the reliability of systems, shipping costs and transit times.

The agreement also signifies efforts to provide higher value innovations and services that speak to the aforementioned issues and identify economic development and environmental stewardship opportunities, all of which will advance the USACE’s objectives and set the KTC on a path toward increasing capabilities in inland waterways research. To achieve these goals, the KTC and USACE will collaborate on information and data sharing, action plan coordination, community outreach and issue identification and knowledge transfer.

David Dale, deputy district engineer for the Louisville District, offered his insights on the agreement: “Collaborative planning at the local, state and federal level is essential to addressing the waterways transportation needs of the commonwealth and the region. We must continue to look for ways, such as this vital partnership, to leverage limited resources and share information for the benefit of the nation.”

The effort to collaborate began over a year ago, when the KTC realized the

breadth and depth of the USACE’s commitment to the inland waterways of the United States.

“The Army Corps of Engineers plays a central and critical role in waterways transportation throughout the United States,” said Crabtree. “They build and maintain the infrastructure, they gather data on the use and performance of the waterways system, and they conduct research to identify key issues, challenges, and solutions. From day one of our relationship, they have proven to be outstanding partners.”

The Kentucky Transportation Center was established by the UK Board of Trustees in 1979 and charged with addressing a broad range of transportation-related problems on an interdisciplinary basis. Throughout its 32-year history, the center has conducted research on the physical, institutional, safety, economic, environmental, and security aspects of Kentucky’s (and the nation’s) multimodal transportation system. The center currently employs more than 100 people, including 30 students.



David Dale (left), deputy district engineer of the Louisville District, signs the formal agreement with Joe Crabtree, director of the Kentucky Transportation Center July 11.

Green River Lock and Dam 3 study complete; remedial alternatives proposed

By Carol Labashosky, public affairs

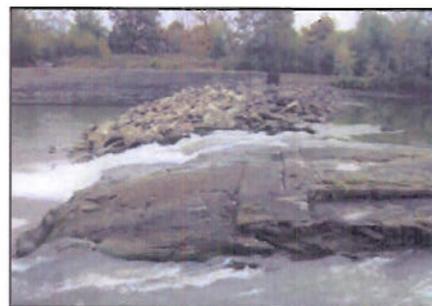
Fifteen stakeholders and leaders from Butler, Ohio and Muhlenberg counties, Congressional representatives, state representatives and water company executives learned about options to repair their dam when the Army Corps of Engineers Louisville District briefed the recent study results on Green River Lock and Dam 3 (Rochester Dam) Remedial Options July 11. The meeting took place in Morgantown, Ky.

An infusion of economic stimulus dollars last year enabled the project team, headed by Lester Washington, project manager, planning section, to develop a suite of three options for the county leaders, local governments, mayors and other interested stakeholders to consider for rehabilitation of the dam. The counties' interest is to have the aging dam structure stabilized to ensure a source of water supply from the pool between Green River locks 3 and 4 well into the future. More than 67,000 homes depend on the pool for water supply. The Corps will ultimately seek to dispose of the property by means of the study because there is no longer a federal interest in the project due to the absence of navigation on that segment of the Green River.

Jeff Esterle, dam safety project manager, discussed the study results and how op-

tion 1, a deferred maintenance-type plan, would increase the reliability of the project adding years to its life. New derrick stone would be placed on the downstream face of the timber crib dam and a grout – like “stitching” – would help extend the life of the dam, possibly by as much as 50 years. A cost estimate is \$790,000. Option 2 included driving sheet piles upstream of the existing dam, excavating debris and sediment and placing a concrete cap on the crest of the dam along with more derrick stone. A reinforced concrete bulkhead would be installed in the lock chamber. This option would cost approximately \$3.3 million. The third alternative would be a new cellular concrete dam upstream of the existing dam with a new concrete weir in the mill race area. That cost would be \$21.5 million. Esterle said some features from each plan could be ordered “a la carte” or mixed and matched depending on funds.

Stantec Consulting Services Inc. was the contractor who conducted the study which began in 2009. Stantec performed dives into the Green River to survey the dam and did borings to check the geologic condition of the substrata. Other work for the study included an in-depth environmental analysis of the river habitat which



Jeff Esterle

included mussel identification and a search for any endangered species which could potentially be impacted by any future construction. Jesse Helton, Corps planning biologist, briefed the environmental resources aspect of the study.

Roger Setters, planning section, explained how the Corps currently has no funding to continue design of the proposed fixes in the Fiscal Year 12 budget. The Corps was able to reach several design solutions with the study which is fairly in-depth and comprehensive and provides significant groundwork for a final design, according to Setters.

The community leaders plan to discuss their options and investigate funding alternatives in the near future with other interested stakeholders.

Assistant Secretary of the Army for Civil Works visits LRL projects

By Jon Fleshman, planning, programs and project management

Assistant Secretary of the Army for Civil Works Jo-Ellen Darcy bends closer to better share the experience of the distinct aroma of Pawpaw leaves with youngsters at the Barren River Lake eco-meet June 16. The tree identification station was run by park rangers Alicia Cannon (right) and David Lowe. Darcy, accompanied by former Louisville District Commander Col. Keith Landry, used her first visit to the district to participate in the eco-meet in support of President Obama's America's Great Outdoors initiative. One of the goals of the initiative is to reconnect Americans, especially children, to America's natural resources.



Jon Fleshman

Quyet La recognized for significant contributions to environmental program

By Jenn Domashevich, public affairs

Greatness can be achieved at various levels of one's professional career and U.S. Army Corps of Engineers employee, Quyet C. La, has demonstrated that it is never too soon to start. After only four and a half years of employment with the Louisville District, Mr. La received a prestigious military engineer award, the Steel de Fleury Medal, June 28 for his significant contributions to the district's environmental program.

Mr. La's Corps career started as an engineering co-op student in January 2007, which in turn, led to him being offered an internship position. Upon completion of the internship in May 2011, he became a full-time employee as an environmental engineer for the district.

"Mr. La hit the ground running with a can-do, will-do attitude and really delivered," said Chris Karem, chief of the environmental branch, in the district's engineering division. "Through his technical and organizational excellence, he has already earned a leadership role in the Formerly Used Defense Site (FUDS) program for the district. This, in itself, is a remarkable accomplishment considering his experience level."

Mr. La serves as a technical manager in the district's environmental engineering division. He conducts fieldwork, which involves surface water, groundwater and sediment sampling, develops groundwater reports, assists project management in developing Project Closeout Reports (PCOs), and he also leads the Inventory Project Report (INPR) program.

"He has unarguably become the district expert in preparing INPRs," said Karem. "This first step is undoubtedly the most important step for any FUDS project. It establishes the course of the project, which can be long and unmanageable if not navigated strategically from inception."

In addition to his key role in INPR preparation, Mr. La has also been assisting project management in completing multiple PCOs by the end of Fiscal Year 2011.

"Effectively completing multiple PCO reports requires thorough knowledge of the FUDS program, the Comprehensive

Environmental Response, Compensation, and Liability Act (CERCLA) process, and many other complex technical issues," said Karem. "Within the first month, Mr. La helped in the completion of approximately one-third of the PCOs and is doing an outstanding job."

His professionalism and work ethic has made him an extremely valuable member of the environmental branch and engineering division. Not only has his dedication brought numerous improvements to the FUDS program, but has also helped make great strides towards the program's completion goals.

"I'm proud to say I work for the Corps," said La. "I would like to believe that my work assists in the programs managed by the Corps. By doing our part well, the people who would need the product that we develop will be able to address their respective responsibilities. Ultimately, the Corps is here to enhance the lives of the public. To know that I am a part of the effort of improving society makes it more peaceful to sleep at night."



U.S. Army Corps of Engineers former Louisville District Commander Col. Keith Landry presented environmental engineer Quyet C. La with the Steel de Fleury Medal June 28, 2011, for his significant contributions to the district's environmental program.

Landry in hot seat during retirement roast

By John Neville, public affairs

What better way to say farewell to a boss than to make fun of him in front of a hundred people. That's just what district employees did June 28 at the Bristol Bar and Grill located in downtown Louisville.

Commonly referred to as a roast, several of the district's branch chiefs walked to a podium and hurled insults at their soon-to-be former commander, and it was all in good fun.

But the luncheon wasn't all about laughs. Col. Landry honored 14 employees for superior service by presenting them the de Fleury Medals, the highest regimental premier award given to civilian and military engineers for service to the nation. The award is named after Francois Louis Tesseidre de Fleury, a French engineer who served with the American Army during the Revolutionary War. There are four de Fleury medal levels – steel, bronze, silver and gold.

In all, 14 employees received medals. Four received Steel de Fleury Medals and 10 received the Bronze order. That's a lot of de Fleury Medals to pass out, but the district's 2010 mission was enormous. The district is responsible for the nationwide and overseas Base Realignment and Closure (BRAC) program, emergency response and a civil works mission of a five-state area. It saw a workload figure of \$1.3 billion in 2010, the largest figure in district history. Award recipients played a large role in behind the scenes efforts to stimulate the economy.

"We're not the first district to give one [de Fleury Medal], but we're the first district to give this many in one shot," Landry said.

Landry, who served in the Army 26 years, reflected on his three years as district commander.

"I hope I've been that commander—not the commander that I want to be, but the commander that the district needs me to be," he said.

Disaster recovery:

Corps employees deploy nationwide after devastating storms

After devastating tornadoes ravaged the state of Alabama in April and plowed through Joplin, Mo., in May, Louisville District employees stepped up to share their talents and aid in the disaster recovery efforts.

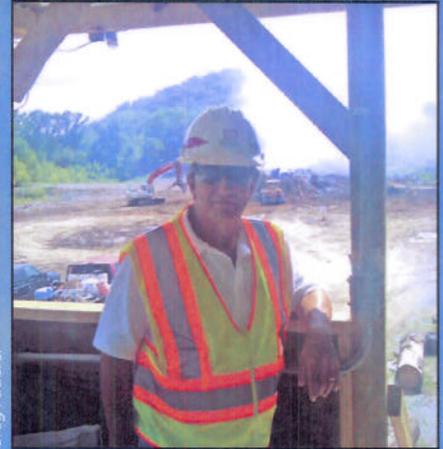
Currently, 11 Louisville District employees are deployed. Bryan Ammon from the district's safety office is serving in Joplin, Mo., and 10 others are assisting in the state of Alabama.

"Disasters and emergencies are always going to be with us," said Steve Rager, chief, emergency management and security branch. "I'm proud of the level of volunteers in the Louisville District who are willing to respond at a moment's notice to help our neighbors across the country and even around the world. Without this willingness and personal sacrifice to help others, these disaster events would truly be catastrophic."



Greg Fuderer

After receiving tasking from FEMA, the Corps began the process of removing debris from residences following tornadoes that roared through Alabama in April. This house in Cullman County is one of more than 600 homes the Corps will inspect.



Rick Benoit

Ben Finn, construction division, stands at a temporary debris reduction site in Cullman County, Ala. Debris from the devastating April tornadoes is being burned at this location. While on disaster duty, Finn is serving as resident engineer in a five-county area of northern Alabama.



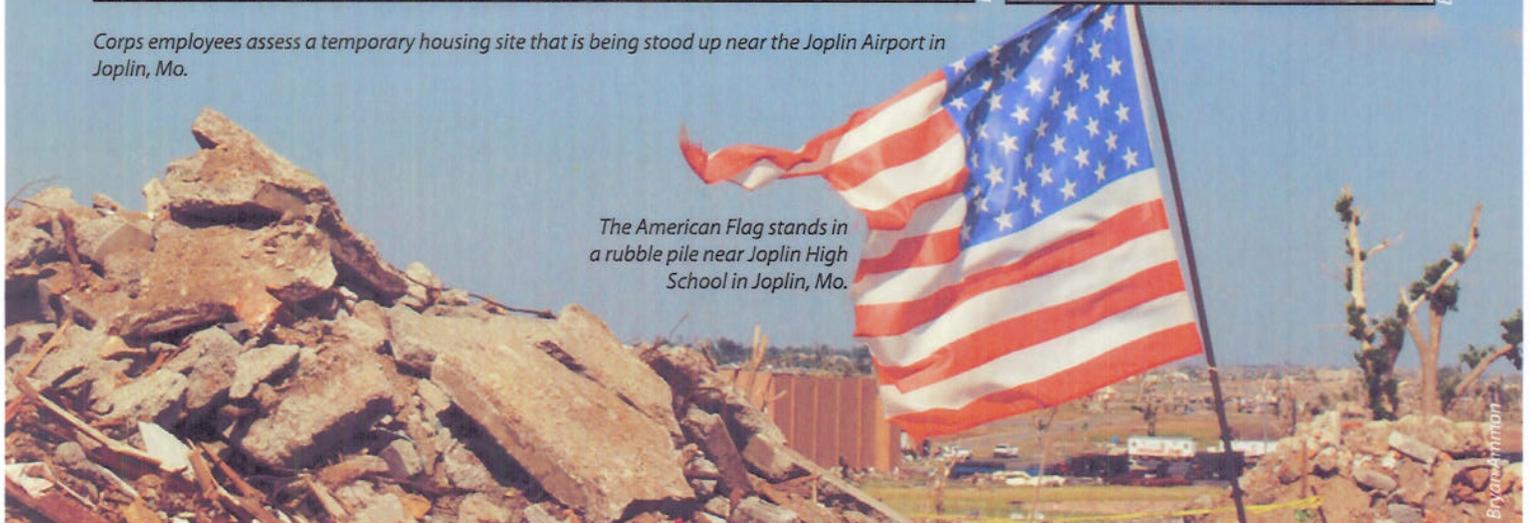
Bryan Ammon

Corps employees assess a temporary housing site that is being stood up near the Joplin Airport in Joplin, Mo.



Bryan Ammon

The American Flag stands in a rubble pile near Joplin High School in Joplin, Mo.



Bryan Ammon

Munitions Safety

When military munitions do not function as intended during use, they become unexploded ordnance (UXO). Some people consider these “duds” and think they are safe to handle, but that can be a costly mistake to make. Treat all UXO as live munitions and never handle them.

UXO result from our military’s use of munitions during live-fire training or testing. UXO are considered the most dangerous category of military munitions. Although the conditions that define military munitions as UXO are specific, the public should consider any munitions or suspect munitions that are encountered as UXO and extremely dangerous. It is important to remember the three Rs of munitions safety when you think you may have come across UXO — Recognize, Retreat and Report.

After decades of activities required to maintain our military’s readiness, UXO and other military munitions may be present at many active and former military installations across the country. Although military munitions will most likely be found in areas that the Department of Defense currently uses or used in the



past, they could be encountered anywhere.

The 3 Rs of Munitions Safety

Recognize – UXO can come in many shapes and sizes. It can be rusty or look like new. It can be out in the open, hidden in bushes or partially buried. The important thing to remember is that if you see what you think is UXO then you should retreat from the area and report it to authorities.

Retreat – Make sure to never touch UXO, as they can be extremely dangerous. If you see UXO, immediately leave the area and do not disturb the item.

Report – If you come across what might be UXO, you should leave it be and report it to your local law

enforcement by calling 911. They will be able to take care of the item. Do not use your cell phone near the item. Call 911 after retreating from the UXO.

Safety Tips When Coming Across UXO:

- Never approach a suspected UXO.
- Remember you can come across UXO anywhere, but make sure to be especially aware in areas with signs warning of the dangers posed by UXO.
- Never attempt to disassemble, clean or handle any UXO.
- Never keep found UXO as souvenirs or “trophies.” If you know someone who keeps UXO and believes it is harmless, explain to them how dangerous it really is.
- Never transmit radio signals near UXO, this includes cell phones. Retreat from UXO before calling law enforcement officials.
- Report suspected UXO to law enforcement officials.



New faces and fond farewells

New May/June employees

Sharon Logsdon
 Kyle Martin Von Holten
 Justin Lee Shankle
 John Morgan
 Seth Finn
 Hannah Shireman
 William Chapman IV
 Aaron Keeling
 John Keeton
 Robert Heim
 Gary Kinman
 Jack Anderson
 Lawrence Bitter
 Ryan Dunfee
 John Jackson
 Lawrence Jankowski
 Jamie Jones
 Walter Mattingly
 Anthony Norton
 Randall Pike
 Laura Simpson
 Michelle Simpson
 Christopher Van Gundy
 Darrell Canada
 Jacob Jones
 James Melton
 Stephen Davidson
 Leyton Parker Childers
 Travis Lee Wissinger
 Evan McKinney
 Jeremy Lee

Alison McGaughey
 David Lowe
 Adam Van Zant
 James Cardwell
 David Goode
 John Whitmore
 David Dyre
 George Meredith
 Audrey Boring
 Robert Wertz
 Edwin Lewis
 Victoria Pineiro-Martinez
 Logan Clark
 Dakota Kendall
 Austen Leath
 Chelsie Haltom
 Jeffrey McGinnis
 Samantha Bachelder
 Kaitlin Ruby
 Heather Sabin
 John Cavanaugh
 Marcus Harris
 Max Kitten
 Casey Seaton
 Kevin Morge
 Matthew Willett
 Jerry Inman
 George Howell
 Jess Kester
 Eric Bohannon
 John Foster

By the numbers

Louisville District totals

- 1,391 employees
- 18 Department of the Army interns
- 54 volunteers deployed

May/June retirements

Larry Cozine, engineering division
 Richard Markwell, construction division
 David Mueller, construction division
 Thomas Walker, engineering division

Headquarters honors district employees



Louisville District employees Jane Ruhl and Verle Heindselman were honored at the USACE Senior Leaders Conference Aug. 1 in New Orleans. Ruhl, senior planner, received the 2010 Planning Excellence Award. Heindselman, engineering division, was named 2010-2011 Cost Engineer of the Year.

Grand Prize Winner



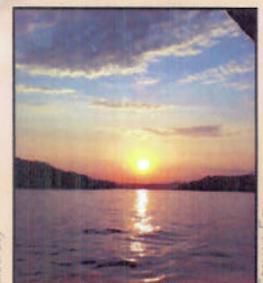
Adam Paris

1st



Lisa Sly

2nd



Steven Roy

The Louisville District hosted its second annual public photo contest on Facebook in July. The winning photograph (at left) was taken by Adam Paris at Rough River Lake this spring during the floods. The winning photograph will be featured in the 2012 Louisville District Calendar. The first and second runners-up are pictured above. To view other honorable mentions visit the district's Facebook page at www.facebook.com/louisvilleusace or on Flickr at www.flickr.com/louisvilleusace.

SUNRISE SPECIALS

Rise and Shine! Fuel up before your morning commute with a balanced breakfast.

Strawberry-Pineapple Smoothie

Ingredients:

- 1 cup frozen strawberries
- 3/4 cup milk
- 3/4 cup pineapple juice
- 1/2 cup vanilla yogurt
- 2 tablespoons sugar
- 6 ice cubes

Directions:

Blend the strawberries, milk, pineapple juice, vanilla yogurt, sugar and ice in a blender until smooth. You may need to scrape down the sides of the blender a couple of times. Pour into glasses and serve immediately.



Cheesy Ham and Hashbrown Casserole

Ingredients:

- 1 (32 oz.) package frozen hash brown potatoes
- 8 ounces cooked, diced ham
- 2 (10.75 oz.) cans condensed cream of potato soup
- 1 (16 oz.) container sour cream
- 2 cups shredded sharp cheddar cheese
- 1 1/2 cups grated Parmesan cheese

Directions:

Preheat oven to 375 degrees F. Lightly grease a 9x13 inch baking dish. In a large bowl, mix hash browns, ham, cream of potato soup, sour cream, and cheddar cheese. Spread evenly into prepared dish. Sprinkle with Parmesan cheese. Bake 1 hour in the preheated oven, or until bubbly and lightly brown. Serve immediately.



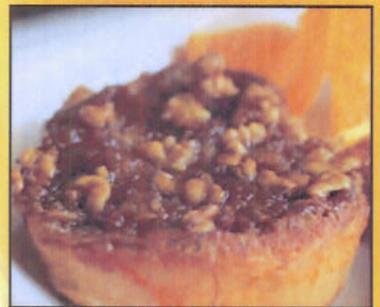
Orange-Pecan French Toast

Ingredients:

- 1 cup packed brown sugar
- 1/3 cup butter, melted
- 2 tablespoons light corn syrup
- 1/3 cup chopped pecans
- 12 (3/4 inch thick) slices French bread
- 1 teaspoon grated orange zest
- 1 cup fresh orange juice
- 1/2 cup 2% milk
- 3 tablespoons sugar
- 1 teaspoon ground cinnamon
- 1 teaspoon vanilla extract
- 3 egg whites
- 2 eggs
- 1 tablespoon confectioners' sugar

Directions:

Stir together brown sugar, melted butter and corn syrup. Pour into a greased 9x13 inch baking dish, and spread evenly. Sprinkle pecans over the sugar mixture. Arrange the bread slices in the bottom of the dish so they are in a snug single layer. In a bowl, whisk together the orange zest, orange juice, milk, sugar, cinnamon, vanilla, egg whites and eggs. Pour this mixture over the bread, pressing on the bread slices to help absorb the liquid. Cover and refrigerate for at least one hour. Preheat the oven to 350 F. Remove



the cover from the baking dish, and let stand for 20 minutes at room temperature.

Bake for 35 minutes in the preheated oven, until golden brown. Dust with confectioners' sugar before serving.

Frequently Asked Questions

The Louisville District Public Affairs office receives many inquiries. Below is the answer to a question the district is often asked.

Source: Louisville District Building Strong brochure

Q: What type of environmental does the Louisville District do?

A: The Louisville District's environmental program is dedicated to building a strong, sustainable environment for future generations. The district's environmental program manages and executes a full range of cleanup and protection activities such as:

- Cleaning up sites contaminated with hazardous, toxic or radioactive materials or ordnance through the Formerly Used Defense Sites program
- Cleaning up locations in use by federal

eral government agencies through the Installation Restoration Program

- Supporting the Army with Base Realignment and Closure, Interagency and International services and Environmental Quality programs

Corps environmental cleanup programs focus on protecting human health and the environment and seek to reduce risk to human health and the environment in a timely and cost-effective manner.



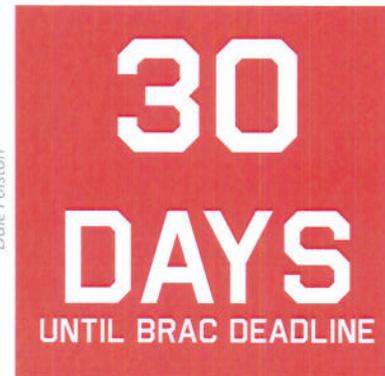
After an environmental investigation conducted by the Louisville District concluded that no human or ecological risks existed, the Gibraltar Bay Unit, a former Nike missile site, became the newest addition to the Detroit River International Wildlife Refuge in 2010.

BRAC countdown: the end is near

The 2005 Base Realignment and Closure Law deadline of September 15 is approaching and as of August 1 the Louisville District has achieved beneficial occupancy for 97 out of 123 projects. Ten of the remaining 26 remaining projects will not reach a beneficial occupancy date by September 15, but will meet the intent of BRAC law via mitigation by customers' projects.



A ribbon-cutting at Tuscaloosa, Ala., Armed Forces Reserve Center July 9, 2011.



Snapshot from the past



Environmental investigations are performed at former Nike Missile sites under the Louisville District's Formerly Used Defense Sites (FUDS) program.

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US Army Corps of Engineers
Louisville District

