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The Corps Environment

Turning Environmental Challenges Into Mission-Ready Solutions

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The Faces of the Recovery Effort:

Rebuilding California communities impacted by wildfires requires team of specialists, volunteers

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Taylor Bayless, St. Louis District industrial hygienist, currently serves as the USACE safety officer for Emergency Field Office - Eaton in Los Angeles. She is one of more than 450 USACE employees currently deployed in support of the recovery mission in Southern California. (Photo by Jordan Raiff)

Innovation

Powering the Army of Tomorrow

In March, I was honored to step into the role of a lifetime — director of the U.S. Army Engineer Research and Development Center (ERDC), as well as director of Research and Development and chief scientist for the U.S. Army Corps of Engineers (USACE).

Taking the reins of this position during such a milestone moment makes it all the more meaningful to me, as USACE celebrates 250 years of engineering excellence, mission-driven innovation, and an unwavering commitment to building a safer, stronger and more resilient America. It's a humbling reminder of the generations of engineers, scientists and public servants who came before us — those who laid the foundation of the work we do today. As we honor their legacy, we also look to the future knowing that the challenges we face require bold ideas and transformative research.

Since 1775, engineers have played a critical role in shaping our nation's infrastructure, defending its coastlines and supporting our warfighters. Today, we are advancing that legacy through environmental research that directly supports Army modernization, installation resilience and global readiness.

In the days of the Revolutionary War, Benjamin Franklin is said to have told George Washington, "You cannot have enough of that science in your Army." His statement was true then, and it remains true today. I am so proud to serve in a leadership role for both USACE and ERDC during this pivotal time when science and engineering are more vital than ever to our national defense, economic stability and public safety.

Dr. Beth Fleming
Director, U.S. Army Engineer Research and Development Center

Throughout my career with USACE, I have been privileged to serve on the front lines of innovation, not just for our nation, but for our world. At the heart of this mission, we find difficult environmental challenges that require a deep understanding of natural systems and a forward-looking vision for how to sustain them.

Safeguarding public health

Those environmental challenges are far-reaching, but luckily, so is the deep bench of expertise across USACE working tirelessly to solve them. For example, at the ERDC Environmental Laboratory and Construction Engineering Research Laboratory, our researchers are tackling the complex issue of harmful algal blooms alongside partners across USACE districts, as well as academia and industry. Together, we are developing advanced monitoring tools and mitigation strategies that help protect vital waterways and safeguard public health.

Ensuring military readiness

When it comes to our military, understanding and mitigating the austere environments our warfighters face is a critical factor of military readiness. The ERDC Cold Regions Research and Engineering Laboratory brings together decades of cold regions knowledge with the broader USACE strengths in materials science, navigation, hydrology, geospatial research and more. Together, we take a multidisciplinary approach to solving the complex challenges of operating in some of the world's harshest conditions.

Coexisting with our environment is not just a key component to our national security, it's also vital to our economic stability. For example, one of the world's most powerful rivers flows about three miles away from my office: the Mississippi River. The commerce that traverses it is critical to our national supply chain, supporting agriculture and trade across the heart of America. USACE is responsible for managing its sediment and ecosystems, keeping this vital waterway navigable and resilient.

So, whether it's a soil scientist providing expertise in the search for rare earth minerals or a researcher modeling permafrost thaw to support Arctic mobility, we are delivering the science and solutions that our country needs. Just as we did in 1775, we are pushing boundaries, thinking innovatively, and building a safer, more resilient future — and I couldn't be prouder and more excited to be a part of it.

The Corps
Environment

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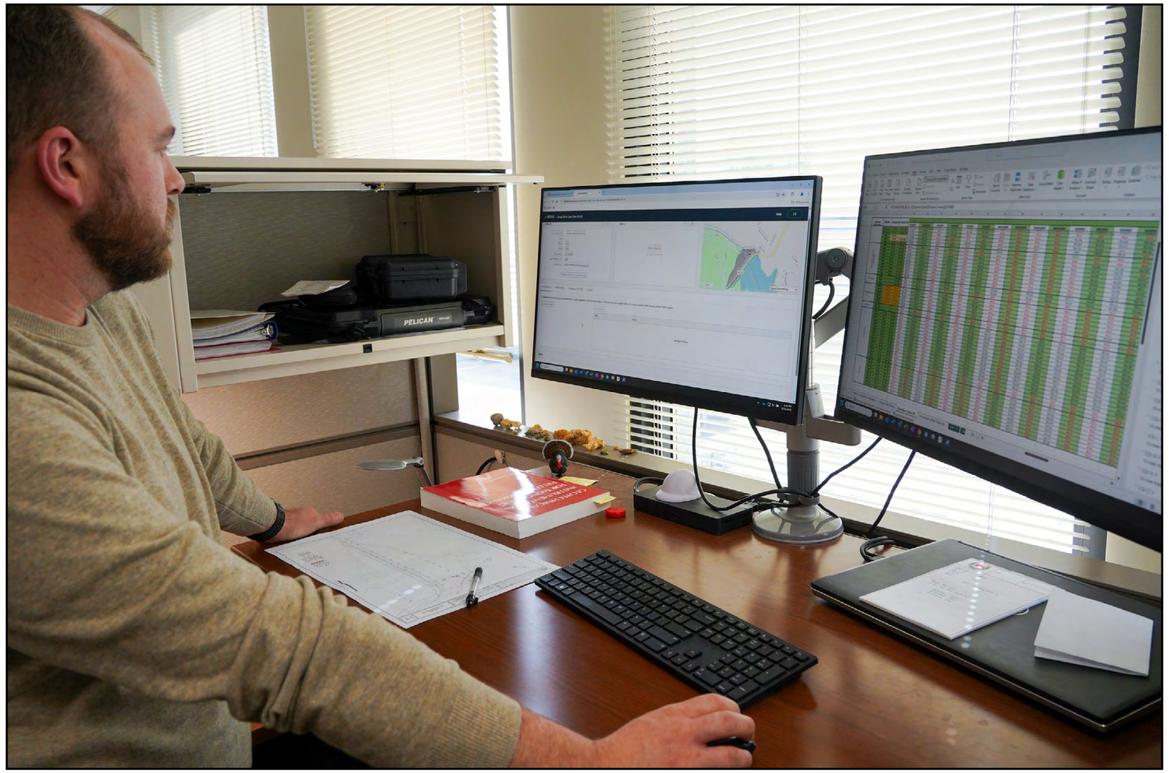
Data Delivers

New monitoring system with streamlined data collection comes through during Kentucky floods

By Michael Maddox
USACE Louisville District

Members of the U.S. Army Corps of Engineers (USACE) Louisville District's Dam Safety Section recently completed the installation of a new dam-monitoring system at Rough River Dam in Falls of Rough, Kentucky. The system, known as the Monitoring Instrumentation Data Acquisition System (MIDAS), has already provided several benefits in dam-monitoring operations.

Jackie Henn, Dam Safety program manager for the Louisville District, said the system is used to "acquire, store and visualize instrumentation data in a centralized location that's easily accessible online … giving district staff the ability to quickly view data based on pool elevations and determine the health and integrity of dams during flood situations."



Connor Estes, a geologist with the Louisville District's Dam Safety Section, reviews data from the MIDAS system installed at Rough River Dam in Falls of Rough, Kentucky, from his workstation March 13. All reservoirs in the Louisville District utilize MIDAS for instrumentation monitoring, but the unique automated collection system at Rough River now allows Dam Safety to monitor the health of the dam from the district office in real time. (Photo by Michael Maddox)

Only the tops of buildings at Axtel Campground near Rough River Dam are visible April 9 after storms left many Kentucky counties underwater. (Photo by Michael Maddox)

"The Louisville District Dam Safety Team worked with United States Geological Survey (USGS) members to automate the data-collection system at Rough River, eliminating the need for project staff to walk the dam and manually collect the data," Henn added.

Updates to the system and automated processes allow the team to monitor data in real time, she said.

The system was put to the test during the record rainfall that left several Kentucky counties underwater in April.

"As data came in from the various projects, MIDAS made it easy to view and interpret data trends to determine if potentially dangerous conditions were developing within the project embankments," Henn said. "At Rough River Dam, data is automatically uploaded to the MIDAS system by utilizing the USGS satellite system. This allowed Dam Safety to monitor the internal integrity of the embankment 24 hours a day, seven days a week during this flood event."

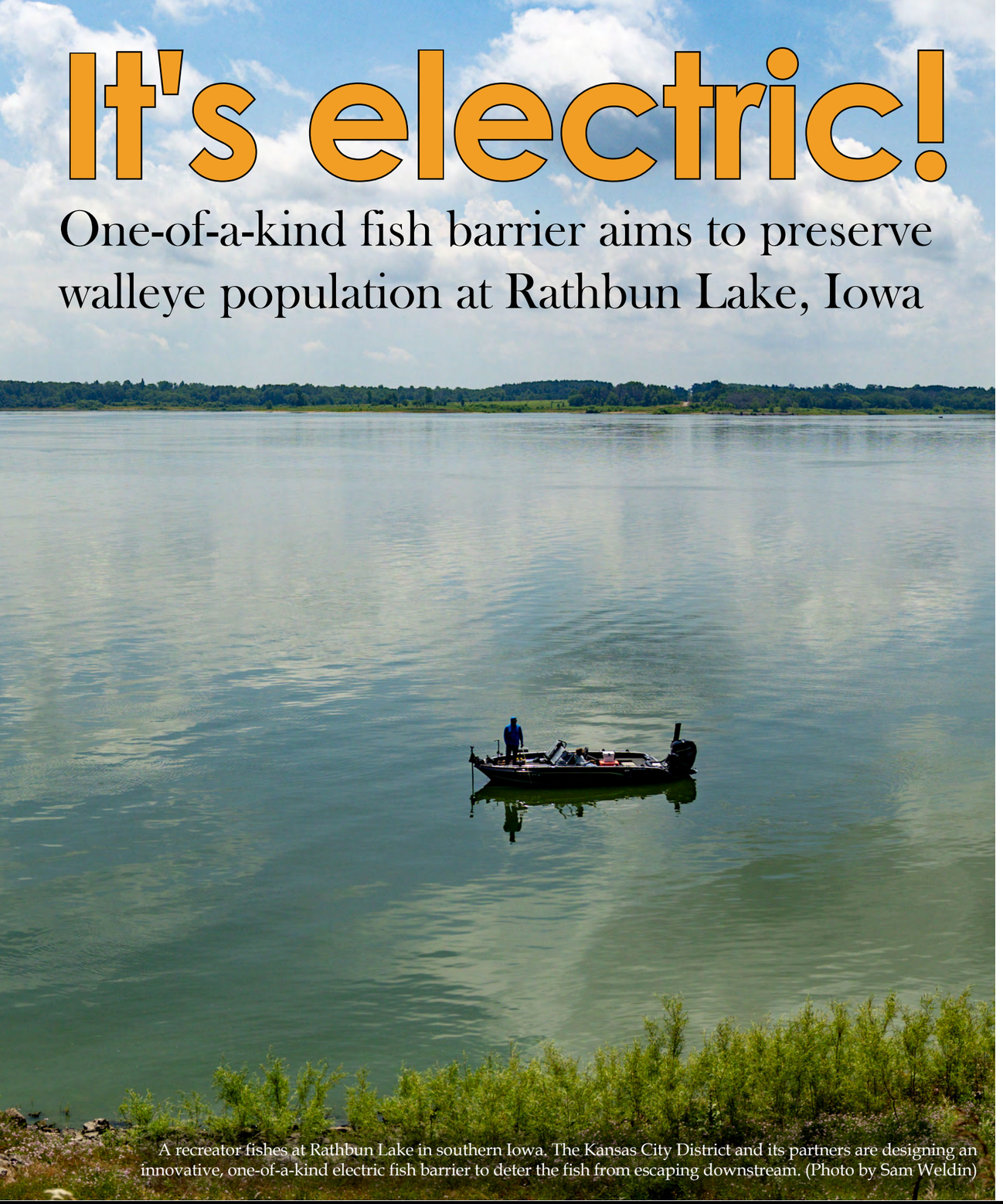
Henn said the installation of the system not only modernizes data collection, but also serves as a model for other districts.

"The goal for Headquarters is to have all projects within USACE eventually added to the MIDAS system. The Louisville District is one of the first districts to migrate all instrumentation for all projects into MIDAS," she said.

All reservoirs in the Louisville District use MIDAS for instrumentation monitoring, but the unique automated collection system at Rough River now allows Dam Safety to monitor the health of the dam from the district office in real time.

It's electric!

One-of-a-kind fish barrier aims to preserve walleye population at Rathbun Lake, Iowa



A recreator fishes at Rathbun Lake in southern Iowa. The Kansas City District and its partners are designing an innovative, one-of-a-kind electric fish barrier to deter the fish from escaping downstream. (Photo by Sam Weldin)

By Christine E. Paul
USACE Kansas City District

From a young age, most are taught electricity and water don't mix. While there is certainly truth to this statement, there are some exceptions. At Rathbun Lake in southern Iowa, engineers and scientists are working to design a one-of-a-kind electric barrier — underwater — to deter fish from escaping downstream of the reservoir.

The U.S. Army Corps of Engineers (USACE) Kansas City District operates and maintains the dam and reservoir at Rathbun Lake, but the Iowa Department of Natural Resources (DNR) maintains the fish hatchery and fish population found there. Together, along with partners from Iowa State University and the private sector, USACE and the Iowa DNR are hard at work to make the seemingly impossible happen — designing a safe, effective underwater electric fish barrier to keep walleye in the reservoir.

Not only does the walleye population at Rathbun Lake attract anglers from across the country, but it also provides valuable research opportunities for the state. According to Phil Brown, Kansas City District operations project manager at Rathbun and Long Branch lakes, the state introduced walleye to Rathbun Lake in the 1980s for research purposes.

"The fisheries biologists at that time wanted to introduce walleye to the reservoir. They wanted to start doing walleye research and expand their capabilities from a research institute," said Brown. "It's millions of dollars of economic benefits (for the local community) associated with the walleye fishery, people coming to fish for walleye at this reservoir and what's associated with it."

Although introducing walleye at Rathbun Lake has had many benefits, it's proved challenging to keep the fish in the reservoir. This is because walleye are stimulated by moving water when they spawn, which occurs in the spring and early summer — the same time the lake releases water from spring rains and upstream winter snowmelt. According to Brown, this has led to significant portions of the walleye population ending up downstream of the reservoir.

"We lose a significant amount of the walleye population," he said. "They go downstream of the dam, and once they go downstream, you can't get them back."

After years of research and formal studies, the team found the most effective solution, in both functionality and cost, to be an intermittent underwater electric current.

"It's similar to using an electric fence in the terrestrial environment. The fish, when they are subject to an electric current underwater, depending on the strength and the type of electric current, they'll have different responses. But if you get it just right, they will be deterred and won't move through the electric field that is created," said Leigh Mitchell, electric fish barrier project manager with the Kansas City District.

An underwater electric fish barrier has only been done once in the history of USACE but never in a reservoir, so the team of engineering and scientific specialists have had little to draw from in designing this innovative project. Facing many "firsts" during the conceptual design phase, one thing was certain from the very beginning: It had to be a solution that would not disrupt the operations and safety of the dam and outlet structures, and most importantly, the safety of staff and recreators at the lake.

"Rathbun Lake is providing a critical benefit and role here for this area — flood control, water supply. We do not want to interrupt that service it's providing, especially not in a way that could be critical to its ongoing function," said Mitchell. "(We've got) to make sure we've got a system that serves its purpose … but doesn't negatively impact dam safety or people safety."

Due to the complexity of designing a safe and effective, one-of-a-kind underwater electric fish barrier for a reservoir, the project is still in the initial design phase. But the team's excitement for the innovative project is palpable, almost like an electric current — similar to the one they are designing and hope to implement.

"No one's ever tried to reduce fish escapement with an electric barrier in this type of situation before or this type of setting. It's the first time we know of that this has ever been attempted," said Mitchell. "It's a very unique project and at the very least, we have learned a lot about what is and isn't possible."

Representatives from USACE Caribbean District, Puerto Rico Hardwoods and Ferrovial Construction LLC tour a sawmill to learn more about responsible wood-management practices March 3. (Photo by Jennifer Garcia)

USACE pioneers

wood reuse during infrastructure development

By Jennifer Garcia
USACE Caribbean District

The U.S. Army Corps of Engineers (USACE) Caribbean District is making history in Puerto Rico's timber industry by becoming the first federal agency to incorporate responsible tree-disposal management into its construction contracts. This groundbreaking initiative is part of the replacement work for the Franklin Delano Roosevelt Avenue Bridge in San Juan.

"Instead of being sent to landfills, as has been common practice, wood obtained from removed trees in the Franklin D. Roosevelt bridge construction area is now sent to a sawmill for repurposing," said Col. Charles Decker, Caribbean District commander. "With this initiative, USACE is laying the foundation for responsible wood management on the island, promoting the reuse of a valuable resource in our construction projects."

USACE and its contractor, Ferrovial Construction LLC, are working to replace the Franklin D. Roosevelt Bridge structures with a wider two-span design. This improvement aims to enhance water flow and reduce debris accumulation. The project also includes widening and deepening the existing channel through the construction of two drilled shaft walls, demolition of the current structure, installation of riprap scour protection and new stormwater inlets for improved drainage.

Partners in Repurposing

Leading the sustainable wood-management efforts in USACE's project is Puerto Rico Hardwoods, an organization with over a decade of experience in developing a sustainable timber industry on the island. Their approach is rooted in sustainable forestry management and the repurposing of natural resources.

"Wood is a renewable and sustainable resource. Puerto Rico has a higher forest growth capacity than other regions and produces some of the most highly valued woods worldwide," explained Andrés Rúa, co-founder of Puerto Rico Hardwoods.

The company, which was awarded the Wood Innovation Grant by the U.S. Forest Service, is dedicated to preventing trees from being discarded in landfills. Instead, they transform them into high-value pieces in collaboration with Puerto Rican cabinetmakers and artisans.

The USACE project has facilitated the use of species such as mahogany, terocarpus, almond, acacia, guanacaste and American guama.

"Wood has immense value," said Thrity Vakil, president and co-founder of Puerto Rico Hardwoods. "Our cabinetmakers and artisans create unique pieces for Puerto Ricans to enjoy, many of which even reach international markets. We are bringing Puerto Rican wood to the world."

Additional Benefits

The replacement of the Franklin D. Roosevelt Bridge in San Juan is not just about improving river flow through a deeper channel. It also ensures that the new bridge meets the latest construction codes, making it more resilient to extreme weather events, seismic activity and other environmental challenges.

In addition to its engineering benefits and trailblazing initiatives with the reuse of the wood, the project is expected to have a significant economic impact. It is projected to generate 200 direct jobs and 500 indirect jobs while contributing to the local economy through $7.8 million in municipal fee payments. The construction project is expected to extend for four and a half years.

By pioneering responsible wood reuse in construction, USACE is setting a precedent for government management of this natural resource in Puerto Rico, proving that infrastructure projects can be innovative, solution driven and environmentally conscious.

An early morning view of the Mahoning Creek Lake Dam, managed and operated by USACE Pittsburgh District, in New Bethlehem, Pennsylvania, March 19. (Photo by Michel Sauret)

The Mighty Mahoning

Tiny team maintains massive Pennsylvania dam

By Michel Sauret
USACE Pittsburgh District

Tucked into a sleepy creek valley of Western Pennsylvania, the Mahoning Creek Dam has stood for 84 years, holding back waters to protect communities from flooding.

"If I could describe Mahoning as having a personality, I would say she is strong and resilient," said Angela Erskine while on a boundary patrol around the dam's reservoir. Erskine is the dam and reservoir's natural

See MIGHTY on p. 14

resource manager for the U.S. Army Corps of Engineers (USACE) Pittsburgh District.

Although resilient, Mahoning is showing her age, Erskine said. The dam's surface is brittle from years of swinging weather extremes and pigeon droppings that significantly deteriorate the concrete surface. Additionally, Erskine's team is small and responsible for maintaining the dam, managing thousands of acres of land and 5 1/2 miles of waterways encompassing the reservoir.

"Our collective dedication and overall expertise allow us to achieve remarkable outcomes," Erskine said. "Our team always strives to deliver outstanding results supporting the mission at hand."

She has only one full-time park ranger and a three-person crew constantly tackling a growing list of repairs and maintenance projects. Together, the Mahoning staff forms one of the smallest reservoir teams in the Pittsburgh District.

Erskine has managed the reservoir for about a year. Originally from North Dakota, she grew up on a farm before joining USACE. Her career has taken her across the country, from Minnesota to Massachusetts, before arriving in Amish country in Western Pennsylvania.

She learned that each reservoir has its own character, rhythm and pace. Mahoning is no different.

"The best thing about Mahoning is that this is a nice little quiet area," she said.

The Mahoning Creek is narrower than most federal reservoirs. Its summer recreation is mainly made up of paddlers since the waters are not ideal for fast boats or summer thrills. Amish communities surround the creek and spread across several tiny towns. Nearby shops sell locally produced jams, real maple syrup and Amish-built furniture.

"You can always tell which homes are Amish because of the white curtains, clothes drying in the sun, and horse carriages parked in the driveway," Erskine pointed out while passing a home in her park ranger truck.

Despite its beauty and quiet surroundings, Mahoning Creek can still be a demanding facility to manage. The creek swells during high-water events, washing up tree trunks and other debris, scattering it like garbage across roads and shorelines. Some of the debris piles up near the dam, which keeps large tree chunks from causing further damage downstream.

"This is our creek, but we simply don't have the staff or equipment to handle such large quantities of debris," Erskine said.

Thankfully, the ranger team is not managing everything on the property alone. The district leases much of the land to the state or local municipalities to manage parks, campgrounds and game lands for fishing and hunting. The rangers have also developed a partnership with the Pennsylvania Game Commission, which supports by clearing debris and performing other work on the federal land.

"Without those partnerships, there is so much we could not do," Erskine said.

Another major obstacle comes from protecting the reservoir's boundary lines. Erskine and her ranger perform daily and weekly patrols to ensure residents do not encroach upon federal lands with permanent structures that could cause flood risks.

James Norris, the lone ranger, also patrols on foot along steep, rocky and wooden slopes. He steps over logs and grabs onto branches hoping to keep his balance on his trek.

"In a few years, I will be in great shape if I keep this up," Norris joked while catching his breath. He leaned over a railing at an overlook with a direct view of the dam.

Most people, even nearby residents, do not know the concrete behemoth exists, Norris said. Federal dams perform a quiet mission that goes unnoticed unless something drastic happens. Yet the Mahoning Dam has kept thousands of lives safe in its 80-plus years of operation.

The dam's construction started in 1938 and was completed in 1941. It cost $6 million to build, equivalent to $32 million in today's value. It has prevented $812 million in flood damages since construction, worth more than 25 times its build cost.

Though the mission often goes unnoticed, Erskine knows her team's value. Beyond the constant maintenance needs, Erskine, her ranger and the maintenance team tackle several projects that steward the land and improve visitors' experiences.

"I am so proud to be a part of this amazing team, and I admire their hard work and dedication every day," she said.

Angela Erskine (left), natural resource manager for the Mahoning Creek Dam and Reservoir, and James Norris, the Mahoning's lone park ranger, while patrolling the federal boundary lines in New Bethlehem, Pennsylvania, March 19. (Photo by Michel Sauret)

Robert Coleman III and Scott Salsgiver, maintenance crew members at the Mahoning Creek Dam and Reservoir, change out of their fall-protection gear while developing a game plan to install new sump pumps inside the dam in New Bethlehem, Pennsylvania, March 19. (Photo by Michel Sauret)

'Win-Win Situation'

ERDC leads effort to enhance military readiness, energy resilience with hydrogen-powered solutions

By Sophia Espinosa
U.S. Army Engineer Research and Development Center

The U.S. Army Engineer Research and Development Center's (ERDC) Construction Engineering Research Laboratory (CERL) is advancing energy resiliency and reliability by using hydrogen as a sustainable, renewable energy source.

ERDC-CERL is spearheading research and development efforts to integrate hydrogen energy solutions into military operations, aiming to provide clean backup energy systems that enhance the energy independence of Department of Defense (DOD) installations.

One key demonstration includes the hydrogen-powered fuel cell forklift showcased at the North Riverside Illinois Army National Guard (ILARNG) site. This equipment provided personnel with firsthand experience of how hydrogen technology can improve operations by offering a clean, reliable and resilient energy solution for critical tasks.

"The use of hydrogen to power a forklift provides the military another application of a silent, renewable and available fuel source that can be used at installations worldwide," said Carol Bailey, project manager and principal investigator with ERDC-CERL for the demonstration project. "We applaud North Riverside's initiative to become a pilot site for hydrogen equipment on behalf of the DOD."

The research demonstration took place at the North Riverside ILARNG site, a dual-supported installation that serves both state and federal roles, including contingency staging for emergencies. ERDC-CERL is working closely with the North Riverside ILARNG to advance the integration of hydrogen energy solutions into military operations. This partnership aligns with the DOD's ongoing commitment to enhancing energy resilience across its installations.

"The hydrogen-powered forklift has the same capabilities as a standard forklift but has the added benefits of faster fueling, compared to our electric-only forklift," said Al Colon, facility manager at ILARNG. "It also has improved air quality due to the lack of exhaust fumes during operation. It's a win-win situation."

ERDC-CERL has partnered with GTI Energy, who is developing hydrogen systems at its Des Plaines, Illinois, research facility. This collaboration led to the creation of a prototype hydrogen-based backup energy system, which contributed to the demonstration of hydrogen-powered equipment at the North Riverside site.

"We are excited to partner with ERDC-CERL on the program's first phase and contribute to the DOD's efforts to enhance energy reliability for critical missions," said Susan Stuver, director of Defense Energy at GTI Energy. "As we advance our research and development of innovative energy solutions, we look forward to deepening our collaboration with ERDC-CERL to strengthen energy systems and infrastructure, ensuring they are safe, secure and reliable."

The ILARNG installation, which spans over 80 years of history, has several buildings that are subject to frequent power outages. Currently, about 80 personnel work full-time at the site, with up to 900 additional National Guard members hosting drills on weekends. To maintain operational continuity and ensure the security of critical missions, ERDC-CERL's research program aims to demonstrate a new framework for designing and deploying resilient energy systems that could be replicated across DOD installations nationwide.

A hydrogen-powered fuel cell forklift was used during a demonstration at North Riverside Illinois Army National Guard as part of a larger research and development effort to integrate hydrogen energy solutions into military operations. (USACE Photo)

"We are excited to see this first piece of hydrogen-fueled equipment demonstrated at the National Guard site in Illinois. Understanding how fuel cells and hydrogen play a role in modernizing an older installation is important to improving energy resiliency and reliability," said Bailey.

ERDC-CERL is exploring hydrogen energy solutions to replace outdated heating and power systems. These solutions include integrating hydrogen and hydrogen blends across the energy value chain, from production to delivery, storage and end-use, ensuring reliable operations even during power interruptions.

The Doosan electric forklift, modified with a hydrogen-powered proton exchange membrane (PEM) fuel cell, a type of fuel cell that uses hydrogen to produce electricity, was filled with hydrogen at GTI Energy's lab and transported to the installation for the demonstration.

As part of ongoing training and education, the demonstration will help ILARNG staff understand the potential benefits of hydrogen-based energy technologies to meet their mission requirements. Information obtained from testing these systems will be used to design a prototype system to be installed at the North Riverside site during the next phase of research to further enhance the site's energy resilience.

The hydrogen forklift demonstration at the North Riverside ILARNG site marks a key milestone in the U.S. military's efforts to modernize its energy infrastructure. This demonstration highlights the potential of hydrogen-based solutions to enhance energy resilience and reliability, ensuring military installations can continue to support critical operations during power disruptions or emergencies. As ERDC-CERL advances this research, it paves the way for broader adoption of hydrogen technologies across DOD installations, contributing to long-term energy resiliency and operational readiness.

Ground Rules

USACE drill team tests soil before laying foundation on Army airfield construction

USACE Savannah District's geotechnical drill team began standard penetration tests at Hunter Army Airfield in Savannah, Georgia, to obtain soil samples March 13. The soil samples will provide critical data for future construction projects on the installation. (Photo by Michael Ariola)

By Michael Ariola
USACE Savannah District

The U.S. Army Corps of Engineers (USACE) Savannah District drill team recently began conducting penetration tests at Hunter Army Airfield in Savannah, Georgia, to obtain soil samples.

The soil samples will provide critical data for future construction projects on the installation.

"Today we are performing geotechnical investigations," said Jack Kulaga, a geologist with the district's Geotechnical and Hazardous, Toxic, and Radioactive Waste Branch of the Engineering Division. "We are drilling into the soil, conducting standard penetration tests (SPT) to determine the soil competence."

In the context of construction, "soil competence" refers to the ability of the soil to support structures.

The results of the SPT are used in geotechnical engineering to design foundations and other structures, ensuring they can safely support the intended loads.

"It is critical for engineers to understand what is underneath the ground when designing buildings and infrastructure," said Kulaga.

The team conducted the testing using a drilling rig that penetrates the ground with an auger, creating a borehole to a specific depth, depending on how deep the soil needs to be evaluated. A tool called a split-barrel sampler is then lowered into the hole to collect a core of the soil.

"We are conducting 24 borings total at multiple sites on the installation, drilling to depths of 10, 25 and 50 feet below the surface," said Kulaga. "The depth of the borings is determined by the estimated weight of the structure intended to be built on the surface. For lighter structures, like a parking lot, we drill to 10 feet, while heavier buildings require drilling to 50 feet."

As the team obtains samples in the field, they describe them based off characteristics they can observe, explained Kulaga. An engineer then selects several of the samples to be sent to a laboratory for quality control testing to ensure the team has described them correctly.

The samples are sent for laboratory testing at the USACE Savannah District's Environmental and Materials Unit in Marietta, Georgia. The laboratory can determine soil properties such as strength, liquidity, plasticity and permeability.

The Savannah District provides geotechnical investigation expertise for other districts and various state and federal agencies throughout the nation.

"Our district is one of only several districts to have a drill team and is unique within USACE for its ability to deploy up to four drill crews simultaneously," said Kulaga. "The Savannah District is also the only district to have a sonic drill rig."

The sonic drill rig provides increased capability to penetrate through all soil types and most rock. It causes minimal disturbance to drilling areas, reduces investigation-derived waste, and provides increased speed and maneuverability in challenging terrain and difficult subsurface conditions where traditional rotary drilling proves less effective.

Cutting Risks

Tulsa District improves employee skills, safety with chainsaw training at Fort Gibson Lake

By Stacey Reese
USACE Tulsa District

The U.S. Army Corps of Engineers (USACE) Tulsa District held a chainsaw safety course at Fort Gibson Lake, Oklahoma, in March.

This training emphasizes USACE's commitment to enhancing employee safety and promoting best practices.

"This district-wide training, provided by a professional sawyer and trainer, enables our employees to learn proper techniques of felling trees safely and maintaining equipment," said Gregg Moydell, Fort Gibson Lake manager.

"It reinforces our commitment to safety and ensures that staff are equipped with the skills and knowledge to prevent accidents."

The five-day course, led by Jeff Myers, a U.S. Forest Service sawyer evaluator with C-level certification, combined classroom learning with hands-on field training. To become a C-level sawyer with the Forest Service, one must have advanced skills with a chainsaw and be certified to handle large or hazardous trees, train other sawyers and evaluate cutting operations.

Over the first two and a half days, participants received in-depth classroom instruction on the following topics:

- Safe chainsaw operations
- Hazard recognition and kickback
- Personal protective equipment
- Types of cuts and methods for "bucking," the process of cutting a felled and delimbed tree into logs suitable for their intended purpose and capable of being safely and effectively transported
- Injury prevention, situational awareness
- Hazard elimination
- Felling a tree

Following the classroom training, participants took to the field to apply their knowledge in a real-world setting, providing valuable practical experience under the guidance of Myers and the Tulsa District Safety Team.

A critical focus of the training is using proper personal protective equipment (PPE). Employees participating in the course and those using chainsaws in their regular duties must wear specific protective gear to minimize the risk of injury.

Essential PPE for chainsaw operation includes gloves, a long-sleeved fitted shirt, fitted long pants, a hard hat with earmuffs and a face screen, safety glasses, chainsaw protective chaps, and steel-toed lace-up work boots.

"This type of training is a key component of the district's Safety and Occupational Health Management System Program," Moydell said. "The program is part of the district's commitment to reducing work-related accidents and injuries through appropriate training and best practices."

Holding the training at Fort Gibson Lake also had a secondary benefit to the lake's environmental stewardship mission. By selectively thinning diseased, dead and invasive trees, the overall health of the hardwoods in the area is improved. This thinning allows for the regeneration of a healthy forest and increases habitat for multiple bird, mammal and reptile species.

Kole Bowman, civil engineer technician at Keystone Lake, said he learned a lot from the training about properly cutting trees and using cuts to get trees to fall the way he wants them to fall.

"I will be able to utilize the techniques I learned on and off of the project to help with habitat management," said Bowman.

Training and safety courses like this chainsaw training are essential for protecting employees and the public. These courses equip employees with skills to safely fell dead trees, reducing the risk of hazardous falls that can endanger the recreating public.

Christopher Poindexter, a Eufaula Lake maintenance worker, makes the initial cuts to fell a tree during field training as part of a recent chainsaw safety course at Fort Gibson Lake, Oklahoma, March 6. The five-day course included in-depth classroom training, as well as field training where participants were able to apply what they learned in a real-world setting. The course is part of USACE Tulsa District's ongoing commitment to employee and public safety. (Photo by Stacey Reese)

Proven Success

USACE projects prevent estimated $734 million in flood damages along Cumberland Basin

By Michael Davis
USACE Nashville District

A preliminary analysis of data from the heavy rain event in mid-February, conducted by the U.S. Army Corps of Engineers (USACE) Nashville District, indicates that USACE flood risk management projects prevented an estimated $734 million in flood damages across the Cumberland River Basin.

During the event, a series of storms delivered significant rainfall across the region, leading to high inflows into USACE-managed reservoirs. The coordinated operation of key Nashville District flood storage projects, including J. Percy Priest, Wolf Creek, Dale Hollow and Center Hill dams, played a critical role in reducing flood risks for Tennessee communities along the Cumberland River, including Celina, Carthage, Clarksville and metropolitan Nashville.

"These projects are designed to mitigate flood risks and safeguard communities, and this event demonstrated the immense value of our infrastructure," said Lt. Col. Robert Green, USACE Nashville District commander.

"By capturing and managing floodwaters, we protected lives, homes and critical infrastructure throughout the region. Without the storage capacity of our reservoirs, the system-wide flood management approach and coordination with local and state agencies, many communities would have faced significantly higher flood levels and greater damage."

USACE manages 10 dams and four locks in the Cumberland River Basin, operating them as a unified system to provide flood-risk management, support navigation and enhance water resources management.

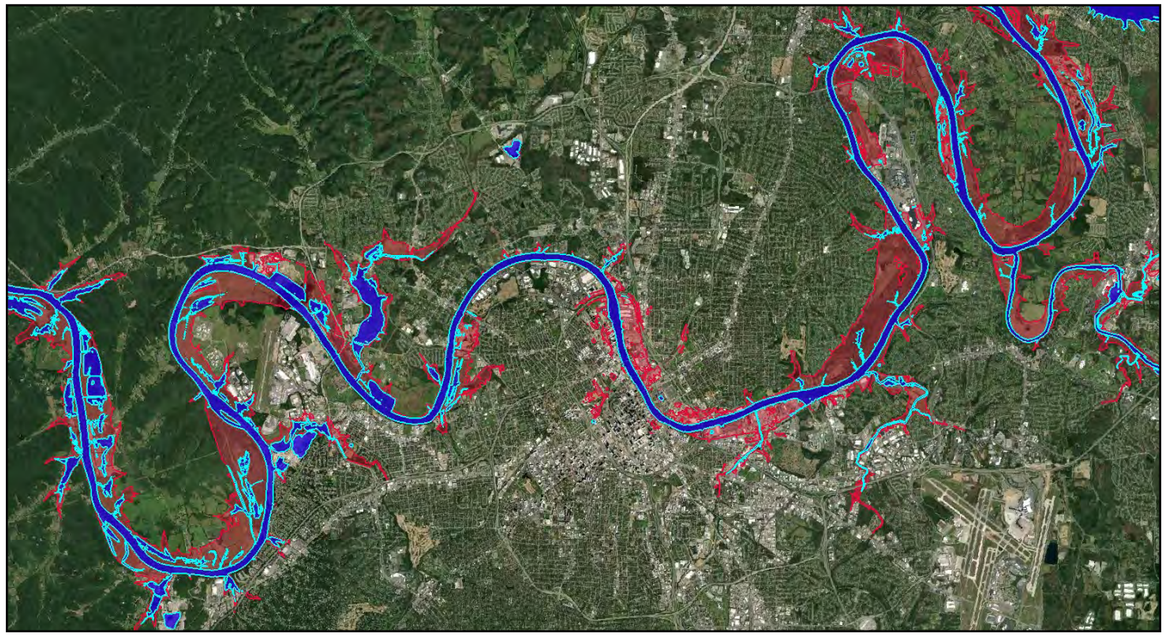
During the February storms, the system stored approximately 2.3 million acre-feet of water — enough to flood an area the size of Nashville to a depth of nearly 8 feet.

This storage capacity allowed USACE to reduce peak flood stages along the Cumberland River by as much as 34 feet in some locations, sparing communities from reaching or exceeding flood levels. The impact of these flood control efforts was most significant in urban areas where infrastructure, businesses and homes were at risk.

"Our team continuously monitors weather conditions, inflows and reservoir levels to ensure we can manage flood risks effectively," said David Bogema, chief of the USACE Nashville District's Water Management Section. "This event reinforces the importance of maintaining and investing in our flood risk management infrastructure to protect lives and property."

Floodwaters captured behind Nashville District storage dams during the heavy rains were safely released downstream, leaving the flood storage in the reservoirs empty and ready to reduce future flood events.

The USACE Nashville District remains committed to balancing the multiple demands on the Cumberland River system, including flood risk management, navigation, hydropower production, recreation, fish and wildlife conservation, and water supply.



This map shows the Cumberland River in Middle Tennessee during the February 2025 heavy rain event. The blue areas represent actual river levels with USACE flood risk management projects in place, while the red areas show the extent of flooding that would have occurred without these critical projects. (USACE Graphic)

Old Hickory Dam in Hendersonville, Tennessee, releases 80,000 cubic feet of water per second Feb. 16 as part of flood control operations along the Cumberland River. USACE Nashville District estimates that USACE flood risk management projects prevented an estimated $734 million in flood damages across the Cumberland River Basin during February's heavy rainfall. (Photo by San Luciano Vera)

Outdoor Fun

Ranger encourages kids, parents to explore nature through Junior Ranger Challenge

By Stacey Reese
USACE Tulsa District

Hannah Piper, a Kaw Lake ranger for the U.S. Army Corps of Engineers (USACE) Tulsa District, is challenging people of all ages to get outside and pay more attention to their environment with a fun, interactive program inspired by her visits to national and state parks.

Although Piper calls this a Junior Ranger Challenge, the program at Kaw Lake in Osage County, Oklahoma, encourages parents and children alike to explore the surroundings while completing the five lake-themed challenges she designed.

"I've always loved getting people invested in their parks," said Piper. "As someone who visits other lakes and federal properties pretty often, I feel more connected to the ones I know the most about and have spent the most time exploring."

Piper hopes that completing the challenge at Kaw Lake will help people feel more connected to the lake and, by extension, make them want to take better care of it and even spend more time there.

There are five challenges for the participants:

- The Eagle View Trail Challenge encourages junior rangers to be aware of everything around them as they hike the trail.
- The Eagle-Eyed Challenge encourages participants to look out for several species of birds commonly spotted near Kaw Lake.
- The Wildflower Frenzy Challenge requires looking out for different native wildflowers.
- The Pollinator Investigation Challenge focuses on the fluttering and buzzing pollinators native to Oklahoma.
- The Creepy Crawlies Challenge asks participants to be on the lookout for snakes, spiders and other slithery, crawly critters.

Kaw Lake Ranger Hannah Piper stands next to a Junior Ranger Challenge box she built to hold pamphlets for the Kaw Lake Junior Ranger Challenge interactive program March 24. The challenge encourages visitors of all ages to explore the natural surroundings of Kaw Lake in Oklahoma through a series of themed activities. (Photo by Stacey Reese)

A western hognose snake curls up with a Junior Ranger badge near the Eagle View Trail at Kaw Lake, Oklahoma, March 24. Non-venomous hognose snakes are one of the many creatures participants can spot as part of the Creepy Crawlies Junior Ranger Challenge and can be recognized by their upturned, shovel-like noses. (Photo by Stacey Reese)

Each challenge comes with a pamphlet, which participants can take as they explore the lake and its surroundings. The pamphlet includes a list of things to find, all connected to the theme of the particular challenge, and offers fun facts related to the items on the list.

While it is easy and enjoyable to hike Eagle View Trail or admire a pollinator field, the program aims to get people to look closer and notice details. Instead of just seeing a nest in a tree, the challenge tells people to look closer and see if the nest belongs to a squirrel or a bird. Likewise, instead of just seeing a bunch of colorful flowers, the program wants people to learn to identify specific species and learn a little about them.

"I am not originally from this area," said Piper, "so putting together the program has been a bit like completing the challenge for myself. I had to explore different areas around the lake and take the time to identify and learn to recognize the plants, animals and landmarks that were new to me."

Participants can present their completed checklist to a park ranger or gate attendant to receive their Junior Ranger badge.

"I'm excited about many of the program elements," said Piper, "but the idea that others could take that same feeling away from it probably excites me the most."

Radioactive Waste

remediation in Iowa progresses with latest contract

By Andrea Wales
USACE St. Louis District

The U.S. Army Corps of Engineers (USACE) St. Louis District's Formerly Utilized Sites Remedial Action Program (FUSRAP) awarded a $13.5 million remediation contract in December 2024 for work at the Iowa Army Ammunition Plant (IAAAP). This firm fixed-price contract was awarded to Aerostar Environmental and Construction LLC.

The contract is for labor, equipment, operators, supervision, supplies, materials and incidentals necessary in providing continued support of FUSRAP's environmental remediation program at IAAAP.

IAAAP is an active, government-owned, contractor-operated facility that occupies about 19,000 acres in Des Moines County, Iowa. The U.S. Army Joint Munitions Command in Rock Island, Illinois, commands the facility.

Since 1941, IAAAP has produced projectiles, mortar rounds, warheads, demolition charges and other munitions components as part of its load, assemble and pack operations.

From 1947 to 1975, portions of IAAAP were under the control of the Atomic Energy Commission (AEC) for the development of nuclear weapons and additional weapons-assembly operations on about 1,600 acres of the plant.

FUSRAP identifies, remediates or otherwise controls sites with remaining residual radioactivity from the AEC's weapons development and production, as directed by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), the primary law governing FUSRAP site cleanup.

FUSRAP started investigating at the IAAAP in 2000 and began remedial activities in 2008. FUSRAP recently completed remediation at the North Test Site, also known as Firing Site (FS)-12.

Currently, two AEC areas remain to be remediated at IAAAP under the new contract: Line 1 and the Firing Sites Area (FSA).

At Line 1, the AEC manufactured high explosives used in the weapons; thus, the project team will be remediating soils contaminated with explosives and semi-volatile organic compounds (commonly called SVOCs) at five previously inaccessible locations.

The AEC used the FSA between 1948 and 1974 to support test firing of munitions, some containing depleted uranium (DU). Although the U.S. Army currently uses the FSA as an operational range, munitions containing DU are no longer tested at the FSA. In accordance with the Record of Decision, the project team will be remediating soil contaminated with DU.

Immediately following contract award and notice to proceed, the team started preparing the various preconstruction documents necessary to begin work on the site.

In early February, USACE St. Louis District conducted a Value Engineering workshop to review procedures used on-site to improve the project's function.

Personnel mobilized to the site a month later to begin preparing for the work ahead. This included felling and removing trees at FS-6 in areas to be excavated as well as constructing a controlled area where the ISO-Pacific Soil Sorting System (S3) will be set up and the soil processing will take place.

A contractor for the U.S. Army Corps of Engineers inspects the soil depth on the ISO-Pacific Soil Sorting System (S3). The S3 is an eco-friendly yet cost-effective way to identify and remove depleted-uranium radiological contamination in soil. (USACE Photo)

Workers began excavating soil at the South Test Site in early May.

"This contract award is the beginning of the end of FUSRAP's remediation at Iowa," said Mike Kessler, FUSRAP IAAAP project manager.

At the South Test Site, the project team will employ the S3 to remove DU-contaminated soil. The S3 is a patented conveyor-based system that uses custom radiation detectors, proprietary spectroscopy and reporting software, and rapid mechanical sorting to accurately survey and segregate scanned material that is greater than the remediation goal (RG) from material that is less than the RG. Soil with DU concentrations less than the RG could remain on-site and be reused as backfill material, substantially reducing the overall project cost.

For more information about FUSRAP remediation efforts at IAAAP, visit https://www.mvs.usace.army.mil/Missions/FUSRAP/IAAAP.

Fire chiefs with the Georgetown Fire Department in Central Texas overlook a prescribed burn at Lake Georgetown. (Photo by Scott W. Blank)

The Paradox of Fire

By Joshua Houghtaling
Park Ranger, USACE Fort Worth District

From past to present, fire has played a vital economic and environmental role. Historically, fire has changed environmental landscapes around the world. Flora and fauna have adapted various means to ensure survivability of their species and have impacted humans from the beginning.

Fire predates humans yet continues to play a vital role in modern-day economics and environmental stewardship. Indigenous people would use fire as a tool to manage desired floral species, either through agriculture or by attracting wildlife species they could harvest. Today, fire is used as a management tool, called "prescribed fire," to accomplish various missions, including recreation, environmental stewardship and flood risk management.

According to the U.S. Forest Service, "Prescribed fire is the controlled application of fire by a team of fire experts under specified weather conditions to restore health to ecosystems that depend on fire." Local, state and federal agencies, including the U.S. Army Corps of Engineers (USACE), work together to strategically conduct prescribed burns to reduce the intensity of wildfires, protect life and property, and to be better environmental stewards.

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Lake Georgetown is a water resources project in Central Texas about 30 minutes north of Austin. Although it is one of the smaller projects in the USACE Fort Worth District, the lake lies in one of the fastest growing areas in the nation — the city of Georgetown, Texas — and sees over 1 million visitors a year.

Lake Georgetown was once a rural lake surrounded by farms and ranches, but today the surrounding areas are being sold to developers. Multiple housing developments have been established adjacent to USACE property, increasing the risk of wildfire in an urban environment. In response to the threat of wildfire, many local, state and federal agencies have created separate fire departments, budgets and task forces.

Lake Georgetown is located in the Capital Region, one of four regions within the southwestern Fort Worth District. Within the Capital Region, there are 14 individuals with the proper training and personal protective equipment to assist with prescribed fires.

The goal of the 14-person Capital Region Prescribed Burn Team is to promote the USACE environmental stewardship mission using various management tools including prescribed fire. Two of the team members, including myself, are park rangers who are currently working on becoming certified and insured prescribed burn managers, commonly known as "burn bosses," through the state of Texas.

After wildfires swept across 600,000 acres of Texas — including 500 acres within the Capital Region — in 2022, I partnered with the Georgetown Fire Department to create a memorandum of understanding (MOU) to initiate prescribed fires around Lake Georgetown with the goal of reducing the severity of future wildfires. The MOU includes USACE and 10 Williamson County fire departments and emergency services districts with Georgetown Fire Department as the lead. With the MOU in place, the city of Georgetown submits burn plans to the Lake Georgetown USACE project, obtains approval and then waits for the perfect weather conditions.

Lake Georgetown is only one of six lakes within the region, but officials at many of the other lakes also have expressed interest in conducting prescribed-fire activities. The Capital Region burn bosses work toward fostering old and new partnerships to conduct prescribed burns across the region.

For many years, prescribed fire has been used as a management tool across the nation, but many areas around Lake Georgetown have never seen fire unless it was ignited spontaneously. The use of prescribed fire at Lake Georgetown will ultimately protect life and property by reducing the intensity of wildfires and supporting environmental stewardship for future generations.

Fire Department and USACE personnel hold a management meeting prior to a prescribed burn at Lake Georgetown. (Photo by Scott W. Blank)

Opposite page: A wildland firefighter prepares to ignite a fire during a test prescribed burn. (Photo by Josh Houghtaling)

Fighting Fire with Fire

USACE training teaches methods, safety precautions, benefits of prescribed burns

By Stacey Reese
USACE Tulsa District

The U.S. Army Corps of Engineers (USACE) Tulsa District held prescribed fire training March 3–7. The course is part of the requirements for personnel who will participate in conducting prescribed burns on federal lands.

By training personnel in prescribed-fire techniques, USACE reinforces its commitment to sustainable land-management practices that benefit the environment and public land users. This course teaches personnel to conduct burns safely and effectively, balancing the need for human intervention with ecological benefits and promoting biodiversity.

"These prescribed burns are a vital land-management tool used to control woody encroachment and promote habitat diversity on USACE-managed lands," said Stacy Dunkin, Tulsa District biologist."Fire is an effective tool in maintaining and enhancing natural habitats."

Prescribed burns are only conducted in order to meet management objectives, Dunkin added.

"These objectives are found in the guiding documents for the project, including the original environmental impact statement and any supplements to the master plan or operations management plans," said Dunkin. "We always burn within our authorities."

Each year, new natural resources specialists and maintenance workers from projects around Tulsa District receive classroom and field instruction. As part of the instruction, teams conduct burns on the Fort Gibson Wildlife Management Area in partnership with the Oklahoma Department of Wildlife Conservation.

Classroom instruction covers subjects such as field preparation, planning, fire effects and the impact of weather on fire. Field training covers the proper use of fire equipment, such as hand tools and sprayer pumps.

John Weir, a fire ecologist at Oklahoma State University's Department of Natural Resource Ecology and Management, teaches the course with assistance from Tulsa District biologists Stacy Dunkin, Jason Person and Chris Gilliland.

Becoming a Burn Boss

In addition to first-time participants, some personnel who have already taken the introductory course return for advanced training. These personnel are working with the instructors on becoming "burn bosses." Being a burn boss qualifies them to create and implement burn plans for their projects.

For the advanced part of the course, participants are assigned a section of land in the wildlife management area, where they create a burn plan, coordinate with other burn bosses, and ensure they carry out their burn plans correctly and safely.

Ryan Parisotto, Eufaula Lake natural resources specialist, took prescribed-fire courses during his time at Oklahoma State University where he saw the effects of prescribed fire and the benefits to the native ecosystems of Oklahoma rangeland by participating in several burns conducted on the university's research lands.

Scott Torkleson, a natural resources specialist with the Keystone Lake Office, operates a drip torch during prescribed-burn training March 6. Each year, new rangers and maintenance workers from projects around Tulsa District receive classroom and field instruction. As part of the instruction, teams conduct burns on the Fort Gibson wildlife management area in partnership with the Oklahoma Department of Wildlife Conservation. By training personnel in prescribed-fire techniques, USACE reinforces its commitment to sustainable land-management practices that benefit the environment and public land users. (Photo by Stacey Reese)

Parisotto participated in this year's advanced course to fulfill the requirements to become a burn boss for USACE.

"Through my training, I've gone from simply understanding the benefits of prescribed fire to being able to write and execute burn plans in compliance with USACE policies and regulations," said Parisotto. "Prescribed fire is a vital tool for achieving land-management objectives, and as public land managers, we must use it effectively."

This was the 15th annual Tulsa District prescribed-fire course held in partial fulfillment of the requirements for conducting prescribed fire on government lands outlined in USACE Engineer Regulation 1130-2-540, "Environmental Stewardship Operations and Maintenance Policies." Seventeen natural resources specialists and maintenance staff from 11 civil works projects across the district attended the training.

The class conducted eight prescribed burns, covering 855 acres as part of the training. In addition to fulfilling regulation requirements, the course exposed participants to the ecological benefits of land management using prescribed fire.

"The most beneficial aspect of the training was the hands-on application of techniques and training," said Dunkin. "Allowing participants to conduct prescribed fire in conjunction with classroom instruction reinforced the ideas and techniques to improve the learning experience."

Mission Assurance

USACE trains personnel on microgrid planning, design, implementation on Army installations

By Brandy Wilkerson
U.S. Army Engineering and Support Center, Huntsville

Located within Redstone Arsenal in Huntsville, Alabama, the U.S. Army Engineering and Support Center, Huntsville (HNC) is known as the Army's first stop for Military Construction (MILCON), including projects under the Energy Resilience and Conservation Investment Program (ERCIP). ERCIP, part of a suite of Department of Defense (DOD) MILCON programs, funds projects on Army installations that improve energy resilience, contribute to mission assurance, and reduce DOD's costs via energy and water savings. Ensuring uninterrupted energy and water supply and access on Army installations is essential to meet the Army's requirement to deploy, fight and win.

Project managers with HNC and other U.S. Army Corps of Engineers (USACE) counterparts, including the Louisville District (LRL), are vital to managing and validating efficacy for ERCIP projects to support installations worldwide. HNC comprehensively validates project descriptions, technical feasibility, appropriate technologies, estimated energy savings and associated life cycle cost-analyses.

At any given time, ERCIP projects can be in multiple phases, including construction, design or planning, and HNC often receives multiple validation requests at a time for potential projects at Army installations. To ensure expertise among the HNC and LRL project managers working to deploy microgrids and USACE's forward focus on new energy technologies, HNC held its first Microgrid Training Certification course in 2024.

Microgrids are a solution to ensure power supply during disruptions on Army installations and have become ever-present in ERCIP proposals from installations. Microgrids at installations can operate independently from the main power grid, which increases power reliability and enables continuity of the warfighter mission. Microgrids can also reduce costs by providing grid services to the regular utility provider, such as demand response and frequency regulation.

As HNC's ERCIP program manager, I collaborated with Tonex Inc., an industry-leading training provider, to guide instruction leading to certification for 18 HNC and LRL project managers. The tailored training did not disappoint. This certification process for ERCIP personnel means installation stakeholders are assured the Microgrid Planning and Design Team members have the knowledge and skills to make effective recommendations to installations.

The training focused on microgrid planning, design, design reviews and implementation efforts to assist project managers and technical staff during project development. Project managers learned about components of the microgrid controls, energy-management systems and various modes of operations. This certification gives the taxpayer assurance that the federal government is obtaining training to do the best possible with the least amount of time and funding.

The training emphasized different energy-storage solutions, cybersecurity and commissioning efforts. Dominic Ragucci, ERCIP project manager, lauded the hands-on portion of the training, as it allowed students to determine sizing components of a microgrid using several factors such as load profiles, renewable energy sources, battery capacity and grid interaction.

"We were able to use multiple algorithms such as Capital Expenditure and Levelized Cost of Energy to determine the project's resilience and cost-savings effectiveness," Ragucci said.

Camp Arifjan became a beacon of innovation and sustainability with the groundbreaking installation of a first-of-its-kind microgrid system in 2024. The microgrid provides balanced control of solar photovoltaic power and a large battery energy storage system. It also implements an improved utility grid connection architecture and integrates with a backup power plant and other control features, enhancing operational resilience and environmental sustainability while reducing noise pollution and fuel consumption. (Photo Courtesy of U.S. Army Central)

As new teammates join the ERCIP team, HNC intends to host other similar certification trainings in the future.

Comprehensive planning, augmented by HNC's Microgrid Training Certification initiative, in the nascency of ERCIP project development can ensure effective use of taxpayer funding both in planning and during a project's cascading phases. USACE continues to deliver vital engineering solutions for the Army and DOD writ large, including for ERCIP projects that ensure mission readiness.

USACE debris-removal team aims for 'Delicate Balance' in North Carolina after Hurricane Helene

By Bobby Petty
USACE Wilmington District

From the steep slopes of the Blue Ridge to the boggy lowlands of Transylvania County, U.S. Army Corps of Engineers' (USACE) crews and contractors continue to tread softly through a landscape reshaped by Hurricane Helene's historic floods in North Carolina.

"Hurricane Helene was as much a geological event as a meteorological one," said Col. Brad Morgan, commander of the USACE Wilmington District, who also leads the North Carolina debris cleanup mission. "The storm forever changed the physical landscape. We're not just removing debris from public waterways — we're helping heal the very environments in communities that were hit hardest. It's a delicate balance."

USACE is currently operating in 16 counties, with as many as four new counties expected to be added soon. Across these jurisdictions, they have deployed contractors who specialize in both environmental compliance and field efficiency. Contractors handling stream debris removal in Transylvania County and neighboring counties have earned praise from USACE for combining precise fieldwork with environmentally sensitive practices.

Key to their work is heavy forestry equipment outfitted with biodegradable hydraulic fluid — a critical step toward reducing long-term pollution in sensitive environments. This upgrade is vital because even well-maintained forestry equipment, operating at pressures of up to 5,000 pounds per square inch, can suffer pinhole leaks or seal failures in hydraulic lines, which power harvesters and forwarder boom arms and grapple claws.

"Instead of leaving a legacy of contamination, these fluids quickly become lunch for microbes," said Ryan Weaver, USACE's waterway debris mission manager for Hurricane Helene.

Biodegradable hydraulic fluid, which is made from vegetable oils and synthetic esters, begins breaking down within days, is 90% degraded into harmless byproducts within 60 days, and is fully assimilated into soil biology with no residual toxicity within six months. By contrast, traditional petroleum-based hydraulic fluid can persist in soil and water for 20 years or more, posing a risk to wildlife, groundwater and wetland ecosystems.

Before work begins in any sensitive location during the Helene debris cleanup, USACE teams partner with biologists and quality assurance

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USACE contractors pick up waterway debris in Swannanoa, North Carolina, Feb. 1. Debris-removal personnel in the area are using heavy forestry equipment, including this forwarder with grapple claw, outfitted with biodegradable hydraulic fluid that is less toxic to the environment. (Photo by Michael Maddox)

specialists to assess local wildlife and habitat conditions. In some areas, drones are deployed to scout ahead in cleanup zones, enabling crews to plan access routes that minimize disruption to streambanks and shoreline vegetation. This approach allows USACE to limit or eliminate streambank clear-cutting, requiring only strategic tree removals to reach difficult debris locations.

With many waterways rerouted or clogged by vegetation and household debris mixed within a slurry of sediment, traditional access points are often gone. In areas where forestry equipment doesn't have direct access to debris in streams, rivers and lakes, the least disruptive method is to remove the wreckage directly from within the waterway. This is done using specialized equipment designed to preserve the waterway's natural hydrology while minimizing further erosion and turbidity.

The mix of trees, vegetation, household debris and small amounts of sediment from individual sites is then congregated at larger Temporary Offload Staging (TOLS) sites. At these sites, debris is laid on timber matting, which creates a stable platform and allows excavator claws to pick up material to be placed into various dump trucks without gouging the soil beneath. Once TOLS sites are cleared, the timber matting is removed and the area is reseeded to promote regrowth of vegetation.

A "biodegradable hydraulic fluid" sticker is visible on a debris-removal vehicle operated by a USACE contractor April 15 along the Toe River in western North Carolina. The environmentally friendly fluid helps ensure that any potential hydraulic leaks do not harm the surrounding area as Hurricane Helene debris cleanup continues across the region. (Photo by Michael Davis).

Hurricane Helene leaves behind a trail of destruction in western North Carolina in September 2024. (Photo courtesy of U.S. Customs Border and Protection Office)

Debris from TOLS sites is congregated once again at regional temporary debris-management sites, where the debris is sorted into various waste streams for recycling or disposal. This method minimizes direct impact to the 3,936 debris-removal sites identified by county officials across western North Carolina.

"We're working with the land, not against it," said Weaver. "Every operational detail is designed to reduce our footprint in critical habitats."

The effort is fully coordinated with the Federal Emergency Management Agency (FEMA), the North Carolina Department of Environmental Quality, and other state, county and local jurisdictions. Workers in the field consult with FEMA environmental historic preservation experts to ensure extremely sensitive sites receive special attention to minimize environmental impact.

USACE conducts environmental training every one to two weeks for contractors and subcontractors working on the Helene debris mission. A full-time regulatory specialist from the USACE Wilmington District is embedded in the mission teams. Subcontractors that fail to follow these protocols are stood down for retraining — and can be dismissed entirely.

"Our commitment is simple," said Morgan. "Overclearing is not tolerated, nor is reckless removal of debris without consideration of the ecological impact. Contractors that exceed limits receive warnings or are removed from the job. We're here to help this region recover, but we're doing it the right way: with science, safety and respect for the environment."

Partnering for Progress

USACE leverages expertise across academia, industry, military logistics to best support debris removal

By Joshua Voda
USACE Los Angeles District

As recovery moves forward following the devastating January 2025 Southern California wildfires, the U.S. Army Corps of Engineers (USACE) has deployed a wide array of experts and cutting-edge capabilities to support the mission, which is expected to become one of the largest and most complex debris cleanups in USACE history.

To ensure the swift and efficient execution of this monumental mission, USACE is consulting with an unprecedented coalition of experts, including partners from academia, industry and the military. This collaboration is key to optimizing the logistics and operations of debris removal, ensuring that every aspect of the recovery process is as effective and timely as possible.

"By harnessing the expertise of industry, academia and the military, we are accelerating debris removal and clearing the way for the region to recover and rebuild," said Maj. Gen. Jason Kelly, USACE deputy commanding general for Civil and Emergency Operations. "We know that for those impacted by

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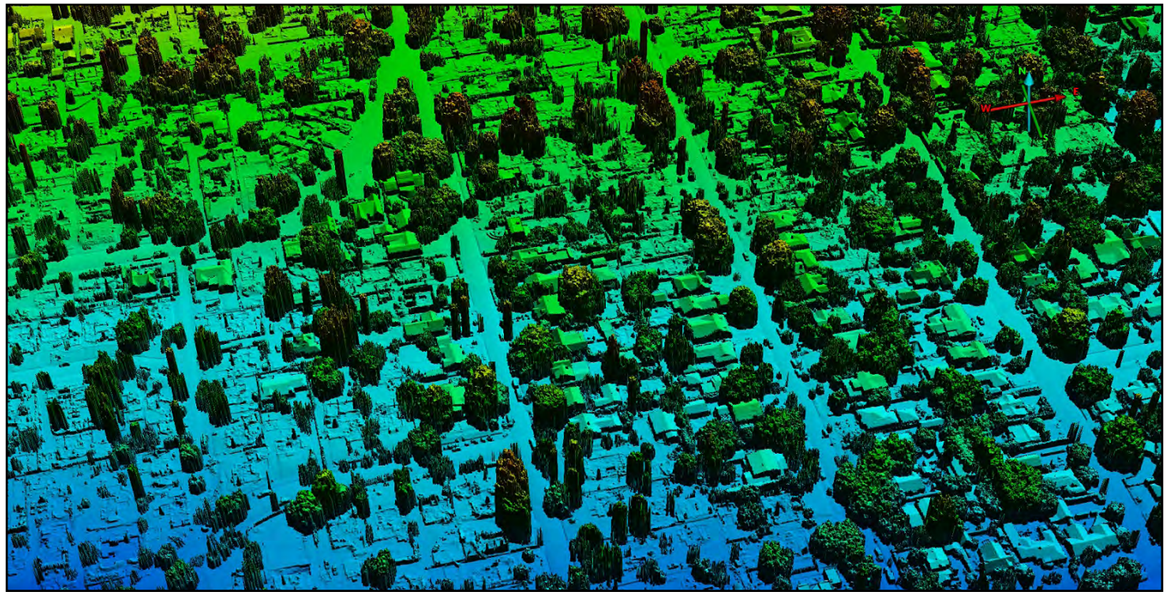
Only the skeleton of a home and piles of debris remain on a property in Malibu, California, April 6 after wildfires swept across Southern California in January. USACE is leading the debris-removal effort as community members prepare to rebuild. (Photo by Christopher Rosario)



Highly detailed terrain data captured by the Army Geospatial Center's BuckEye aerial collection platform yields three-dimensional, color-graded imagery and other volumetric information, which helps inform USACE plans to remove debris from multiple schools and an anticipated 10,000-plus residential properties, following the devastating January 2025 wildfires in Los Angeles County. As recovery moves forward, USACE continues deploying a wide array of cutting-edge capabilities to support this mission, which is expected to become one of the largest and most complex debris cleanups in USACE's nearly 250-year history. (Photo Courtesy of Army Geospatial Center)

disaster, every moment counts, and recovery can't come soon enough. That's why your U.S. Army is focused on optimizing every step of this process to ensure the fastest, safest and most effective recovery for the communities we serve."

To bolster the effectiveness of the debris-removal mission, USACE is working with experts from The University of California, Los Angeles (UCLA); industry contractors already involved under USACE's Advanced Contracting Initiative (ACI); and logistical specialists from U.S. Transportation Command (USTRANSCOM). Each of these groups brings a unique perspective, adding invaluable insight to the critical work of clearing wildfire debris and setting the stage for long-term recovery.

Innovative Research, Academic Insights

As one of the nation's leading research institutions, UCLA's contributions to this wildfire recovery are central to mission success. They have enabled USACE to rapidly accelerate debris removal and the recovery timeline for fire survivors. UCLA's Department of Civil and Environmental Engineering, which specializes in disaster recovery and environmental restoration, has been a critical partner in assessing the environmental impacts of the wildfires.

Their research focuses on optimizing debris sorting and ensuring that hazardous materials, such as asbestos and heavy metals, are removed safely. By integrating their findings into USACE's debris-removal strategy, UCLA is helping to ensure that recovery efforts prioritize both speed and environmental responsibility.

Additionally, UCLA is assisting in developing methodologies to address future wildfire recovery efforts, refining best practices that can be applied to ongoing operations and future disasters.

"Our collaboration with the U.S. Army Corps of Engineers is centered on designing and evaluating innovative strategies to remove debris from areas affected by wildfires," said Jiaqi Ma, an associate professor in UCLA's Department of Civil and Environmental Engineering. "Leveraging a Los Angeles digital twin, our researchers are optimizing key factors, such as truck routing and scheduling of large movements, to ensure that debris removal is efficient and safe. We are also carefully assessing the human impact, including the effects of heavy vehicle traffic, dust and noise, while working to minimize disruptions to critical infrastructure, such as maintaining the capacity and safety of main highway routes."

Collaborative Approach to Debris Removal

USACE's partnerships with industry contractors have long been a cornerstone of its ability to scale operations quickly and efficiently. USACE's ACI has already helped streamline contracting processes, enabling contractors with the right capabilities to mobilize quickly in the aftermath of the disaster. By tapping into a network of established partners, USACE has been able to leverage industry knowledge to ensure the timely and safe removal of debris.

"The collaboration between USACE and contractors under the ACI program is critical to ensuring debris-removal operations are effective and appropriately scalable," said Col. Richard Pfeiffer, USACE deputy director of Contracting and the senior contracting officer on the USACE wildfire recovery effort in Southen California. "We've worked alongside these contractors on numerous large-scale recovery projects, and their ability to deploy their teams quickly is a major success factor in these types of operations. Our ability to tap into the power of the U.S. economy through contracting and the capabilities they bring to the table is critical to delivering on USACE's commitment to the nation."

Contractors provide vital support across a range of areas, from transporting debris to recycling materials and managing waste. Their real-time feedback on the operational challenges they face helps USACE adjust its strategies and continuously improve its approach. By working closely with industry leaders, USACE is optimizing its operations, improving efficiency and reducing delays in the debris-removal process.

Underscoring USACE's commitment to optimization, leaders of Task Force Phoenix recently hosted a listening session with industry representatives that covered various ideas for improving debris-removal operations. These included how to most effectively tailor operations across 24-hour schedules or when using different hauling capabilities to optimize handling large volumes of debris, especially in areas with congested traffic or difficult terrain. Attendees also discussed how best to coordinate across public and private entities.

Industry representatives noted, while the current situation shares some similarities with past disasters like Hurricane Sandy, the complexities of this disaster have created a set of challenges rarely encountered at this scale. These conversations overall highlighted the need for constant adjustments and creative solutions as recovery operations unfold.

Building on its collaboration with industry partners, USACE is also focused on addressing the direct impacts of recovery efforts on local communities. From traffic congestion to business disruptions, leaders recognize the challenges residents face and are actively working to balance the urgency of debris removal with the need to maintain accessibility and safety.

"The Corps and our partners have held town halls and listening sessions with those impacted by the wildfires. We hear your concerns about traffic impacts," said Col. Eric Swenson, USACE Wildfire Recovery Field Office commander. "We also recognize the hardship businesses in and along the impacted areas face due to ongoing traffic restrictions. While a full reopening

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of restricted roads is a top priority, we must balance that with the need for safe and expeditious debris removal. We appreciate the community's patience and cooperation as we work to optimize our processes to support recovery as quickly and safely as possible."

Ensuring Smooth Logistical Coordination

In addition to the academic and industry partnerships, USACE is also collaborating with experts from USTRANSCOM, who are critical to managing the massive scale of the debris-removal mission. The breadth of their experience in logistics ensures that every aspect of the operation, from coordinating transportation routes to ensuring the availability of necessary equipment, is executed smoothly.

"Our team provided access to software that optimizes logistics networks and analyzes impacts on supply chains for operations planning," said Curt Zargan, deputy director of USTRANSCOM's Surface Deployment and Distribution Command's Transportation Engineering Agency. "With a mission of this scale and complexity, the logistics challenge is immense, but software solutions such as this help ensure resources are efficiently deployed to best effects and leaders are ready for various contingencies."

This partnership is critical in making sure supplies and equipment are available at the right times and locations, minimizing delays and protecting continuity of operations. This expertise in large-scale coordination is helping USACE maintain the momentum of the recovery effort, ensuring the debris removal operation stays on schedule.

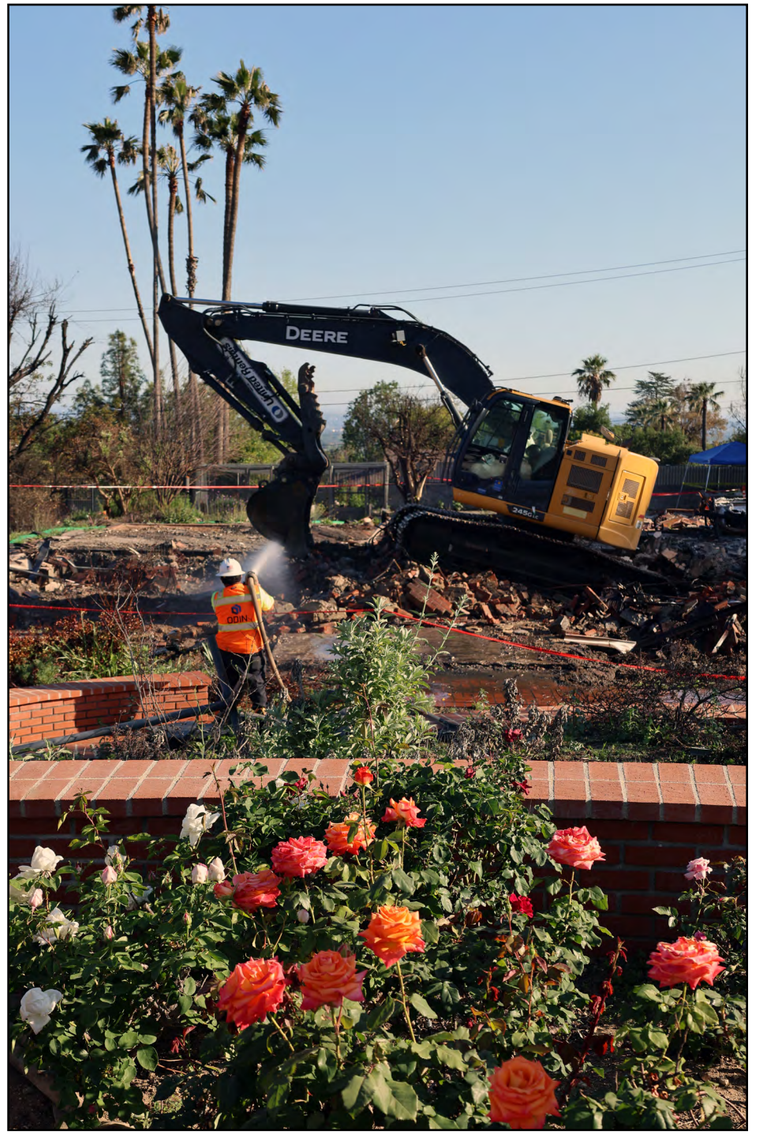
USACE personnel review site plans and assess fire damage at Marquez Elementary School in Pacific Palisades, California, March 2. USACE is working closely with partners in academia, industry experts and military logistics to ensure debris-removal operations support safe and efficient community recovery. (Photo by Travis England)

Unified, Multipronged Approach

Together, these partnerships form a unified approach to the recovery effort in Los Angeles. From UCLA's cutting-edge research to the logistical expertise of USTRANSCOM and the operational capabilities of industry contractors, each group brings a critical piece of the puzzle that helps USACE manage the complexities of the debris-removal process. This multipronged strategy ensures USACE can meet the challenges of the largest wildfire debris-removal effort in its history with the greatest degree of efficiency and effectiveness.

As the recovery mission continues to unfold, USACE will continue to refine its approach, relying on the wealth of expertise from its academic, industry and military partners to ensure the mission is completed with the highest standards of safety, environmental protection and efficiency.

"Our unwavering commitment is to ensure our part of the recovery process is as safe, swift and effective as possible. By uniting expertise across local, state and federal partners — as well as leaders in academia, industry and the military — we are tackling every aspect of the debris removal mission with unmatched precision and coordination," said Kelly. "This mission is a testament to the power of collaboration and the extraordinary depth of expertise supporting USACE in delivering results for those impacted by the wildfires."



A USACE contractor collects debris at a home in Altadena, California, April 19. (Photo by Patrick Moes)

The Faces of the Recovery Effort

U.S. Army Soldiers and Civilians — including more than 450 employees with the U.S. Army Corps of Engineers (USACE) — are an integral part of the ongoing wildfire recovery mission in Southern California. From the Chemical Corps Soldiers who took on the dangerous task of removing hazardous waste from debris-ridden homesites to the USACE local government liaisons who are now helping property owners navigate the challenging process of rebuilding, here's a small glimpse of the many dedicated inviduals who left their homes behind to help those whose homes and communities were destroyed.

U.S. Army Capt. Anthony Adams observes debris-removal operations in the Pacific Palisades neighborhood of Los Angeles, California, Feb. 26. The U.S. Army Corps of Engineers is leading the wildfire debris-removal effort in coordination with federal, state and local partners to help communities recover as quickly and safely as possible. (Photo by Travis England)

Safety in Action

Safety specialists help to minimize accidents, protecting both workers and property owners

By Erin Jimenez
USACE Los Angeles District

The true impact of a safety and occupational health specialist with the U.S. Army Corps of Engineers (USACE) is often realized in the field, especially during disaster deployments. In these high-pressure environments, safety experts not only ensure compliance but also play a crucial part in helping communities rebuild.

Joey Gibbs realized the profound impact his role as a safety and occupational health specialist could have during his first disaster deployment with USACE for the Southern California wildfires recovery mission.

He quickly understood how his work influenced both the recovery process and the lives of those affected.

Gibbs has worked for USACE St. Louis District for 10 years, with the past year focused on his role as a safety and occupational health specialist.

His commitment to safety and well-being has made him a vital part of the team, but it was his first disaster deployment that revealed the true scope of his role — not only as a safety expert but also as someone helping people rebuild their lives after a natural disaster.

Reflecting on his first disaster deployment, Gibbs said it has given him an incredible opportunity to help people facing devastating loss.

"I feel fortunate to help so many displaced survivors rebuild their lives," he said. "I'm humbled and blessed every day to listen to their stories and assist them in finding their new normal."

As a safety and occupational health specialist, Gibbs's responsibilities go beyond ensuring compliance with safety regulations. His role includes training the workforce, conducting inspections and enforcing safety measures — all while adapting to the fast-paced, ever-changing environment of a disaster-recovery zone.

"Disasters bring unexpected challenges," Gibbs explained, "but I tend to tackle everything head-on. Not everything can be planned for, but when safety concerns arise, I refer back to regulatory guidance and implement solutions based on those standards to ensure we continue to work safely and efficiently."

Safety focus ensures mission success

The pressure to move quickly in disaster response is undeniable, but Gibbs is adamant that safety must remain a top priority.

His approach? Slow things down to ensure smooth operations.

"Slow is smooth, smooth is safe," he said. "Accidents can significantly impact the mission — not only on human lives but also the time lost from the accident itself."

When an accident does occur, Gibbs is clear about the steps he takes to address the situation. The safety of every worker comes first, and he ensures that any injured employee receives medical care immediately.

From there, he leads the team through a safety stand-down, identifying and addressing the cause of the incident before training the team again and ensuring everyone is on the same page before resuming work.

Despite the high-stress nature of disaster deployments, Gibbs believes that constant communication and training are key to maintaining safety.

Joey Gibbs (right), a USACE safety officer, greets a colleague prior to conducting a site safety inspection in Los Angeles, California, March 25. USACE, in collaboration with federal, state and local partners, is working to safely remove wildfire ash and debris from nearly 13,600 homes, paving the way for community-rebuilding efforts. (Photo by Christopher Rosario)

"Safety discussions and training, both in group settings and one-on-one, are essential," he said. "The properties we're working on are all different. Some are three stories tall. Others are built into the slopes or overhang the ocean. The complexities require more planning, and our safety measures must be tailored to each unique property."

Collaboration is another critical element in ensuring the success of any deployment. Gibbs works closely with organizations like the Federal Emergency Management Agency (FEMA) and local agencies to coordinate safety protocols and make sure everyone is aligned in their efforts.

"We all want the same thing," Gibbs remarked. "To efficiently and safely assist the survivors in getting their lives back."

Looking back on his deployment so far, Gibbs emphasizes the importance of reflection and continuous improvement. To help the next group of safety professionals learn from his experiences, he has created a comprehensive continuity binder that records all safety-related insights and updates.

Life-Changing Experience

For those considering their first deployment, Gibbs offered this advice: "Definitely do it. Hearing the stories from those who have already been boots on the ground and talking to property owners who've lost everything — it will change your life."

Gibbs embodies the true spirit of selfless service, dedicating himself to the workforce and ensuring they can work safely and effectively as they help rebuild communities and restore hope for those affected.

Local government liaisons bring **Clarity, Comfort** to property owners after devastating wildfires

By Jordan Raiff
USACE Los Angeles District

When the Southern California wildfires began Jan. 7, residents never expected to see destruction of this magnitude.

As people raced from their homes with little to no notice, they grabbed what they could — leaving behind memories and family mementos, many of which spanned generations. Not knowing just how bad things would get, many survivors found themselves able to do little but hope and pray.

With the smoke starting to clear and crews working to extinguish the embers, people began returning to what was left of their homes. While some shed tears of appreciation after finding their houses unscathed, many came back to little more than ash and rubble.

Equipped with years of experience, Arkansas native Tony Porter volunteered to deploy as a local government liaison, or LGL. The first LGLs arrived Jan. 23, with Porter joining the effort March 15. Given the complexities involved in this kind of work, his later arrival proved to be crucial to the success of helping Southern Californians rebuild.

A veteran of numerous U.S. Army Corps of Engineers' (USACE) missions — including Hurricane Helene in North Carolina and Hurricane Ian in Florida — his boots-on-the-ground experience has made him one of the leading LGLs within USACE.

Working side by side with the USACE Debris Team, LGLs also serve as the cornerstone of the Disaster Recovery Center.

There, they provide information to property owners after they've signed on for USACE to clear the ash and debris from their land. Porter or another liaison works to establish a time frame in coordination with the Federal Emergency Management Agency (FEMA) and state and local officials and communicates that timeline to the homeowner.

Those unsure about participating can bring their questions to Porter, who offers clear explanations of how USACE can assist them in their time of need. Given the emotionally charged nature of the situation, maintaining clear and accurate communication can be incredibly difficult.

Tony Porter, a local government liaison and USACE Vicksburg District employee, discusses an infrastructure assessment during a disaster-relief mission in Fort Myers Beach, Florida, Oct. 13, 2022. Porter is now serving the USACE disaster recovery mission in Southern California. (Photo by Jordan Raiff)

As a local government liaison, Tony Porter eases the challenging rebuilding process for property owners affected by natural disasters by maintaining clear and accurate communication between them and government agencies. (Photo by Jordan Raiff)

"The LGLs are trained to swiftly establish credibility with the survivors to ensure effective communication and maintain trust with the U.S. Army Corps of Engineers," said Porter.

Understandably, many residents are upset when they first meet with Porter to discuss cleanup. With unwavering patience and understanding, he draws on the communication skills developed in LGL training to work with them. Balancing empathy with the urgency of cleanup, he takes time to hear their stories and help them plan for their future.

LGLs like Porter aren't there to resolve the entire situation. Instead, they help residents navigate the unfamiliar language and often confusing processes that exist among USACE, FEMA, and state and local governments. Collectively, these organizations are helping the community recover from the fires and rebuild their homes and communities.

Battle captains serve vital role coordinating EFO operations

By Erin Jiminez
USACE Los Angeles District

In the aftermath of a disaster, effective coordination and communication are crucial for recovery.

Under a mission assignment from the Federal Emergency Management Agency (FEMA), the U.S. Army Corps of Engineers (USACE) has been tasked with executing debris removal in support of Los Angeles County's January 2025 wildfire recovery efforts.

As part of any recovery process, USACE establishes an Emergency Field Office (EFO), which serves as the central hub for operations where team members collaborate with local stakeholders, oversee quality assurance and manage daily recovery tasks.

Army Capt. Sheldon Tausch, the first battle captain on the ground at the EFO established in the Pacific Palisades neighborhood of Los Angeles, played a key role in coordinating recovery efforts for Malibu and Pacific Palisades.

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Capt. Sheldon T. Tausch, battle captain for the U.S. Army Corps of Engineers Emergency Field Office - Pacific Palisades observes ongoing debris-removal efforts in Los Angeles, California, Feb. 25. As a battle captain, Tausch maintains operational awareness, tracks mission progress and makes critical decisions that drive recovery efforts. (Photo by Christopher Rosario)

As a battle captain, Tausch ensures information flows smoothly up and down the chain of command while efficiently managing resources and personnel to keep operations on track.

Though battle captains often work behind the scenes, their role is critical. Tausch worked closely with Col. Brian D. Sawser, then-commander of EFO-Palisades, to establish the processes now followed by all subsequent battle captains to ensure mission success.

"I remember getting a call from Col. Sawser one afternoon, and he asked, 'You ready to go to California?' And I haven't looked back since," Tausch said.

As a battle captain, Tausch maintains operational awareness, tracks mission progress and makes critical decisions that drive recovery efforts. Though this is his first disaster-recovery deployment, his background in military operational planning has proven invaluable in navigating the mission's complexities.

"Our Chief of Engineers depends on leaders in the field to get the engineering, project management and business right. We do this by working with our prime contractor to sufficiently design our workflows, provide a realistic timeline to the displaced residents and continue to hit periods of performance through detailed planning, scheduling and accurate execution."

The challenges of disaster recovery require more than operational knowledge. Tausch's military career has equipped him with leadership, critical thinking and decision-making skills — essential tools for solving complex problems efficiently.

"From day one, I didn't know what to expect," said Tausch. "We've seen entire neighborhoods — homes, businesses, families — severely impacted. But missions like this are what the Corps does best. We have decades of experience that allows us to think critically and solve complex problems safely and efficiently."

Tausch's work goes beyond logistics and planning: It centers on helping people move forward, rebuilding lives and fostering resilience in the face of overwhelming loss. He stresses the importance of restoring normalcy for those affected.

"It's not just about shifting supplies," he explained. "It's about those moments, helping a family find their footing again. That's the heart of what we do; it's why we keep pushing so hard, and that is how we can move so fast."

Through his efforts, Tausch exemplifies the profound impact of a battle captain — not just coordinating the clearing of properties, but also engaging with homeowners, answering their questions and reigniting hope in the communities he serves.

Lynn Shenk, a USACE Baltimore District employee currently serving on the Pacific Palisades Outreach Team, talks to community members during a block party aimed at bringing together wildfire survivors April 5 in Los Angeles. (Photo by Christopher Rosario)

On the Lookout for Ways to Help

Many USACE personnel jump at the chance to deploy in support of disaster-relief missions, citing the satisfaction of helping others as their primary motivation. As of April 23, more than 450 USACE employees from all over the U.S. were voluntarily deployed to Southern California to provide much-needed assistance to the communities destroyed by widespread wildfires in January 2025.

Ian Buchanan, Sacramento District civil engineer, inspects the walls inside a tower at the Eliot Arts Magnet Academy in Altadena, California, April 15. The tower, built in 2013 as a memorial for the city, was damaged by wildfires but may be restored thanks to support from USACE personnel like Buchanan. (Photo by Jordan Raiff)

Quality assurance teams are backbone of disaster-recovery mission

By Jordan Raiff
USACE Los Angeles District

Working on the Southern California wildfire recovery is incredibly challenging as people come together from across the country to deploy and offer their help.

As of late April, the U.S. Army Corps of Engineers (USACE) had more than 450 people from across the United States deployed to assist the recovery effort in support of Los Angeles County, the state of California and the Federal Emergency Management Agency (FEMA). The backbone of this response effort is the quality assurance representative (QA) and the quality assurance supervisor (QAS) teams.

USACE deployed their first QA teams Jan. 25, hitting the ground running. They showed up equipped with the latest training to guide crews in removing debris, minimizing airborne ash and maintaining the highest safety standards. Working 12-hour days on their feet, these volunteers received training from those proven to be among the best.

Tiffany Natividad has become one of the QAS members working on the Eaton Fire near Altadena, California. Initially assigned as a QA, she was elevated to a QAS in just three weeks. Typically a member of the Tulsa District Power Team, this is her first wildfire deployment. One of the most challenging parts of this assignment was preparing for what she would encounter, she said.

"QAs come here not knowing if they are coming to Eaton or to the Palisades (fires), and the Palisades is VERY different," she said.

Working as a supervisor also means being the face of USACE for homeowners and residents of Altadena. It's a difficult task that requires a balance between empathy and timeliness.

"Sometimes as a supervisor, you have to work with homeowners who are incredibly upset with losing their home and everything they've worked for all of their life. Being patient and helping explain their options is crucial," Natividad said.

Tyler Heitkamp, architect, Sacramento District

Since these deployments are voluntary, USACE pulls in people from a variety of backgrounds.

Tyler Heitkamp, a Sacramento District architect, volunteered to deploy because he was able to find a 30-day window where he could leave his projects and help those in need. Unsurprisingly, Heitkamp said the mission, though challenging, has been incredibly rewarding.

Heitkamp said the greatest reward has come from interfacing with the public: "Seeing the real-time positive impacts we have on the people of Altadena and interacting with the homeowners directly — learning more about their stories and how this work is helping them."

While working with survivors is impactful and rewarding, it is not easy. Heitkamp said his day as a QA starts with a meeting at 6 a.m. and continues with worksite visits to supervise debris-removal crews until roughly 5:30 p.m. That's when the administrative portion of the job kicks into high gear. "It's a lot of taking photos, writing notes and uploading to our app," Heitkamp said.

Because the cellular network was heavily impacted and has been operating at reduced speeds, they often don't finish their day until 7 p.m.

Both Natividad and Heitkamp agreed the long days are worth it because they get to support communities recovering from the fires. As of April 16, USACE had received nearly 9,000 rights of entry from property owners requesting to have their fire ash and debris removed from their properties.

Top Photo: Vu Cao, a USACE Sacramento District quality assurance representative, volunteers as a QA for the Los Angeles County Wildfire Debris Removal Mission in Altadena, California, in March. (Photo by Joseph Burton)

Left Photo: Tiffany Natividad, a USACE Tulsa District employee, serves as a quality assurance supervisor for the recovery effort in Altadena, California, April 15. (Photo by Jordan Raiff)

U.S. Army Staff Sgt. Brandon Quintanilla and Spc. Cameron Bryant sort batteries at a homesite in the Pacific Palisades community of Los Angeles, California, Feb. 16. (Photo by Army Sgt. Maj. Casey Nelsen)

Chemical Corps

joins multiagency recovery effort early to rid homesites of hazardous materials

By Walter Ham
20th CBRNE Command

The U.S. Army Chemical Corps brought their unique expertise to the wildfire response mission in Southern California.

Highly trained Soldiers from the Hazard Response Teams of the 172nd Chemical Company and the 21st Chemical Company joined Sailors, Marines and Airmen under the command of U.S. Northern Command's Joint Task Force-Civil Support to remove hazardous waste from debris-ridden homesites following widespread wildfires in early 2025.

The Fort Riley, Kansas-based 172nd Chemical Company's Hazard Response "Gladiators" are part of the 2nd Chemical Battalion, 48th Chemical Brigade and 20th Chemical, Biological, Radiological, Nuclear, Explosives (CBRNE) Command. The Fort Bragg, North Carolina-based 21st Chemical Company's Hazard Response "Blackjacks" are part of the 83rd Chemical Battalion, 48th Chemical Brigade and 20th CBRNE Command, the U.S. military's premier multifunctional and deployable CBRNE formation.

From 19 bases in 16 states, Soldiers and Army Civilians from the 20th CBRNE Command take on the world's most dangerous hazards in support of joint, interagency and multinational operations across the nation and around the world.

Capt. Addison M. Love, commander of the 172nd Chemical Company, said the Soldiers were selected for the mission based on their readiness.

"Fifty-three Soldiers from 172nd Chemical Company and 12 Soldiers from 21st Chemical Company combined under my command activated in response to the Southern California wildfires to assist … the hazardous material collection and removal effort in the Los Angeles, California, area," said Love.

"Soldiers were selected due to their unique CBRN certifications and high level of readiness, and each Soldier was certified at both the Hazardous Materials Operations and Hazardous Materials Technician levels and had extensive field training in hazardous waste packaging and removal," he said.

Love said the Soldiers worked 12-hour days in the Pacific Palisades area of Los Angeles County to mark, collect, package and remove hazardous waste from the debris-ridden homesites impacted by the California wildfires.

The team cleared more than 5,000 articles of hazardous material from more than 1,000 burned homesites.

"We removed potentially dangerous everyday household products like paints, automotive oils, herbicides, pesticides, propane tanks and other pressurized gas containers. After a fire, these products require special handling, especially if their containers are damaged," said Love.

In addition to the everyday products, the troops safely packaged potentially hazardous batteries from the homesites.

"We also removed lithium-ion batteries from vehicles, homes and other products," said Love. "The fires damaged or destroyed lithium-ion batteries, lithium-ion battery energy storage systems and electric and hybrid vehicles. Lithium-ion batteries can spontaneously reignite, explode and emit toxic gases and particulates into the atmosphere even after the fire is out."

U.S. Army Soldiers assigned to the 21st Chemical Company in Fort Bragg, North Carolina, receive instructions about sifting through homesites Feb. 12 during a deployment to Los Angeles, California, in support of hazardous waste cleanup operations. (Photo by Petty Officer 1st Class David Smalls)

Passing the Baton

Outgoing commander reflects on wildfire-recovery mission

By Erin Jiminez
USACE Los Angeles District

As the mission to recover from the devastating Southern California wildfires that impacted the communities of Malibu and Pacific Palisades continues, Col. Brian Sawser, commander of the U.S. Army Corps of Engineers (USACE) Emergency Field Office–Pacific Palisades prepares to pass the baton to his colleague, Col. Jeff Palazzini.

From the moment Sawser arrived in Los Angeles in January, he faced many challenges but said the journey since then has profoundly shaped his perspective on leadership, collaboration and the power of community in the face of tragedy.

While the mission's scope was daunting, it all started with one crucial task: defining the problem.

"In any complex situation, the first step is understanding what the problem really is," Sawser said, recalling how important it was to assess the constraints, timelines and capabilities from the very beginning.

The task of recovery was far from simple, but understanding the environment, both internal and external, was key.

Geography played a critical role in ensuring access and communication, as the team worked to identify and solve the logistical challenges created following the fire.

Sawser credits the success of the recovery effort to the experience of USACE employees who stepped up early in the mission.

"We had fantastic employees who came in from other missions — wildfires in Maui and hurricane responses — bringing invaluable experience with them," he said.

The expertise of the USACE Debris Planning and Response Team provided a solid foundation; however, success was not only about technical expertise, but also about fostering strong relationships with both internal and external partners, including local officials, contractors and the community itself.

See BATON on p. 60

Lower Photo: Col. Jeffrey S. Palazzini, incoming commander, and Col. Brian D. Sawser, outgoing commander, of the U.S. Army Corps of Engineers Emergency Field Office—Pacific Palisades tour project sites April 14 to discuss the status of debris removal in the Pacific Palisades community of Los Angeles.

Top Photo: Sawser surveys wildfire destruction in Malibu, California, March 15. (Photos by Christopher Rosario)

"The mission was not just about clearing debris," Sawser said. "It was about understanding the people, the survivors and their needs."

Sawser credits partners like the USACE Los Angeles District and local authorities for providing the pathway for the USACE team to build strong relationships with the community.

Over the course of the recovery, Sawser has seen leadership evolve within his own team.

"Our employees come in on a voluntary basis, sometimes for just 30, 60 or 90 days," Sawser explained. "That means there's a lot of turnover, and with turnover comes friction. But it also brings the opportunity for emerging leaders to step up. We've seen so many fantastic employees rise to the occasion, taking on leadership roles and learning invaluable lessons that will serve them in future missions."

Tales of Tragedy

The path has not been without its emotional toll. Sawser acknowledges that behind every milestone — be it the first property cleared or the 1,000th — there was real tragedy.

"I've heard stories that I'll carry with me forever — stories of people who lost their homes of 50 years, who had no insurance and who now have nothing left but memories."

One particularly poignant moment stands out for Sawser, one that speaks to the heart of this recovery. USACE helped a mother whose 50-year-old son perished during the fire. She lived alone, hours away, and didn't know how to navigate the technology needed to submit an electronic right of entry to clear his property.

"Our team, along with the county and their contractors, came together to support her through the process," Sawser said. "It's moments like these, when we can make a personal difference, that truly show the power of our mission."

Looking Forward

As Sawser prepares to transition the leadership of this operation to Palazzini, he feels a deep sense of pride and trust in his friend and colleague.

"Jeff and I have known each other for 30 years," Sawser said with a smile. "We were roommates at (United States Military Academy) West Point, and over the years, our paths have crossed many times. He is an exceptional officer, an incredible public servant and someone I know will take this mission to new heights."

But for Sawser, it's never been about any single individual. He believes strongly that the mission's success lies in the collective effort of the entire team.

"Leaders like Col. Palazzini will carry on these relationships with partners, and USACE will continue to excel under his leadership," said Sawser.

Looking ahead to the next phase of the recovery effort, he emphasized the importance of the upcoming months.

"Our productivity is exceeding expectations, but there's still a long way to go. One of the most visible tasks we need to complete is clearing Pacific Coast Highway," he said. "That's a key milestone not just for logistics but for the psychological recovery of the community."

As Sawser prepares for his next assignment in Europe, he knows that the lessons learned here will stay with him forever.

"This mission has taught me so much about leadership, resilience and the importance of community," Sawser reflects. "I've seen firsthand how tragedy can bring people together and the strength of this community is inspiring."

'Incredibly proud'

Before leaving, Sawser had a final message for the team: "You've all been in the arena, making a difference every day. The glory belongs to those who get in the arena, not those who sit on the sidelines. I've been incredibly proud to serve alongside all of you, and I have no doubt that the momentum will continue with Col. Palazzini and the team leading the way."