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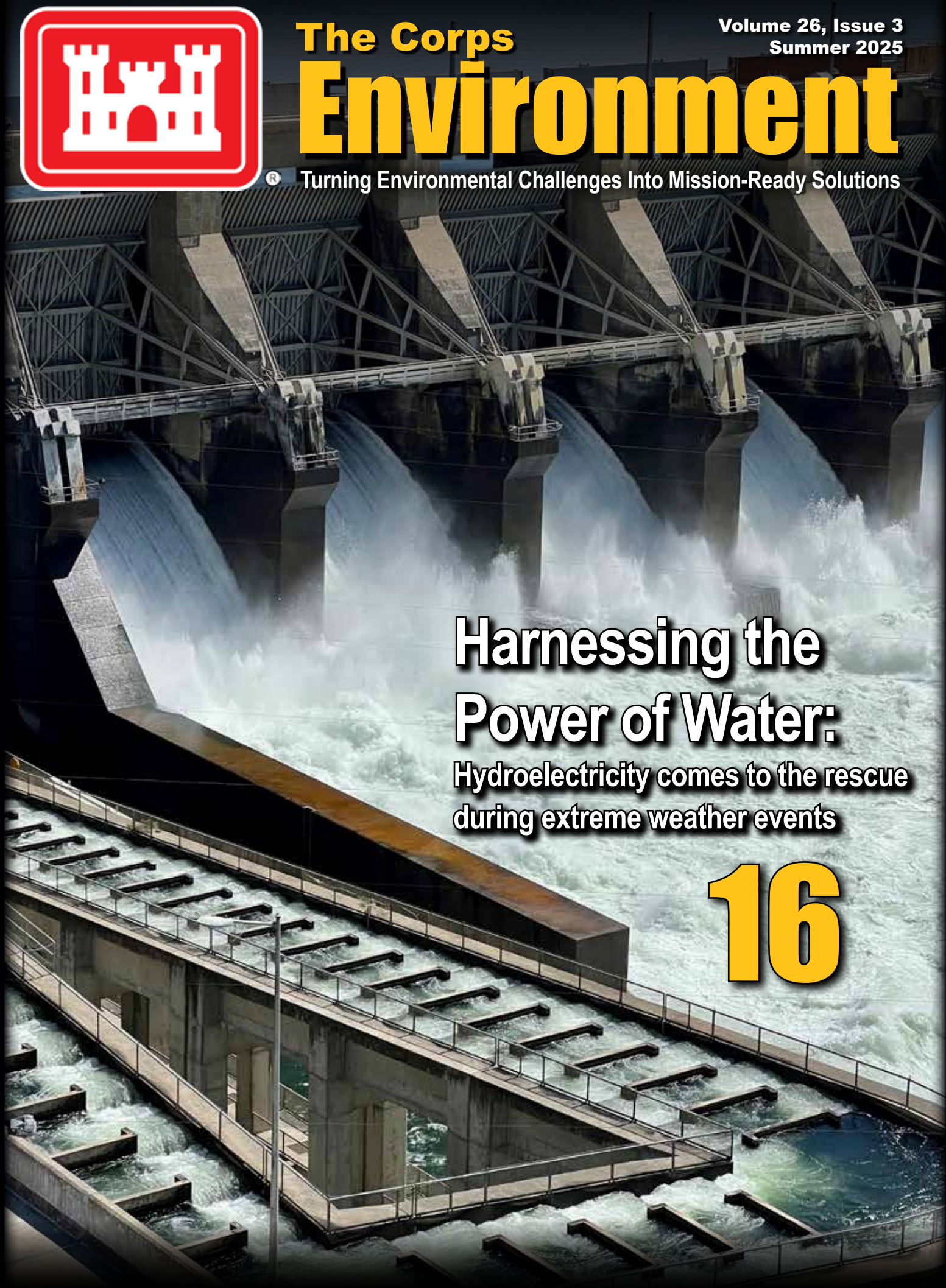
The Corps Environment

Turning Environmental Challenges Into Mission-Ready Solutions



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Terry Diggers, USACE technician, and Brett Barton, park ranger, conduct a field check during aquatic vegetation monitoring June 17 in Tuscaloosa, Alabama. The effort supports USACE's management of invasive species like giant salvinia and water hyacinth in the Black Warrior and Tombigbee waterways. (Photo by Travis England)

The Corps
Environment

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Supporting MILITARY READINESS with Environmental Excellence

There is an enduring acknowledgment in the U.S. Army Corps of Engineers (USACE) that the environment is everywhere. Our work touches every aspect of our nation's landscape and waterways. Our decisions impact communities, ecosystems and generations to come. With this acknowledgement, we also have a profound sense of responsibility in the work that we do as public servants, entrusted with safeguarding not just today's resources but tomorrow's possibilities.

When I assumed my role as USACE's Environmental Division chief in April, I brought with me 27 years of combined Department of Defense (DOD) and private industry experience related to facilities and environmental engineering, legal and regulatory compliance, as well as the DOD process required to establish planning, programming, budgeting and execution of those related requirements. My experience has given me the opportunity to execute environmental management ashore and afloat, within the continental United States, and outside the continental United States. As a result of this experience, I am keenly aware that behind every decision we make are real communities counting on us to get it right.

In this current role, I oversee the annual execution of approximately $2.5 billion in environmental services that support the DOD, Army and Air Force installations, and other interagency partners. Our work centers around cleaning up active and historic defense sites to maximize public safety, sustain training readiness, and return properties to local communities for beneficial reuse and redevelopment. Our work also includes providing environmental technical expertise to our DOD and interagency partners in support of mission execution and modernization efforts.

Chaela M. Smith
Chief, Environmental Division, U.S. Army Corps of Engineers

As a result of our technical expertise — accumulated over the past 250 years of service to our nation — we are often called upon by our DOD partners to turn environmental challenges into mission-ready solutions. We accomplish this not only in the delivery of the projects we execute and support, but also through respecting the law and working with our stakeholders and partners. We also accomplish this by upholding our environmental excellence — when we ensure environmental excellence, we enable our forces to modernize the industrial base, to train as they fight, and to maintain the strategic edge that America expects and deserves.

Our environmental cleanup and environmental quality work are foundational to our Army's readiness. This is because environmental stewardship and mission readiness go hand in hand. By upholding environmental stewardship, we are taking into account the necessary environmental considerations to not only minimize environmental impacts from current military operations, but to also minimize the future costs associated with cleaning up and transferring lands for beneficial reuse and development.

All these activities are performed with safety at the forefront. Protecting the health and safety of communities and the environment will always remain our top priority. We do not compromise on safety — our environmental cleanup efforts reflect USACE's duty to defend not just our nation, but the people who live in it.

Within our environmental portfolio, we have completed cleanup efforts at more than 3,700 formerly used defense sites (FUDS) across our nation under the FUDS program. We have also cleaned up and transferred nearly a dozen sites that were part of our nation's early atomic energy program under the Formerly Utilized Sites Remedial Action Program (FUSRAP). This is just a small snapshot of the work that we have accomplished. It does not include the countless projects we have supported for our Army, Air Force and non-DOD partners over the years for the benefit of local communities, ecosystems and future missions around the globe.

Although a significant amount of our work encompasses cleaning up the past to protect our nation's future, we are also looking ahead to ensure we are postured to support Army and DOD priorities. This includes leveraging innovative technologies to accelerate project delivery and optimizing our resources to achieve strategic objectives. Intricately woven into these efforts is the extensive and multifaceted subject-matter expertise our global team of environmental professionals possess — and their unified efforts to collectively continue delivering our environmental programs.

As USACE's Environmental Division chief, I am committed to fostering an environment where innovation thrives and excellence remains the standard. We will continue to adapt, evolve and shape our delivery of products and services (to include this publication) to maximize efficiencies and meet current and future workload requirements. It is a privilege to serve alongside such dedicated and mission-focused professionals at the U.S. Army Corps of Engineers. Together we will address today's challenges and prepare for the evolving needs of tomorrow.

USACE Environmental Operating Principles

1. Foster sustainability as a way of life throughout the organization.
2. Proactively consider environmental consequences of all USACE activities and act accordingly.
3. Create mutually supporting economic and environmentally sustainable solutions.
4. Continue to meet our corporate responsibility and accountability under the law for activities undertaken by USACE, which may impact human and natural environments.
5. Consider the environment in employing a risk management and systems approach throughout the life cycles of projects and programs.
6. Leverage scientific, economic and social knowledge to understand the environmental context and effects of USACE actions in a collaborative manner.
7. Employ an open, transparent process that respects views of individuals and groups interested in USACE activities.

Learn more about the EOPs at:
www.usace.army.mil/Environmental-Operating-Principles

Banking on **Wetlands**

Mitigation credits streamline complex approval process for environmental restoration projects

By Jordan Raiff
USACE Rock Island District

Changes to the environment due to innovation and economic growth happen across the globe every day.

As part of its regulatory mission, the U.S. Army Corps of Engineers (USACE) oversees the permitting of new construction and evaluates its environmental impacts, both locally and globally.

Abby Steele serves as the Iowa branch chief for the Regulatory Division at USACE Rock Island District. Her area of responsibility is unique: "We are in charge of regulating the placement of dredge or fill material in waters of the United States (WOTUS)," she said. "In the Rock Island District, this includes the state of Iowa, two-thirds of the state of Illinois, and just a bit of Missouri. St. Paul District's Regulatory Division handles Minnesota and Wisconsin. Regulatory's boundaries are completely different than those for civil works projects."

Within these boundaries, Steele and others in the Regulatory Division ensure that the environmental impacts to the region's waters are minimized.

"Permanent wetland impacts over one-tenth of an acre and permanent stream

See BANKING on p. 8

Winding along I-80 in Coralville, Iowa, the Creekside Connection Singletrack Trail benefits the environment and provides a scenic path for walking and biking. (Photo by Jordan Raiff)

impacts over three-hundreths of an acre usually require mitigation," said Steele. "That's where mitigation banking comes in."

According to Steele, previous mitigation efforts involved a process called "permittee-responsible mitigation," where they would go out, find a site, and restore or enhance a wetland or stream.

"Many of these mitigation efforts were failing to replace lost aquatic functions effectively across the U.S. People weren't maintaining the sites, and it was also a nightmare to manage thousands of permittee-responsible mitigation sites," Steele said.

"There was inconsistency in how mitigation was approved and managed across the different USACE districts, so the 2008 mitigation rule established uniform standards for planning, site selection, monitoring, performance criteria and long-term maintenance."

Getting these projects approved can be labor-intensive and, therefore, difficult to complete quickly. Thankfully, USACE is equipped to streamline the process.

"By working with mitigation bankers, USACE helps facilitate a fair and efficient process for restoring wetlands and streams before construction begins," said Steele.

Mitigation bank approval takes about a year, said Steele, and Rock Island District is perfecting the process.

"Rock Island District is the number one district in the nation for getting banks through the approval process the fastest," she said.

"These mitigation banks take the guesswork out of the equation for developers. Instead of navigating complex mitigation requirements on their own, companies receive a permit that specifies how many credits they need to offset their project's impact."

Continuing, Steele said, "From there, they contact the mitigation bank, purchase the required credits and can then move forward. They are not permitted to begin construction or disturb WOTUS until those credits are secured."

Securing these credits is relatively straightforward, according to Steele.

"Wetland credits are usually purchased on a one-to-one ratio. One acre equals one credit. In Iowa, the majority of our wetlands are in poor condition because historically they have been drained in the past. In areas with high-quality wetlands, the ratio can go up higher," she said.

In Iowa, areas ripe for restoration are plentiful, and many are eager to participate in the mission.

"Our banks are very diverse here in Iowa. The first banks we established were with private landowners who learned about the mitigation banking industry," she said. "It can be a very lucrative business here in Iowa. These landowners found out about it and realized they had a lot of farmland that was already wet."

Farmed wetlands are the easiest wetlands to restore in Iowa, Steele said.

"They're tiled, and some of these tiles have failed, causing water to accumulate. Plants like corn won't grow well in these wetter areas, so what they can do is break the tile lines throughout the field, and the hydrology usually naturally returns," Steele said.

Historically, tiles have been beneficial for farming, but they've changed the hydrology of the land. By transforming these areas back into proper wetlands, USACE is helping to reverse these changes. According to the Iowa Department of Natural Resources, naturally occurring wetlands covered over 11% of the state before settlers attempted to tame the land. In the process, they stripped over 95% of those wetlands.

Through mitigation banking, these original wetlands are being restored, giving the soil, hydrology and hydrophytic vegetation an opportunity to heal and return to the nutrient-rich land Iowa is known for.

"Wetlands filter out pesticides, excess farm nutrients and other pollutants, significantly improving water quality by absorbing and breaking them down," said Steele. "The mitigation program doesn't just aid in nutrient reduction, it also plays a vital role in reducing flood risks by allowing these natural areas to absorb and slow down stormwater."

Col. Aaron Williams, USACE Rock Island District commander, stands with Elizabeth Schramm, Nahant Marsh director of operations, during a visit to the marsh. (Photo by Jordan Raiff)

Naturally, this boom in mitigation credits is attracting new investment, explained Matt Zehr, Regulatory Division chief.

"In the past couple of years, mitigation companies have started entering Iowa and Illinois," Zehr said. "While they've worked in other parts of the U.S., they're just beginning to expand here. These companies have the financial means to look for sites and make contracts with landowners. The landowner retains ownership of the land, and the companies work with us to get the sites approved. They handle all the design work, engineering and construction and become the bank sponsor."

This shift in partnerships and responsibilities is having a significant impact on the regulatory mission, not only in the Rock Island District but across the U.S., Zehr explained.

"Mitigation banking helps both our states and communities. We're putting wetland and stream restorations on the ground — that's amazing — but it also helps our program. My project managers' jobs are made easier because of mitigation banks. If my project managers had to do permittee-responsible mitigation for every project requiring mitigation, it would significantly increase the permitting time for both us and the applicant. Banking makes our review timeline more efficient, and research has shown that banks are more likely to result in a successful restoration than permittee-responsible mitigation," said Zehr.

Engineering Solutions in ***Every Clime and Place***

The U.S. Army Corps of Engineers (USACE) and the Army Environmental Command are leading cleanup efforts at the Cornhusker Army Ammunition Plant (pictured on the left) in Grand Island, Nebraska. The plant was designated a Superfund site in 1990 after groundwater was found to be contaminated from the disposal of "pink water," a waste product of ammunition manufacturing. Since 2007, cleanup has relied on bioremediation: injecting a molasses-based solution underground to support naturally occurring bacteria that feed on nitrogen found in the explosives and break down the pollutants. This approach has been highly successful, both speeding up remediation and cutting costs. Contractors completed another round of molasses injections in June, and groundwater monitoring will continue to track progress.

Nearly 9,000 miles from Nebraska, on Ross Island, Antarctica, the USACE Marine Design Team is working with the National Science Foundation, Naval Mobile Construction Battalion (NMCB) 3 and other partners to manage the design and construction of a permanent steel barge system that will replace the human-made ice pier (pictured above) currently serving the icebreakers, container ships and tankers at McMurdo Station. Seabees with NMCB 3, pictured right while supporting snow-removal operations at the station in October 2024, have been a vital part of Antarctic operations since the U.S. established the research station in the mid-1950s.

Handshakes for Habitats

USACE, Pennsylvania partners team up to restore habitats, enhance recreation in Tioga

By Molly Wilson
USACE Baltimore District

The U.S. Army Corps of Engineers (USACE) received $30,000 in funding through the USACE Handshake Partnership Program and the Corps Foundation, along with an additional $34,900 from five key partners — the Pennsylvania Game Commission (PGC), Seneca Resources, Wellsboro Electric Co., Tiadaghton Audubon Society and the Friends of Tioga-Hammond & Cowanesque Lakes — to support environmental stewardship and recreation enhancements at the Ives Run Recreation Area in Tioga, Pennsylvania.

The project will facilitate the restoration of 5 acres of habitat, transforming the area into a thriving pollinator field that will enhance wildlife populations and expand recreational opportunities for visitors.

"This initiative highlights the power of partnerships in conservation," said Stephen Sporer, supervisory park ranger. "By working together, we are enhancing both the natural environment and recreational opportunities for the community."

Work began in June 2024 with the PGC conducting prescribed wildland burns and planting native pollinator seeds while USACE staff initiated trail design and parking lot development.

These enhancements will boost ecological sustainability, provide educational opportunities and improve public recreation experiences at Tioga-Hammond Lakes.

Wellsboro Electric Co. and USACE park rangers installed bat habitat structures and an osprey nesting platform to provide critical shelter for wildlife, including the federally threatened northern long-eared bat, the state-endangered little brown bat and tri-colored bat, and the threatened eastern small-footed bat — all identified in a 2021 acoustic survey. Wellsboro Electric Co. played a key role by donating and installing three utility poles to support the project.

The remaining activities consist of trail improvements, additional habitat structures for birds and pollinators, and installation of interpretive panels for public education.

About USACE and Tioga-Hammond Lakes

USACE manages Tioga-Hammond Lakes to provide flood risk management, recreation and environmental stewardship. The area attracts thousands of visitors annually, offering camping, boating, fishing, hiking and wildlife observation opportunities.

About the USACE Handshake Program

The USACE Handshake Program offers a source of seed money to USACE installations for worthwhile partnership projects aimed at initiating new or enhancing existing recreation and natural resource management opportunities. Funding is intended to encourage local organizations to partner with USACE to construct, operate and/or maintain local partnering projects. Learn more at https://corpslakes.erdc.dren.mil/employees/handshake/handshake.cfm.

Representatives from USACE and Wellsboro Electric stand in front of an osprey nesting platform they installed at Tioga-Hammond Lake in spring 2025. Pictured from left to right are Brandon Dubble and Molly Wilson, USACE park rangers; Josh Cummings, Wellsboro Electric crew chief; Chris Richardson, Wellsboro journeyman lineman; and Tyler Mead, Wellsboro operations director. Restoration activities began in June 2024 with a prescribed burn of pollinator fields, shown post-burn on the left. (USACE Photos)

About the Corps Foundation

The Corps Foundation is the only nationwide nonprofit organization dedicated exclusively to supporting the nation's lakes, rivers and the lands surrounding them. The Corps Foundation works to connect contributors, businesses, communities and partner organizations to benefit visitors and help ensure healthy lakes and waterways for current and future generations. To learn more or find out how you can get involved, visit https://corpsfoundation.org/.

'Kayak Ron'

recognized for volunteer work at Patoka Lake

By Kate Chandler
USACE Louisville District

Volunteers play a crucial role in supporting the U.S. Army Corps of Engineers' (USACE) mission, and one volunteer was recently recognized for his dedication to keeping Patoka Lake pristine.

USACE Louisville District's Patoka Lake staff recognized Ron Sergesketter, also known as "Kayak Ron," for winning this year's National Volunteer Award at Patoka Lake in Dubois, Indiana, April 7, 2025.

Jim Merkley, the Patoka Lake park ranger who nominated Sergesketter for the honor, said the National Volunteer Award is presented by the Corps Foundation to recognize exceptional volunteer service. The award honors individuals, couples or families who go above and beyond in donating their time, skills and talents. Their contributions must result in a meaningful impact to one or more of USACE's mission areas.

Besides being an avid kayaker, Sergesketter is driven to take care of the environment by collecting and removing trash he comes across on his journeys. In winter, when the lake is frozen, Sergesketter hikes along the water's edge looking for trash or other issues that might need attention. The rest of the year, he can be found working from his kayak, retrieving items such as dock buoys, tires and — in 2016 — his most impressive find: a prosthetic leg, which he later returned to the owner.

The nickname "Kayak Ron" is more like a badge of honor for the countless hours of dedication to a place he knows like the back of his hand — a name used not only by USACE and the Indiana Department of Natural Resources, but by other local volunteers and frequent lake visitors as well.

Between mid-2021 and fall 2024, Kayak Ron volunteered 1,212 hours across 279 days.

"I just don't like people coming here from out of town and thinking this place looks like trash," said Sergesketter. "I treat it like my own. I call it my lake."

His volunteer journey didn't just start in 2021: it began in the late 1970s with him, his brother and their canoe. They would paddle the waters together, often returning with more trash than fish. Over the years, his instinct to pick up trash became a habit, and the habit grew into a mission.

As time passed, he became more creative with his cleanup tactics. He's turned discarded beach balls into trash bags, constructed a tow-behind trash float for his kayak and repurposed items he finds along the way.

"Nature always provides," said Sergesketter. "Well, not nature. People."

His volunteer efforts are often solo, but he has occasionally joined forces with local Scout troops and churches, and he plays a large role in the annual Patoka Lake Cleanup. The September 2024 cleanup saw a rain event from Hurricane Helene, and Sergesketter, along with 85 other volunteers, braved rainy and windy conditions to make the day a success.

For Kayak Ron, his volunteer work isn't about recognition — it's about setting an example, reminding others to pick up after themselves and inspiring people to pitch in.

"You don't have to join a group," said Sergesketter. "Just do it."

Ron Sergesketter, Patoka Lake volunteer, holds up trash he collected as he kayaks along the lake's shoreline April 7 to pick up trash and personal items that have washed up from recent flooding events in Dubois, Indiana. (Photo by Sarah Atherton)

Harnessing the Power of Water

Hydroelectricity comes to the rescue during extreme weather

By Hannah Mitchell
USACE Walla Walla District

The power grid produces electricity as it is consumed. Energy production rises and falls in tandem with human activity, allowing electricity to flow continuously into homes and businesses. However, this flow can be interrupted.

If there is not enough energy to meet demand, there is a blackout. If energy demand drops suddenly and too much energy is being produced, generators are turned off to prevent equipment damage.

A successful power grid is flexible and responsive to demand. It must be able to rise to meet heavier loads, and it must be able to slow down when demand drops.

This is never an easy task, but it is more difficult during extreme weather. Heat waves and cold snaps can cause spikes in demand as consumers crank up their heaters or air conditioning.

Extreme weather can also impact some energy sources, especially wind power.

The Pacific Northwest has worked to incorporate both wind and solar power into the grid. But these sources do not respond to spikes in demand. Instead, they fluctuate based on the weather.

"While wind (power) is a solid addition to the grid during normal temperature regime and when the wind is blowing, when it is the absolute hottest or coldest in our area, the wind does not typically blow, and hydropower must pick up the difference," said Paul Ocker, chief of operations for the U.S. Army Corps of Engineers (USACE) Walla Walla District.

In the Pacific Northwest, hydropower provides about 60% of the region's energy needs. Because the river is always flowing, hydropower is always available to fill demand. In a hydroelectric dam, a generator unit can go from producing 0 to 100 megawatts in about two minutes, making it both reliable and flexible.

Because of this, hydropower is crucial during periods of extreme cold or extreme heat, when demand for air conditioning or heaters skyrockets. No other energy source can respond as quickly to the changing needs of the power grid.

"While I enjoy having solar panels on my home, I have learned that in summer we can have up to 18 hours of usable daylight to generate — not all at peak efficiency of course, but in winter, we can have as low as seven hours of usable sunlight. The efficiency of solar is also reduced by things such as clouds and wildfire smoke and, of course, in the nighttime hours, leading to increased uncertainty of providing power to people when they need it," Ocker said.

Wind power drops during temperature extremes, and solar power is only available when the sun is shining. Because these sources are unreliable, the power grid turns to hydropower to pick up the slack.

"For every megawatt of wind on the grid, you need a megawatt of hydropower to back it up," said Chad Rhynard, chief of technical support for the Walla Walla District.

When Demand Spikes

In January 2024, the Pacific Northwest experienced an intense cold snap, and Jan. 13, the Bonneville Power Administration (BPA) had a record-breaking energy load of 11,396 megawatts. BPA was able to meet that demand using the region's one nuclear plant and federal hydropower dams.

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Contractors from the Department of Energy's Water Power Technologies Office and members of the Pacific Northwest National Laboratory visit McNary Lock and Dam April 17, 2024, to learn about modernization efforts. McNary Lock and Dam, operated and managed by USACE Walla Walla District, houses 14 hydroelectric turbines capable of producing a total of 980 megawatts of renewable energy, enough to power 686,000 homes. (Photo by Noe Gonzalez)

Specifically, the lower Snake River dams made major contributions to BPA's efforts to maintain power supply to residents' homes during the freezing temperatures. BPA reported that Lower Granite, Little Goose, Lower Monumental and Ice Harbor dams peaked at a total of more than 1,000 average megawatts per day Jan. 13-16, 2024.

The four lower Snake River dams are often called upon when there are limited options to meet high energy demands. Between June 25 and 30, 2021, the Northwest experienced near-record temperatures. During this period, the four lower Snake River dams contributed energy production that ranged from 439 to 1,009 megawatts. That's enough to power between 300,000 and 700,000 homes.

In addition to energy production, the four dams provided another crucial element to the power grid: energy reserves. To avoid a blackout, BPA must have the ability to call on energy reserves when it needs them. For example, if generators on the grid go out of service unexpectedly, other generators must be available to increase their energy output instantaneously to ensure grid stability.

"Over this five-day heat wave, BPA transferred some reserve requirements to the four lower Snake River dams. At times, these four dams held 15% of BPA's total required reserves, peaking at 220 megawatts. At their highest, these dams provided 1,118 megawatts of combined energy production and reserve capacity," reported BPA.

'Current' Events

- The U.S. Army Corps of Engineers (USACE) is the largest genator of hydropower in the U.S.
- USACE operates 75 power-producing dams housing 356 individual generating units.
- These hydropower assets produce 77 billion kilowatt-hours — enough to meet the average load of 7.4 million households.
- The goal of the USACE Hydropower mission is to ensure hydropower assets are available to provide reliable energy and flexible capacity to our nation's electric grid.

In 2022, the West Coast again experienced a serious heat wave, this time during the first week of September. California specifically found itself in need of additional energy production to support the high demand for air conditioning. This energy came from the Pacific Northwest, specifically from hydropower.

According to the Public Power Council, "Exports from the Pacific Northwest increased to 8,000 megawatts, the maximum volume that transmission paths to California can support."

During this event, the lower Snake River dams provided crucial energy production capacity. This assistance peaked at 1,454 megawatts during the critical hours of energy demand Sept. 6.

When Generators Fail

Hydropower's role as a power reserve cannot be overstated. When other energy production sources go down unexpectedly, hydropower can ramp up fast enough to prevent blackouts.

In the first months of 2021, the lower Snake River dams were called upon to fill a gap in energy production. During this period, a deep freeze caused a spike in energy demand, but the gap widened abruptly when Chief Joseph Dam had to shut down due to an equipment failure. Some electricity production and reserve requirements were able to be transferred to the four lower Snake River dams.

Chief Joseph is one of the largest dams in the Federal Columbia River Power System, and the production capacity of the lower Snake River dams was vital for preventing a blackout in the region.

USACE officials stand at the bottom of the navigation lock at McNary Dam during a tour in 2022. (Photo by Noe Gonzalez)

In May 2018, Columbia Generating Station, the only nuclear energy facility in the Pacific Northwest, shut down when the main power transformers disconnected from the grid. Columbia Generating Station dropped from producing 1,158 megawatts, enough to power more than 800,000 homes, to zero megawatts in an instant. But, because of hydropower, the power grid was able to quickly adjust and make up the difference.

These are just a couple of examples of how hydropower's flexibility has filled unexpected gaps in energy production. In North America, regional power grids are interconnected, and hydropower in the Pacific Northwest has been called upon to fill energy production gaps in places as far south as Arizona and as far north as Canada.

"A good electric storage system could help alleviate the uncertainty, but until we have that, our storage system is the water, which allows us to make hydropower and meet our society's need," Ocker said.

Time and time again, hydropower proves itself as both flexible and reliable. In both frigid winters and sweltering summers, hydropower dams can ramp up energy production to keep the lights on across the region.

Hydropower runs in the family

Combined service of father, son covers more than six decades

By Patrick Adelmann
USACE Fort Worth District

For over six decades, two generations of Webb men have harnessed the power of water — first with calloused hands and steel resolve, then with hydropower and a quiet, unyielding desire to serve their fellow man.

For Tom Webb, who recently retired from his position at the U.S. Army Corps of Engineers' (USACE) Sam Rayburn Power Plant, a conversation with his father, Donald "Glen" Webb, would change the course of his life.

He recalled growing up in the shadow of his father's work boots — boots he never thought he would fill. By age 2, Tom was already introduced to the world of hydropower by visiting dams and hydropower plants with his father.

In Dad's Footsteps

Glen joined USACE in 1968, fresh out of the Navy after serving in Vietnam. The war had carved lines into his face, but it was the power of water that would define the rest of his life. Initially stationed in Tulsa District, he spent 35 years wrestling nature into submission — changing the flow of water into sustainable power for the neighboring communities.

Glen moved to Jasper, Texas, within the Fort Worth District, in 1984 where he would remain until his retirement in 2003. When he retired, he was the power plant senior operator at the Sam Rayburn Power Plant. He served almost 40 years in service to the nation.

"I'm proud of my career in USACE," said Glen. "I'm also proud of Tom for choosing a career with USACE, but I'm proud of all three of my boys and the careers they have chosen."

Serving His Country

Tom shared his father's desire to serve his country and joined the Air Force after graduating from Jasper High School in 1986. After serving for 10 years, he came back to Texas and began a career in the oil fields. He didn't know then that he was meant to continue following his father's footsteps.

Tom joined USACE in March 2000, armed with a desire for public service.

"A laborer position opened up at the Sam Rayburn Power Plant," said Tom. "I wanted my foot back in the door of federal service, so dad encouraged me, and God did the rest to give me a wonderful career."

Shortly after joining the Sam Rayburn team, he got the chance to work as a hydropower mechanic. Over the next 26 years he would go on to serve in multiple roles in the hydropower field at all three Fort Worth District power plants — Sam Rayburn, Whitney and R.D. Willis.

Again, like his father, Tom would become a leader within USACE.

"When I told my dad I was going into a management role, he said 'That's not where the money is — plus, being an operator is the best job in the hydropower plant'," said Tom.

But management is where Tom shined. According to Tom, it was never him that made the difference, but rather the team that he surrounded himself with. That team would grow with his leadership until he retired in March 2025 as the hydropower manager at Sam Rayburn. Humble to the end, Tom credits others for his career.

"We all have jobs — it doesn't matter if you're working at a dam or behind a desk in Washington, D.C.," said Tom. "You always have someone to answer to, always a boss. And beyond that, you're constantly connected to people — through contacts, networks, relationships. Success comes from building those relationships, nurturing them, and keeping them strong. If you can do that, no matter what challenges come your way, you'll succeed."

When asked to describe his career in one word, Tom said, "Relationships — it's about the relationships I have made along the way. Those relationships have turned into lifelong friendships. I am very thankful that USACE gave me the opportunity over 25 years ago."

Tom Webb, center, retired from the Fort Worth District in March. Together with his father they served in USACE for more than six decades, both in hydropower. Both of the Webb men retired from the Sam Rayburn Powerplant, 22 years apart, with his father retiring in 2003. Pictured from left to right: Tom's stepmother, Karen; his father, Glen; his wife, Michelle; his youngest son, Wyatt; his sister-in-law, Kristi; and his youngest brother, Donny. (Photo by Patrick Adelmann)

Boots in the Water

A Deep Dive into USACE's Underwater Force

Ryan Markey, Lock and Dam 7 head operator and diver, lowers into the river water for a dive at Lock and Dam 9 in Lynxville, Wisconsin, Jan. 28. (Photo by Liz Stoeckmann)

By Liz Stoeckmann
USACE St. Paul District

Beneath the surface, visibility is nearly nonexistent — dark and cold — leaving divers to trust in their crew and training to perform critical work that keeps navigation open, both in the past and today.

"Even though we like to fly under the radar, our behind-the-scenes role is vital to preserving both the history and future of the river," said Kraig Berberich, dive coordinator for U.S. Army Corps of Engineers (USACE) St. Paul District.

Pioneer Wally Voss

Wally Voss, retired Central Area lockmaster, set the foundation for the St. Paul District's dive program in the mid-1960s. After serving as a diver in the U.S. Navy, Voss applied his skills at Lock and Dam 5 in Minnesota City, Minnesota. He played a pivotal role in organizing the district's dive team, serving as a diver, dive supervisor and dive coordinator for more than 25 years. Voss retired in December 1988.

Voss's legacy continues.

Today's Dive Team

Berberich, the district's dive coordinator for the past five years, oversees the dive program, managing nine active divers. "My job entails anything underwater related. I oversee and execute the district's dive operations," Berberich said. He has been with the district for 22 years and with the dive program for 16 years.

Jon Peters, Lock and Dam 5A head operator, alternate dive coordinator and dive supervisor, has been with the dive team since 2014. Peters emphasizes the importance of teamwork: "It's all about camaraderie and working together to get the mission accomplished. There's great satisfaction knowing you're a big part of this."

Mitch Serjogins, Lock and Dam 5A working supervisor and diver since 2017, said the best part of the job is a team that prioritizes safety. "We respond at a moment's notice to support maintenance, dredge teams and nationwide requests year-round."

The rest of the team includes:

- Nathan Van Loon, Lock and Dam 5 head operator, alternate dive coordinator, lead dive supervisor, diver
- Tim Tabery, Lock and Dam 3 lockmaster, dive safety inspector and tender; previous district dive coordinator, alternate dive coordinator and diver
- Ryan Markey, Lock and Dam 7 head operator and diver
- Jeff Ferguson, Lock and Dam 2 head operator and diver
- Kevin Lakey, Lock and Dam 6 operator and diver
- Josh Isakson, derrick boat operator and diver
- Jordan Reichel, Lock and Dam 4 operator and diver in training
- Aaron Pieplow, operational safety specialist and dive safety representative

Each operation requires a minimum four-person team:

- Diver
- Dive supervisor (responsible for air, communication and safety)
- Dive tender (manages the diver's connecting hose
- Standby diver ready to assist in the rescue of the main diver

In extreme weather, a fifth diver monitors a boiler system that pumps heated river water through insulated hoses into the diver's suit to maintain safety and comfort.

Risky Business

"There's always risk with cold-water diving, whether it's equipment failure or air supply concerns," Peters said. "Our team is top-notch, and safety is always a priority."

See DIVE on p. 24

This past winter, the dive team supported maintenance and repair crews at Locks and Dams 7 and 9. Their work included installing large jacks and strongbacks (steel beams) to the lock chamber floor to raise the miter gates for maintenance. They also installed a dewater box on the upper wall for towboat damage repairs.

"Typically, our divers work three to four hours per session at depths around 25 feet," Peters said. "Divers have an unlimited air supply connected to an air compressor on the surface for safety and performing larger tasks, like miter gate replacements."

Periodic Inspections

The dive team also plays a key role in periodic inspections on the locks and dams and at the headwaters' reservoir dams.

Divers monitor concrete damage, check for leakage, verify instrumentation results such as sounding data and scour protection, and provide underwater photographs and video. They routinely clear debris or repair broken parts such as bubblers for de-icing, intake grating and concrete spalls.

"Often divers work in very low visibility and feel their way around structures," Berberich said. "They work closely with the engineering team, using real-time data to support critical decisions."

Stewardship, Preservation

A diver's work extends beyond maintenance. They support environmental stewardship by collaborating with Dan Kelner, district mussel biologist. Divers survey and relocate native mussels throughout the district to monitor and protect endangered species, minimize habitat disruption and reduce impacts to mussels for USACE operation-and-maintenance and habitat-restoration projects.

"We are supporting efforts with the Sny Magill–Effigy Mounds National Monument shoreline protection and bank stabilization efforts," Berberich said. "This is impactful work for us to preserve the cultural burial grounds."

Commitment to Excellence

Outside of the water, divers undergo rigorous training and continuous education that includes:

- Prospect schools
- Recreational scuba certification
- In-house and final prospect diver certification courses
- 12 dives annually to maintain certification
- A two-week hands-on recertification every five years

"Not every district has a full in-house dive team, so we travel across the country as needed," Berberich said. "Each diver brings unique skills, and we take pride in troubleshooting problems and seeing the results of our hard work."

Recently, divers supported the U.S. Army Engineer Research and Development Center in deploying a bedload sediment collector on the Oakland River in California and the Eau Claire River in Wisconsin. This technology is aimed at improving navigation on both rivers.

Additionally, five divers are certified federal bridge inspectors, participating in inspections in Korea and Alaska. They also support the Portland, Omaha, St. Louis and St. Paul districts under the Department of the Army.

Community Connection

Their commitment doesn't stop there. The dive team also prioritizes community outreach, taking time to engage with the public, share their mission and foster strong community connections.

In 2024, the dive team participated in the Lock and Dam 7 open house, demonstrating the vital, often unseen role they play in keeping the Mississippi River flowing and infrastructure secure.

Jon Peters, dive supervisor, assists Ryan Markey, Lock and Dam 7 head operator and diver, with his equipment at Lock and Dam 9 in Lynxville, Wisconsin, Jan. 28. (Photo by Liz Stoeckmann)

One Habitat at a Time

Many small projects add up to big results for USACE and partners' restoration efforts at Thurmond Lake

By Evan Brashier
USACE Savannah District

At first glance, the shimmering waters of J. Strom Thurmond Lake seem serene and self-sustaining. But just beneath the surface — and along its winding shoreline — a quiet revolution is taking place. From aquatic plants to recycled Christmas trees, and even invasive bamboo, the U.S. Army Corps of Engineers (USACE) and dedicated partners are transforming Thurmond Lake, a human-made reservoir at the border between Georgia and South Carolina, into a thriving, resilient ecosystem.

Grassroots Change

Since the spring of 2024, volunteers and the project's Forest, Fish and Wildlife staff have joined forces to restore maidencane (Panicum hemitomon), a native aquatic plant, along the lake's vulnerable shoreline. This plant serves as nature's shoreline armor, stabilizing banks against erosion from waves, rainfall and boat wakes.

But maidencane does far more than hold soil. It creates a living tapestry beneath the surface, offering food and cover for amphibians, insects and young fish. These species form the base of the food web, supporting larger fish and birds that define the lake's biodiversity. Restoring this native vegetation improves the lake's ecological health on multiple fronts:

- Reducing shoreline erosion by buffering against wave energy
- Trapping suspended sediment
- Supporting aquatic biodiversity through habitat creation
- Enhancing recreational fishing by increasing the forage base

Maidencane plantings take place twice monthly throughout the summer, ensuring steady progress in restoring 1,200 square feet of key shoreline areas.

As one volunteer put it: "We're not just planting grass — we're planting resilience."

These small, local actions add up, thanks to community members who give their time and energy to restore natural balance.

From Ornament to Oasis

Ever wonder what happens to leftover Christmas trees after the holidays? At Thurmond Lake, they become a gift that keeps on giving — to fish, birds and even small mammals.

Since the 1980s, USACE has partnered with local communities and volunteers to collect and repurpose 22,500 of these holiday evergreens. After the holidays, trees are placed at boat ramps where anglers help position them in the water as fish attractors. Submerged trees mimic the natural woody cover that fish seek, especially in human-made reservoirs where such habitat is often lacking.

These recycled trees provide shelter and spawning sites for sport fish, create refuge for baitfish and insects, and improve angler success by concentrating fish around known locations.

Unused trees don't go to waste either. Instead, they're placed in upland wooded areas to provide important ground cover for songbirds, small mammals and beneficial insects — proving that every tree has a purpose.

This program thrives on local support — from families dropping off their trees to volunteers helping haul and anchor them. It's a shining example of how community involvement turns holiday leftovers into habitat lifelines.

Evan Brashier, conservation biologist, and Jamie Sykes, fisheries biologist, tend to nursery stock in one of 10 self-watering bins, each capable of holding 200 potted plants. The nursery enables on-site propagation and increases USACE's capacity to meet restoration goals. (Courtesy Photo)

Turning the Tide

Golden bamboo, once an aggressive invader along Thurmond Lake's shoreline, is now playing an unexpected role in aquatic conservation. Instead of letting this non-native plant go to waste, USACE is turning it into fish habitat — with safeguards in place to prevent its return.

Harvested bamboo is cut, bundled and securely anchored in shallow water, where it cannot root or regrow. This ensures the plant won't reestablish or spread in the lake. Instead, it serves a new purpose: creating protective nursery zones for young largemouth bass. Juvenile fish are especially vulnerable to predators in open water, and the dense cover provided by bamboo bundles gives them a fighting chance to survive and grow.

The bamboo project is part of a broader annual effort that targets up to eight creeks per year, combining fish attractors with native aquatic vegetation for maximum benefit. In 2019 alone, 240 bamboo and 16 artificial fish habitats were installed across 16 priority restoration sites.

Planting for the Future

Since 2002, J. Strom Thurmond Lake has actively diversified its backwater coves and shorelines by planting American water willow (Justicia americana), a hardy native plant that thrives in shallow, fluctuating water levels. Plantings typically occur in June and August, with water willow establishing root systems that stabilize shorelines and boost fish habitat.

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A team member plants water willow along the shoreline of Thurmond Lake. Planting water willow, a hardy native plant that thrives in shallow, fluctuating water levels, helps to stabilize shorelines and boost fish habitat. (Courtesy Photo)

In April 2018, USACE took a major step forward by launching its own aquatic plant nursery, which is now home to 10 self-watering bins, each capable of holding 200 potted plants. This nursery enables on-site propagation and increases USACE's capacity to meet restoration goals.

The guidelines for shoreline planting at Thurmond Lake are carefully laid out in the Aquatic Plant Management Plan and Avian Vacuolar Myelinopathy (AVM) Plan, ensuring that all efforts align with long-term habitat and water quality objectives.

In 2019, through a Reservoir Fisheries Habitat Partnership grant and with support from the South Carolina Department of Natural Resources, Georgia Department of Natural Resources (GADNR) and the U.S. Forest Service, 16 key locations were restored.

The collaborative effort yielded:

- 4,000 square feet of American water willow planting
- 1,200 square feet of maidencane restoration
- 480 shoreline trees
- 240 bamboo fish habitats
- 16 artificial fish habitats

Since then, USACE has continued to plant 1,000 square feet of shoreline with American water willow annually and expanded maidencane plantings by another 1,200 square feet per year — progress made possible by strong interagency and community partnerships.

This year, efforts have grown further thanks to a $10,000 grant from Bass Pro Shops' Beyond the Pond Foundation through the Reservoir Fisheries Habitat Partnership. In partnership with GADNR, Georgia Youth BASS Nation and the Clarks Hill Committee, planting has expanded to 20 new locations and now includes eelgrass (Vallisneria americana), a native submersed plant that improves water quality and habitat complexity for aquatic species.

Shoreline Success

Alongside aquatic planting, USACE also cuts approximately 100 shoreline trees annually into near-shore waters. These trees, often harvested during shoreline maintenance, are anchored to provide quick, effective habitat for bass and other species that prefer shallow water cover. These structures:

- Boost juvenile fish survival by providing predator escape cover
- Enhance shoreline angling opportunities
- Offer long-lasting woody habitat

Whether it's a newly planted willow or a downed tree, all these management activities play a role in rebalancing the lake's aquatic system.

Power of Partnerships

None of these efforts happen in isolation. At the heart of every successful habitat project is a powerful network of partnerships — with state agencies, local schools, civic groups, conservation organizations and, critically, dedicated volunteers.

Local volunteers and USACE staff contribute not just time but passion and place-based knowledge. Their work — hauling bamboo, planting aquatic vegetation, delivering trees — fuels the progress you see at Thurmond Lake. Without their commitment, these projects wouldn't be possible.

A member of the Forest, Fish and Wildlife team places bamboo in Thurmond Lake to create protective nursery zones for young largemouth bass. (Courtesy Photo)

From Christmas-tree collection drives to youth-led planting events, these collaborations show that conservation is most effective when it's a shared mission. In a time of rising ecological pressure, Thurmond Lake stands as a model for how partnerships can restore nature — one plant, one tree, one fish at a time.

At Thurmond Lake, restoration isn't just about the land or the water. It's about life — restored, replanted and resilient.

Erin Gore, EFO Palisades resident engineer, and Nick Blewett, quality assurance specialist, oversee debris removal from the last FEMA-assigned parcel on the Pacific Coast Highway July 8 in the Pacific Palisades neighborhood of Los Angeles, California. (Photo by Charles Delano)

Mission Complete

USACE finishes wildfire debris removal on final parcel along Pacific Coast Highway

By Charles Delano
USACE Los Angeles District

The U.S. Army Corps of Engineers (USACE), in partnership with the Federal Emergency Management Agency (FEMA), the California Office of Emergency Services, Los Angeles County and other local agencies, has completed debris removal on the final FEMA-assigned parcel along the iconic Pacific Coast Highway (PCH) as part of ongoing recovery efforts from the 2025 Palisades Fire.

This milestone marks a significant step forward in helping impacted communities along the coast move toward rebuilding and long-term recovery.

"Clearing this final parcel along the Pacific Coast Highway represents both a significant physical achievement and a powerful emotional moment for our coastal communities," said Capt. Kyle Fleming, Emergency Field Office – Palisades. "Across the Palisades Fire footprint, we have removed over 1 million tons of debris and cleared more than 3,500 properties, including more than 230 parcels along the PCH. This milestone reflects the tireless commitment and collaboration of everyone involved."

While this marks the last assigned parcel along the highway, FEMA may still assign additional properties based on special circumstances or homeowner opt-ins. USACE will remain on the mission until all debris removal operations are complete.

Debris removal activities were conducted in accordance with strict safety and environmental standards, particularly given the sensitive topography of the coastal highway corridor:

- Crews implemented dust suppression protocols, including wet methods, truck lining and tarping, and continuous air monitoring to protect residents and workers.
- Slopes and work sites were stabilized using hydromulching and erosion control methods, with heavy equipment operations carefully managed to minimize impacts to surrounding areas.
- All activities were closely coordinated with federal, state and local agencies to ensure public safety and environmental protection throughout the operations.

Workers remove debris from the last FEMA-assigned parcel on the Pacific Coast Highway July 8 in the Pacific Palisades neighborhood of Los Angeles, California. (Photo by Charles Delano)

"This milestone is a testament to the strong partnerships that have driven this mission from the beginning," said Col. Sonny Avichal, commander of the USACE Recovery Field Office. "We are proud of the engineering expertise and operational focus our teams have brought to this complex mission, and we remain committed to seeing it through to full completion."

Black Start

USACE team tests Puerto Rico installation's backup generators during power-outage drill

By Carlos Cuebas and David Hernandez
U.S. Army Garrison Fort Buchanan

Members of the U.S. Army Corps of Engineers arrived in Puerto Rico May 7 to assess Fort Buchanan's energy resilience as part of a Black Start exercise. This initiative, mandated by Congress, requires all Department of Defense installations to test their capability to operate without power during emergencies.

Yesenia Pagán, drug testing coordinator for the Army Reserve 1st Mission Command Group, emphasized the importance of the exercise in confirming her facility's ability to maintain operations and ensure mission continuity despite a power outage.

"I received notification about the exercise via both a phone call and a text message. I didn't even notice that the electricity had gone out. Thanks to the generator in the building, we have electricity and internet connectivity to continue our mission without disruption," said Pagán.

The exercise lasted eight hours, during which various directorates and tenants gathered at the Emergency Operations Center. Personnel from the Directorate of Plans, Training, Mobilization and Security managed the response and facilitated communication among tenants.

The Directorate of Public Works monitored infrastructure readiness, while the Logistics Readiness Center refueled generators on the installation.

Ricardo Vázquez, a technician at the Logistics Readiness Center with 20 years of experience, focused on generator refueling operations during the exercise.

"We continually verified that the generators had sufficient diesel to operate. Some buildings have generators that can provide electricity for eight to 12 hours, while the installation also has generators capable of running for up to 24 hours," said Vázquez.

During the Black Start exercise, critical facilities at Fort Buchanan continued to function, including the Welcome Center, Army and Air Force Exchange Service, commissary and the Rodriguez Army Health Clinic.

For Sgt. Luis A. Banch, supply sergeant of the 402nd Civil Affairs Delta Company who was conducting maintenance on a Joint Light Tactical Vehicle, the exercise was seamless.

"A power outage will not impact our mission; we are well-prepared to utilize both digital and traditional methods. Our facilities and vehicles will operate smoothly, allowing us to perform our duties without disruption," Banch said.

Visitors to the installation also reported no issues with services.

"Everything works perfectly here at the commissary; they continued to have electricity," said Luis Rivera Rodriguez, a veteran who visits the installation twice a month for groceries.

"I didn't even know there was an exercise taking place; everything seemed normal at the base."

Otnio Vargas, a U.S. Army retiree, reflected on the installation's preparedness for emergencies like the Black Start exercise.

"I entered Fort Buchanan through the SPC Francés Vega Gate and noticed that the Rodriguez Army Health Clinic had its generator running. I assumed it was a test for that specific generator. Afterwards, I visited the Welcome Center, where everything was operating smoothly," Vargas said.

Fort Buchanan's ability to maintain regular operations during the Black Start exercise is a testament to the high level of readiness at the only U.S. Army installation in the Caribbean.

With an annual budget exceeding $500 million, Fort Buchanan supports a military community of approximately 15,000 personnel, including active-duty members, Reserve forces, Puerto Rico National Guard, Marine Corps Reserve and Navy Reserve members. The installation's mission is to enhance readiness and facilitate the deployment of military personnel to any location at any time.

Daily operations at Fort Buchanan, including (from left to right) critical pharmaceutical services and active military activities, continued without disruption during a test of the Army installation's energy resilience as part of a Black Start exercise May 7. This initiative, mandated by Congress, requires all Department of Defense installations to test their capability to operate without power during emergencies. A U.S. Army Corps of Engineers' team traveled to Puerto Rico to conduct the test. (Photo by David Hernandez)

'Not Just an Exercise'

USACE holds tabletop rehearsal to prepare for remediation restart

By Carol Vernon
USACE Pittsburgh District

U.S. Army Corps of Engineers (USACE) personnel and staff from partner agencies, including the Department of Energy, the Nuclear Regulatory Commission and the Nuclear Security Administration, listen to a presentation during a tabletop exercise for the Shallow Land Disposal Area (SLDA) site in May 2025. (Photo by Andrew Byrne)

Benjamin Franklin is often credited with saying, "Tell me and I forget; teach me and I may remember; involve me and I learn."

Getting involved is precisely what the U.S. Army Corps of Engineers (USACE) Buffalo and Pittsburgh districts and their memorandum of understanding (MOU) agency partners did as they spent approximately eight hours ensuring that every "i" was dotted and every "t" was crossed during a Shallow Land Disposal Area (SLDA) tabletop exercise (TTX) preparing for the start of physical remediation after a nearly 15-year interruption. They discussed work plans, processes, procedures and contract lists, and used graphics and videos — but more importantly, they got involved.

When Steven Diaz, deputy director of the Readiness Support Center and the TTX facilitator, walked to the lectern in a mostly full conference room at the Allegheny County Emergency Services building, he explained the purpose of the TTX was to enhance interagency coordination and test and refine roles, responsibilities and response plans. Diaz said the TTX would help to pinpoint system gaps among the partners before active remediation commences later this year. He also wanted the partners to remember why they were there.

"This is not just an exercise," Diaz emphasized. "It's a rehearsal."

Diaz explained that the tabletop exercise is a rehearsal because it brings the major remediation players together and allows them to rehearse their plans and procedures — but more importantly, to be involved.

"This is the perfect opportunity, prior to the start of the project, to get with our federal partners to run through scenarios, iron out the details, identify friction points and to really level bubbles," said Lt. Col. Robert Burnham, commander of the USACE Buffalo District. "This is the time when we can pin down the friction points, bring them to light, talk about them as an open group and work through the issues. It's an excellent opportunity for everyone to contribute and fully understand the process."

The TTX, held at the Allegheny County Emergency Services building in Moon

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Township, Pennsylvania, brought together approximately 50 people from various federal agencies, including USACE regional and headquarters senior leadership, the Nuclear Regulatory Commission, the Department of Energy Office of Environmental Management and the National Nuclear Security Administration.

"There are many agencies collaborating to clean and remediate the SLDA site," said Maj. Gen. Mark Quander, commander of the USACE Great Lakes and Ohio River Division. "It's essential for us to discuss our different authorities and responsibilities, work together and safely remediate the site for the nearby residents. It's what they deserve and what we are committed to delivering."

There are approximately 2,500 homes within 1 mile of the disposal area.

The SLDA encompasses 44 acres of privately owned land in Parks Township, Pennsylvania. Between 1961 and 1970, the site owner, Nuclear Materials and Equipment Corporation, used the area for radioactive waste disposal operations.

In 2002, Congress added the site to the Formerly Utilized Sites Remedial Action Program (FUSRAP). FUSRAP identifies, investigates and, if necessary, cleans up or controls sites throughout the United States that were contaminated because of the nation's early atomic weapons and energy programs.

Nicki Fatherly, national program manager for FUSRAP, emphasized the importance of conducting tabletop exercises with all MOU partners prior to initiating remediation on a site.

"Our federal partners are an important part of this project. They bring specialized expertise and experience and will assist USACE should we encounter any special nuclear material (SNM) issues," said Fatherly. "The tabletop exercise will clarify roles and responsibilities to address various SNM scenarios that could arise during remediation and how they should be addressed under the MOU."

Since August 2023, USACE and its contractors have prepared the site for physical remediation. The contractors have added new structures for administrative areas, material processing and testing buildings. They have placed more than 7,000 cubic yards of concrete and 1,000 tons of structural steel on the site.

"This (TTX) is just another part of the pre-remediation process," explained Burnham. "We laid out the framework of how to deal with things that are not specifically addressed in the project work plans. We've taken a lot of input from our federal partners, and now we must codify these deliverables, these systems and these processes — our protocols on how we work together most efficiently in different circumstances that we have identified through these scenarios."

According to Steve Vriesen, the SLDA project manager, the project work plans cover every process and procedure through the characterization of SNM. He said that the MOU states clearly at what point USACE would consult its partner agencies regarding their authorities and responsibilities.

The TTX, with its scenarios, served as a preparation tool to ensure the various partner agencies with their different roles were communicating from the same script.

The four hypothetical scenarios crafted for the exercise focused on plans, procedures and actions USACE would take. Scenarios three and four described the process USACE and its partners would follow if the "shiny object," as Beth Anderson, a project manager for Amentum, described it, were discovered.

"The 'shiny object' is a generic term that means something that's out of the ordinary — the unusual or unexpected material," said Anderson. "The shiny object would have to be a certain size, a certain shape, over a certain enrichment value — abnormal, the unknown."

As Anderson explained, the discovery of the "shiny object" would initiate the actions covered in the hypothetical scenarios devised for the tabletop exercise.

Holly Akers, an environmental protection specialist with the Department of Energy's Office of Environmental Management, speaks during a tabletop exercise for the Shallow Land Disposal Area (SLDA) site in May 2025. (Photo by Andrew Byrne)

Each of the scenarios builds upon the previous one and was crafted to help define the roles of the MOU partners, determine who should be alerted, ensure established plans are followed, test procedures and verify that the identification, handling and transport of the SNM is done safely and limits the potential for future work shutdowns.

"In executing the tabletop, it was so important for all of the partners to understand all of the mechanisms, the pathways and the flow paths — to iron out the nitty-gritty details of the project execution," said Holly Akers, an environmental protection specialist with the Department of Energy's Office of Regulatory. "We couldn't have asked for a better team coming together and combining all our skill sets. We really need it for the proper execution of the project."

"The remediation of the SLDA site is a team effort," said Col. Nicholas Melin, commander of USACE Pittsburgh District. "Whenever you are getting ready to do something big, you need to get together to rehearse, and you need to practice. This tabletop exercise is that practice. We are getting that practice in now before we begin the real work."

Recognized for Excellence

FUSRAP 'workhorse' credits desire to serve, collaborative approach with project success

By Lucas Morrow
USACE Buffalo District

In the world of government contracts, a missed clause could cost millions. That's why extreme attention to detail, the ability to negotiate, strong market research and timely execution are critical for managing contracts — and why Jenna Grainer was named the U.S. Army Corps of Engineers (USACE) Contract Specialist of the Year for 2024.

Driven by a desire to serve, Grainer sought opportunities within government agencies focused on impactful projects, eventually landing at USACE where she supports the Formerly Utilized Sites Remedial Action Program (FUSRAP). FUSRAP addresses contamination from the nation's early atomic energy program, cleaning up sites left over from the Manhattan Project.

Since she was young, Grainer had always wanted a career as a public servant. She was a triple major at Canisius College, earning a bachelor's degree in political science, urban studies and international relations. She also earned a master's degree in public administration from SUNY Buffalo State University. She interned with the U.S. Attorney's Office during her undergraduate studies and was later hired as a contractor paralegal.

Searching for more opportunity, she applied to a paralegal position with USACE Buffalo District and onboarded in April 2022. She said she enjoyed the work but was looking for new challenges.

That's when she met Jeff Ernest, Buffalo District contracting chief, who noticed her talent and invited her to join his team in late February 2023.

Jenna Grainer, USACE's Contract Specialist of the Year for 2024. (USACE Photo)

"I remember when I hired her," said Ernest. "They're like, you better keep her busy because she'll keep after you. She's a workhorse."

So, naturally, Ernest put her on one of the district's more challenging programs, providing contract support for FUSRAP. And in true Grainer fashion — she excelled.

She managed over $1.1 billion in contract actions for FUSRAP. One action highlighted her mission focus: When a critical FUSRAP project faced potential delay, Grainer quickly identified justification and secured approval to increase contract capacity by $85 million. Then, she spearheaded the award of a $165 million task order — the largest in the Buffalo District's 200-year history.

"We had to get really creative," she said, "to secure additional contract capacity and keep the project on schedule."

Her meticulous attention to detail and careful review of the lengthy cost proposal helped her skillfully negotiate a final cost agreement. Grainer ended up saving USACE $34 million and ensured that the project remained on schedule.

But Grainer remains humble. She says her lifelong vocation as a public servant is what drives her.

She joked, "I like to do my work in the trenches and in the shadows."

She also said her success hinges on her team's support.

"It's definitely a collaborative effort," Grainer said. "You're working with engineers, scientists and project managers to achieve a common goal."

Jenna Grainer, left, stands with other employees assigned to USACE Buffalo District, in front of the Formerly Utilized Sites Remedial Action Program's Guterl Steel Site, formerly the Simonds Saw and Steel Company, located in Lockport, New York, in May 2024. (Courtesy Photo)

FROM BARRIER TO BYWAY

USACE project offers lifeline to threatened and endangered fish species in California

By Grant Okubo
USACE Sacramento District

The U.S. Army Corps of Engineers (USACE) has unveiled an environmental safeguard to protect endangered fish as part of the Sacramento Weir Widening Project. The system aims to prevent thousands of salmon and sturgeon from becoming stranded or blocked from reaching spawning grounds during flood events.

The fish passage, developed by USACE Sacramento District, is an innovative 1.6-mile double hybrid technical fishway connecting the Sacramento River to Tule Canal, which runs through the Yolo Bypass west of Sacramento. Unlike typical fish ladders, this system features two parallel channels designed for fish up to 10 feet long. Earlier designs with single-channel fish ladders were rejected after hydraulic modeling showed water would move too fast during floods for fish to navigate.

"This structure serves as a fish highway from the Sacramento River to the Tule Canal, and vice versa," said Robert Chase, senior fisheries biologist who recently retired from USACE Sacramento District. "It's about getting fish back on track where they need to go."

Without this connection, fish would swim up the bypass with a good chance of stranding or potentially dying.

According to Chase, the fish passage is accessible after flood events when the passage gates are opened for water flow. These high-water events typically occur between December and March, coinciding with juvenile salmon migrating downstream while adult sturgeon move upstream to spawning grounds — an ecological cycle previously disrupted by existing infrastructure. A key component, the bypass transport channel, is already operational and has demonstrated remarkable

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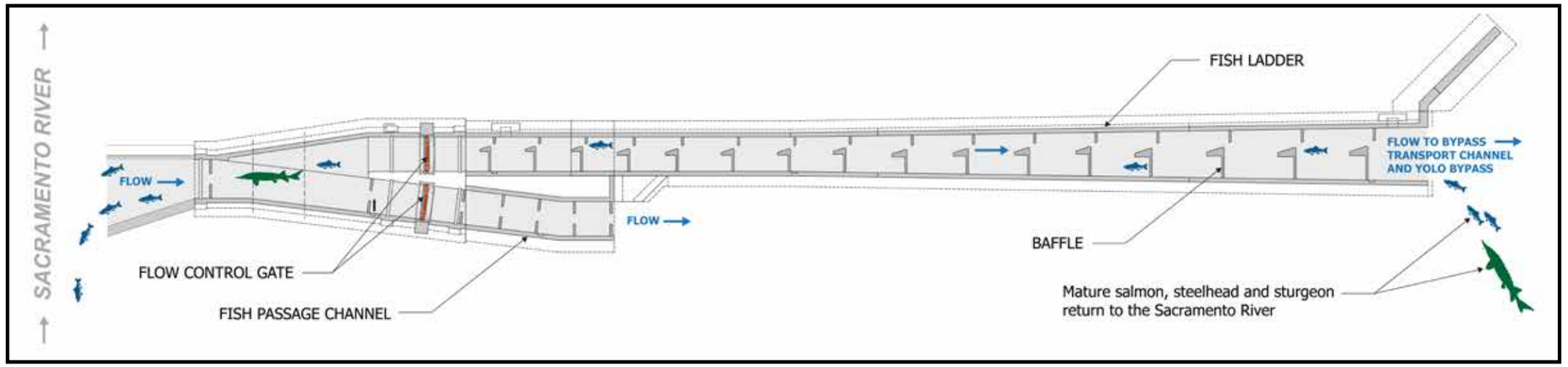

Construction continues on the fish passage structure, pictured above, along the west bank of the Sacramento River in Yolo County, California, June 5. (Photo by Casey Young). The diagram to the left shows an overhead view of the planned structure, a dual-channel design with flow control gates, fish ladder and baffle system. The plan for the "double hybrid technical fishway" developed by USACE Sacramento District features separate channels that can operate independently or together based on flood conditions. The design allows endangered salmon, steelhead and sturgeon to navigate safely through the flood-control infrastructure during high-water events. (Courtesy Graphic)

effectiveness. During a recent event, this channel allowed juvenile Chinook salmon that were stuck in the basin to flush out, drastically reducing fish stranding compared to previous years when thousands of salmon would have been trapped.

"We're providing a state-of-the-art fish bypass structure," Chase explained.

This integrated approach includes sophisticated monitoring equipment such as high-grade sonar cameras, hydroacoustic receivers and passive integrated transponder tags, which Chase likened to the tags used for pets at the veterinarian. While the fish passage structure itself prevents fish mortality, these monitoring systems track and verify how well that protection is working. This technology will help researchers monitor fish movement and assess whether fish successfully navigate the system and reach their spawning grounds in time, particularly for sturgeon headed to areas near Red Bluff.

The project addresses critical challenges for threatened and endangered species protected under the Endangered Species Act, particularly salmon, steelhead and sturgeon, Chase explained. These fish face significant obstacles in their migration, with flood risk management structures often causing fatal strandings.

"If some of these fish are held in a particular area for more than a few months, they unfortunately abort their spawn for the year," Chase noted. "Some of these fish only spawn every few years, so it's crucial to get them to their spawning grounds."

Developing this solution took nearly five years of intensive work, said Chase, and involved multiple federal, state and county agencies, architect-engineering firms and organizations including the U.S. Fish and Wildlife Service, National Marine Fisheries Service and California Department of Fish and Wildlife. The project faced unique design challenges because it needed to accommodate both salmon and sturgeon simultaneously.

"There's never really been a facility that had to address both salmon and sturgeon," Chase explained. One of the biggest challenges was working without established design guidelines for sturgeon passage. Unlike salmon, which have well-documented criteria, no such standards existed for sturgeon.

The design team also had to carefully navigate regulatory requirements. To avoid classification as an experimental design — which would have caused significant delays — they negotiated with the National Marine Fisheries Service to implement comprehensive monitoring systems instead. This monitoring will not only verify the project's success but could also help establish guidelines for sturgeon passage across the West Coast.

The project has already garnered significant interest from other water resource agencies, with the Sacramento District receiving frequent inquiries about incorporating similar designs into their facilities, noted Chase. Other agencies are particularly interested in the project's unique integration of flood risk management functionality with fish passage capability.

While the overall weir widening project is slated for completion in 2027, both the weir and the fish passage are expected to be operational by the winter of 2026. The bypass transport channel is already complete and functioning as intended. After each fish passage operation following flood events, a science and engineering committee will evaluate the structure's performance and identify potential improvements.

The collaborative effort — estimated at approximately $350 million — involves USACE, the California Central Valley Flood Protection Board, California Department of Water Resources and the Sacramento Area Flood Control Agency. The flood risk management portion of the project includes a new 1,455-foot-long passive weir to supplement the existing 1,950-foot Sacramento Weir. This expansion and creation of a bypass will allow excess floodwaters to overflow the Sacramento River channel and enter the bypass during severe flood events, reducing flood risk in the greater Sacramento region. This work is part of the larger American River Common Features 2016 project, which seeks to modernize Sacramento's aging flood infrastructure.

The fish passage structure stands along the west bank of the Sacramento River in Yolo County, California, June 5. The structure is part of the Sacramento Weir Widening Project managed by USACE Sacramento District, which will create an 8,600-foot "double hybrid technical fishway" for endangered salmon, steelhead and sturgeon. (Photo by Grant Okubo)

Healing the Land

USACE, Quapaw Nation take first steps toward comprehensive assessment for land restoration

By Brannen Parrish
USACE Tulsa District

The U.S. Army Corps of Engineers (USACE) Tulsa District and the Quapaw Nation cohosted a multifaceted, multigovernment and multiagency planning and visioning meeting to address restoration goals for Quapaw Nation lands at the Quapaw Nation June 23–24.

The charrette brought elders, scientists and leaders from the Quapaw Nation together with scientists, engineers and representatives from USACE, universities, tribal nations, federal and state agencies, and nonprofit organizations to develop an ecological conceptual model for a comprehensive assessment under the USACE Planning Assistance to States (PAS) Program.

"The goal is to bring everyone together to determine what the Quapaw Nation's vision for restoration is and identify what processes and programs we can use to assist them with restoring the land," said Chad King, project manager, USACE Tulsa District.

Quapaw Nation lands comprise about 70 percent of the Tar Creek Superfund Site, which the Environmental Protection Agency (EPA) added to its priority list in 1983.

From the 1890s until the cessation of mining operations in the 1970s, lead and zinc mining was a major industry in the region. According to the Oklahoma Historical Society's "Encyclopedia of Oklahoma History and Culture," the Tri-State Mining District — which encompassed parts of Oklahoma, Kansas and Missouri — produced about 50% of the zinc and 45% of the lead needed for World War I.

Ore processing left behind gravel-like waste material called "chat" that is contaminated with heavy metals like lead, zinc and cadmium. Processors created large chat piles, some exceeding 200 feet, throughout the area — including in or near waterways.

For decades, drivers on U.S. Route 69 could see the piles.

"I'd always hear stories of people talking about not knowing there was a mountain range in this area," said Trenton Stand, executive director of resource management for the Quapaw Nation. "They don't really have great depth perception as to how far away that is, but it's just a quarter mile to a half mile up the road."

The Quapaw Nation has been working with the EPA and the Oklahoma Department of Environmental Quality to remediate contamination left behind from nearly 100 years of mining operations.

Stand, who oversees the effort to remove chat piles and surface-level contamination for the Quapaw Nation, said the tribe removes about 100,000 to 200,000 tons of material each month and has made significant progress.

"The chat piles don't look anything like they did 14 years ago," Stand said.

While chat piles are a surface-level reminder of contamination, below the surface lie abandoned mine shafts filled with water.

During rainy seasons, the water table rises, forcing water to the surface and contaminating creeks and streams. Surface-level discharges from the Beaver Creek Mine within the Tar Creek Superfund Site runoff into nearby Beaver Creek. Heavy metals in the water oxidize, turning the creek orange and threatening ecosystems within and downstream of the Quapaw Nation. Locally, the discoloration has been referred to as the "Beaver Creek Color."

Paige Ford, an environmental scientist with the Quapaw Nation; Christopher Hussin, Tulsa District chief of Civil Works; and Trenton Stand, executive director of resource management for the Quapaw Nation, look at a map of remediated sites on Quapaw Nation lands during a multigovernment, multiagency workshop June 23 to develop a model for a comprehensive assessment for the Quapaw Nation. (Photo by Brennan Parrish)

According to King, who is overseeing the comprehensive assessment for USACE, the study will attempt to provide holistic solutions to address restoration of lands.

During visioning sessions, experts from the U.S. Army Engineer Research and Development Center, the USACE Tribal Nations Technical Center of Expertise, other tribal nations and agencies learned about the issues facing the community and provided their feedback to assist in developing the study.

"Remediation has occurred and is ongoing, and we take a holistic approach to provide solutions, determine what processes we can use to assist the Quapaw Nation so they can go from remediation to restoration," said King.

The PAS Program was authorized by the Water Resources Development Act of 1974 and allows USACE to provide technical and planning assistance to states, tribes and other non-federal entities for water and land resources development.

Assistance under PAS covers all USACE mission areas, including flood risk management, ecosystem restoration and navigation, as well as water supply and water resilience.

Restoration is a long-term process, but the charrette provided a starting point and the foundation for the assessment.

"I hope we have been able to identify restoration projects or types of projects that we can apply within the reservation, be able to understand what this is and where we can go to try to get funding to help heal this problem and address these concerns," said Stand.

Navigating Readiness

How USACE waterways keep the Army moving

By Kathryne Gest
USACE Headquarters

When the U.S. Army's 101st Airborne Division (Air Assault) needs to move more than 1,000 trucks, trailers and tons of equipment for a large training exercise, it relies on the cost-effectiveness and convenience of the nation's waterways.

The U.S. Army Corps of Engineers (USACE) maintains an extensive network of inland and intracoastal waterways that play a critical role in supporting military operations. By facilitating the movement of more than 400 million tons of military and commercial cargo annually, USACE sustains the readiness and effectiveness of warfighters across the nation.

Last month, Soldiers from the 101st Airborne Division (Air Assault), 1st Mobile Brigade Combat Team used USACE-managed inland waterways to move their equipment from Fort Campbell, Kentucky, by barge on the Cumberland, Ohio, Mississippi and Red rivers to the Joint Readiness Training Center at Fort Polk, Louisiana.

This safer, much more cost-effective route underscores the importance of navigable waterways to national defense and military readiness.

"Moving (equipment) by barge is more cost efficient, a more reliable method overall, more convenient and less cumbersome on the Soldier," said Curtis Clark, division transportation chief for the 101st. "Rail cars usually take about a week to load, with a lot of chaining down and restrictions, but with a barge, we can load the same amount of equipment in fewer days and take just about anything."

USACE maintains more than 12,000 miles of navigable inland waterways across the United States. This infrastructure not only supports commerce but also plays a critical role in the rapid deployment of combat power.

Equipment from the 101st Airborne Division (Air Assault), 1st Mobile Brigade Combat Team staged at Central Louisiana Regional Port Hardstand waits to transit to Fort Polk, Louisiana, for training in 2022. Since 2018, the 101st has conducted 10 Joint Readiness Training Center (JRTC) barge movements with the support of USACE-managed inland waterways to move their equipment by barge from Fort Campbell, Kentucky, to the JRTC at Fort Polk, Louisiana. (Courtesy Photo)

"Our mission is to maintain a 9-foot channel ready for any user, whether it's commercial or military," said Kristopher "KC" Ellis, chief of Navigation for USACE's Monroe, Louisiana, Project Office. "This system is reliable, and that's by design."

The Monroe Navigation Project Office oversees nine locks and dams on the Ouachita-Black and J. Bennett Johnston waterways. A lock raises or lowers vessels to the next section of river depending on its elevation.

"The lock acts like an elevator to the next pool level," said Ellis. "You raise

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the pool high enough and build the lock to provide that 9-foot channel. Then you're basically stair-stepping up the river to maintain that consistent depth, in this case over 90 miles."

These inland routes are widely used to move commercial cargo such as aggregate, grain and fuel, but they're also vital for military movements like the 101st.

As the 101st equipment passed through two locks on its way to Fort Polk, USACE teams worked behind the scenes to ensure reliable passage. This included managing sediment buildup — especially on sediment-heavy rivers like the Red River Waterway — performing preventive maintenance and adjusting operations as needed.

"During a previous rotation, we had a lock dewatering underway. We worked with the military and port authorities to identify alternate routes and options where the rotation would not be held up," said Ellis. "Although it was a different unloading scenario, it still saved time and money and kept the mission on track."

Since 2018, the 101st has conducted 10 Joint Readiness Training Center (JRTC) barge movements with the support of USACE, each one building on prior lessons learned to improve the process.

"I've been here 18 years, and each time we've used the waterway, it's improved with every iteration," said Clark. "Going from one load and offload area to three, and during this last iteration, high water from heavy rain meant we had to adjust our path, but each time we've expanded and are now able to stage even more equipment."

Each successful movement along America's waterways reinforces the strategic value of USACE infrastructure as a flexible, scalable option for military transport.

The 101st offloaded their equipment at the Central Louisiana Regional Port in Alexandria, Louisiana.

"This port is uniquely positioned as the only inland public port in the United States actively supporting the deployment of U.S. military equipment and personnel," said Ben Russo, Central Louisiana Regional Port executive director. "This reflects our unwavering commitment to national defense readiness and the strategic advantage of using inland waterways for military logistics. As we look to the future, we stand ready to adapt our capacity and capabilities to meet the congested and contested transportation challenges that lie ahead and to further establish ourselves as a projection platform for the U.S. Army."

The 101st's recent movement reflects a resurgence in the use of inland waterways as a strategic logistics option, made possible through USACE's enduring navigation mission.

"It's a very fluid process and better each time, and great that USACE allows us to use the waterway," added Clark. "Other places and organizations are looking into moving equipment this way, and I would recommend it."

As the Army modernizes its approach to large-scale readiness, the waterways USACE has maintained for more than two centuries continue to provide essential infrastructure that enables movement when and where it is needed most.

"Our partnership with the U.S. Army Corps of Engineers and other stakeholders ensures that these critical movements are supported by reliable, well-maintained infrastructure, strengthening both national security and the economic vitality of the region," said Russo.

Navigation is USACE's earliest Civil Works mission, established by federal law in 1824 to improve safety on the Ohio and Mississippi rivers and several ports. Today, USACE's navigation mission continues to evolve in support of national defense, economic strength and strategic mobility.

"Navigation is what we do," said Ellis. "We might not be the ones loading the barges, but we have and maintain the infrastructure that makes this possible, and we will continue to support that."

As USACE marks its 250th anniversary this year, its navigation mission remains vital — ensuring navigable waterways are ready to support national security and strategic mobility across the nation.